INTERCONNECT
SOLUTIONS CATALOG

samtec



INTEGRATION LEADS TO INNOVATION

ENABLING COMPLETE SYSTEM OPTIMIZATION FROM SILICON-TO-SILICON

SAMTEC TECHNOLOGY CENTERS

Samtec isn't just another connector company. By integrating specialized technology centers led by industry experts working side-by-side, Samtec fosters a unique environment conducive to true innovation and collaboration, along with the ability to provide the most complete level of service and support for interconnect system design, development and production in the industry. Visit **samtec.com/tech-centers**.







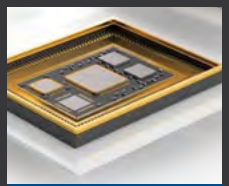






SOLUTION BLOCKS

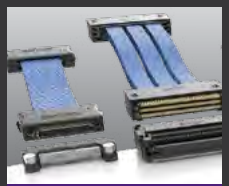
From standard cataloged products to unique high-performance designs, Samtec's solution blocks are designed to support any interconnectivity need, regardless of application, performance requirements or environment.



MICROELECTRONICS



HIGH-SPEED BOARD-TO-BOARD



HIGH-SPEED CABLE



OPTICS

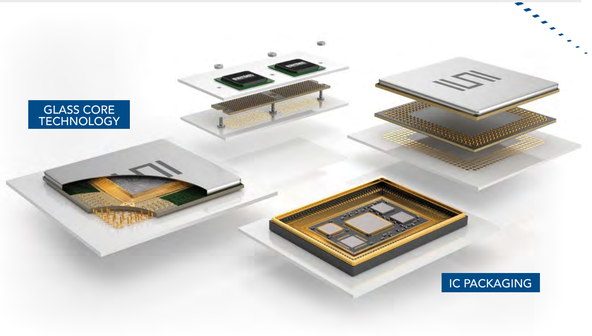


MICRO/RUGGED

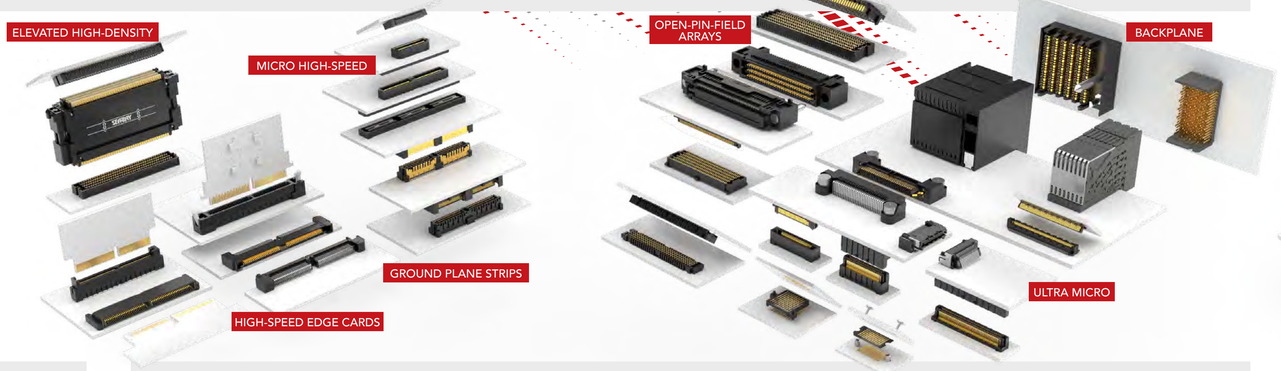


FLEXIBLE STACKING

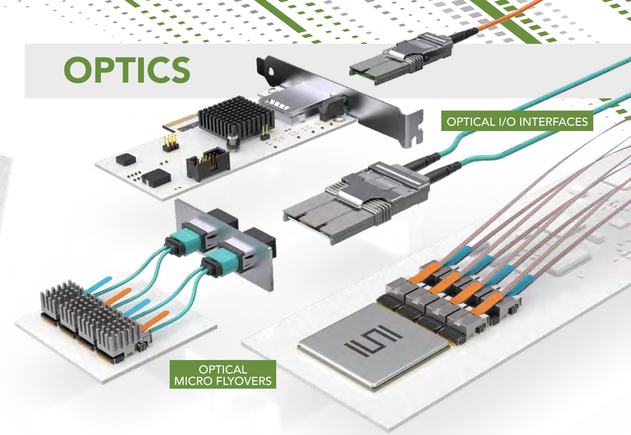
MICROELECTRONICS



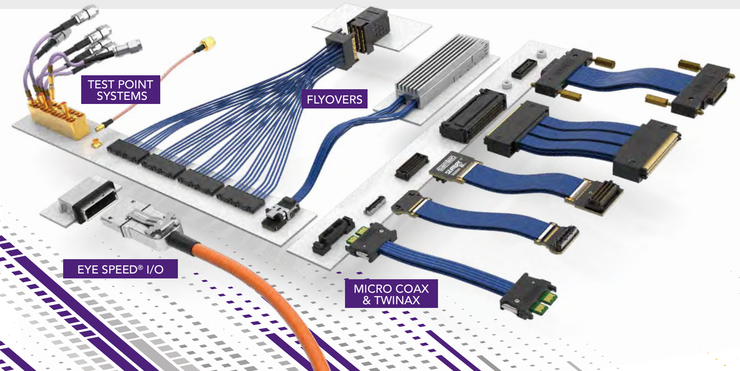
HIGH-SPEED BOARD-TO-BOARD



OPTICS



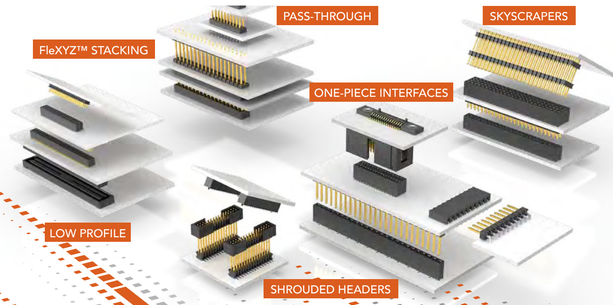
HIGH-SPEED CABLES



MICRO/RUGGED



FLEXIBLE STACKING



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Flexible Board Stacking

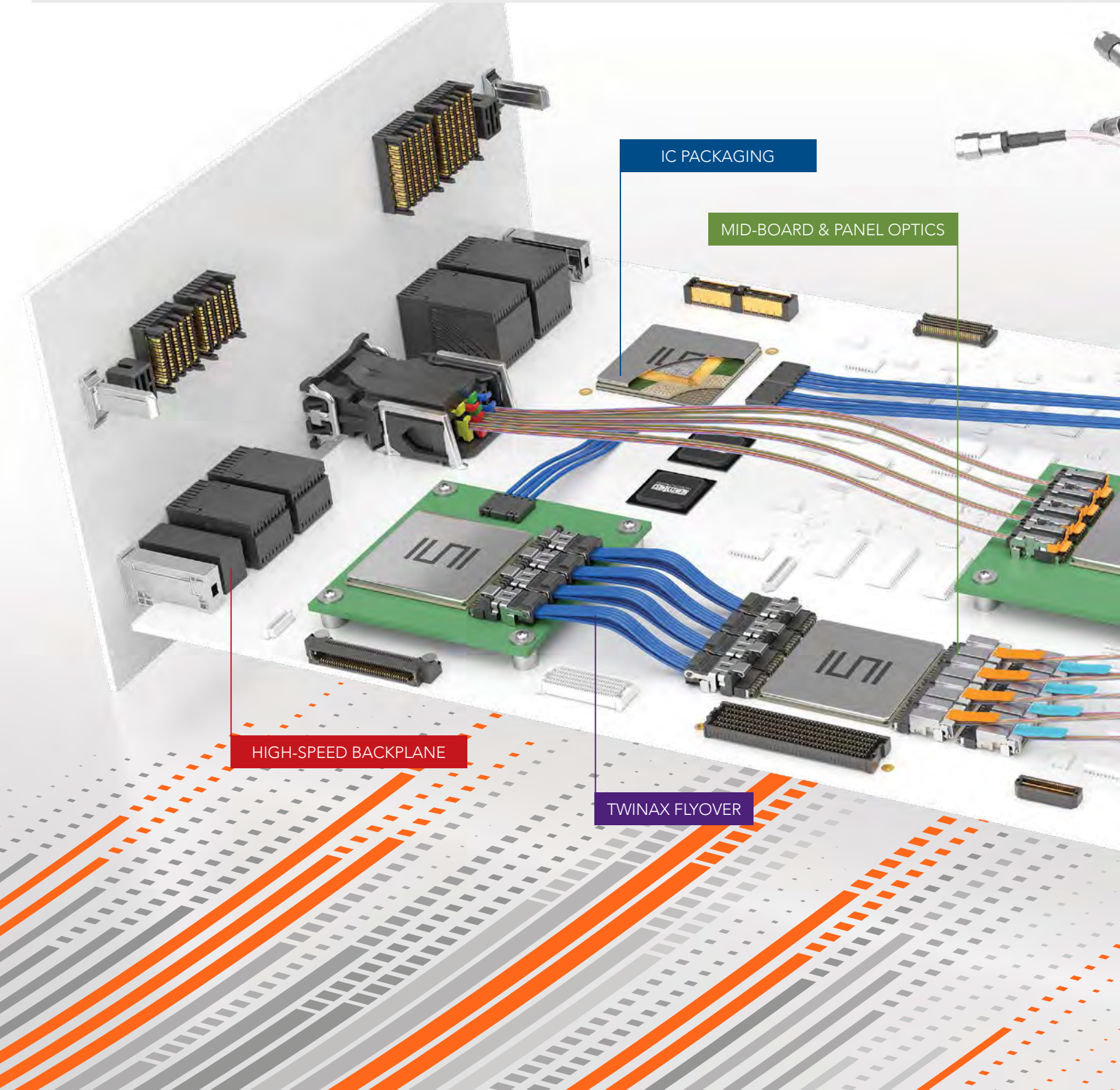
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SILICON-TO-SILICON TECHNOLOGY

Samtec's Signal Integrity expertise and micro solutions provide overall system optimization from "Silicon-to-Silicon." Ultra fast, ultra dense and ultra micro technologies combine to create solutions that streamline the entire signal transmission path from the IC to the panel and every point in between, even beyond the panel to interfaces up to 100 meters away. Samtec is building solutions now that meet tomorrow's expectations for even greater speeds in a smaller footprint.



FULL SYSTEM SIGNAL INTEGRITY SUPPORT

Samtec Teraspeed Consulting & Signal Integrity Group
(See pages 44-45)

Optimized 28+ Gbps systems

Electrical design and analysis expertise

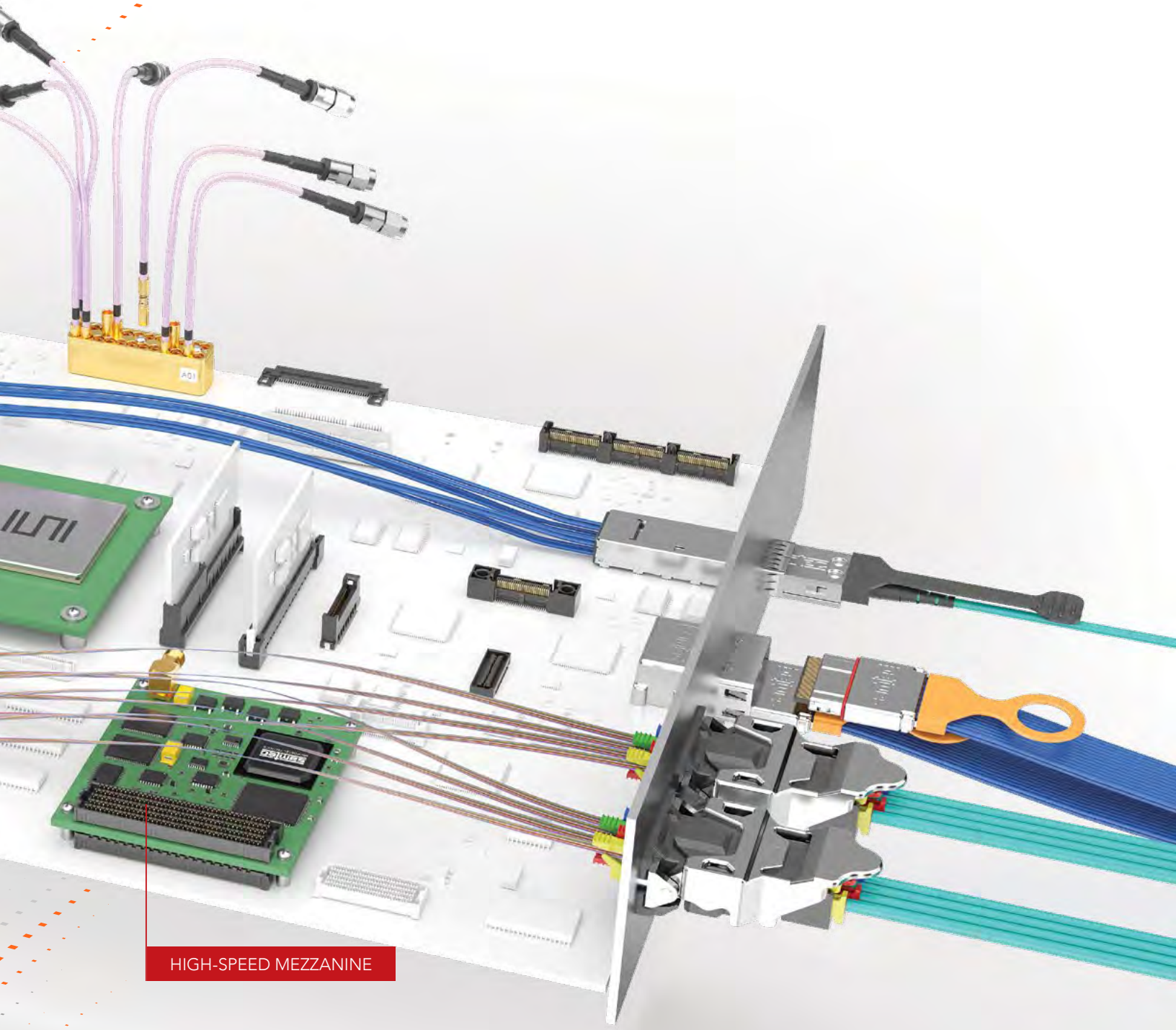
ONLINE TOOLS

***Solutionator®*:** Quickly build a mated set online

***Simulator™*:** Real-time high-speed performance simulations

***Channelyzer™*:** Full-channel simulation and analysis

(See page 180)



samtec.com/S2S

MICROELECTRONICS

Next generation microelectronics require increased performance and integration, advanced chip technology and miniaturization. Samtec's extensive microelectronics and high-speed interconnect expertise, along with our proven methods for package integration, miniaturization, wafer level processing and signal integrity optimization, enable us to provide a unique level of support for advanced microelectronics applications.

CONNECTIVITY

Digital Medical • Radar
IoT • RF
Bluetooth LE
Microwave
Millimeter Wave

MEMS & SENSORS

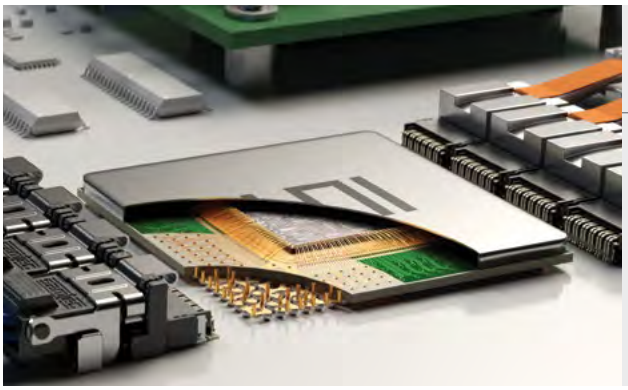
CMOS Image Sensors
Digital Medical • Fingerprint
Solid State Radar • Inertial
Heterogeneous • Ohmic Switches
Ultrasound • Automotive LiDAR

OPTICS, IMAGING & PHOTONICS

Digital Medical • LiDAR • Auto Cameras
Transceivers • Medical Imaging
Microfluidics • Photonics Platforms
Machine Vision • Wafer Scale Lens Array
Electro-Optical Circuit Boards

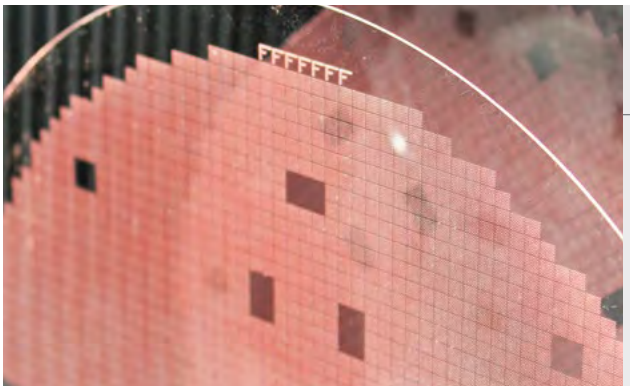
MEDTECH

Microfluidics • Imaging
Diagnostics • Surgical Robots
Implantables • Digital Medical
Wearables • Lab-on-a-Chip
Medical Equipment



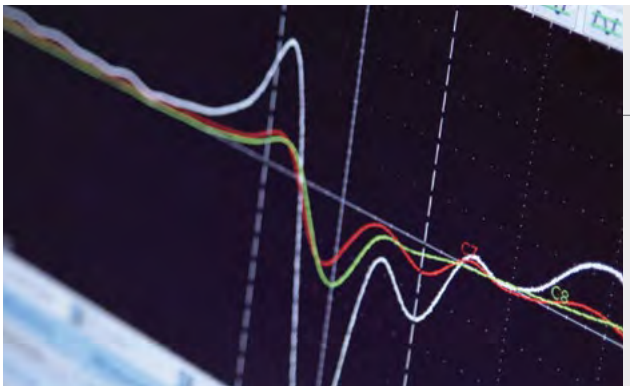
ADVANCED IC PACKAGING

- Development, prototyping, production
- IC packaging and assembly capabilities
- Enabling technologies and roadmap



GLASS CORE TECHNOLOGY

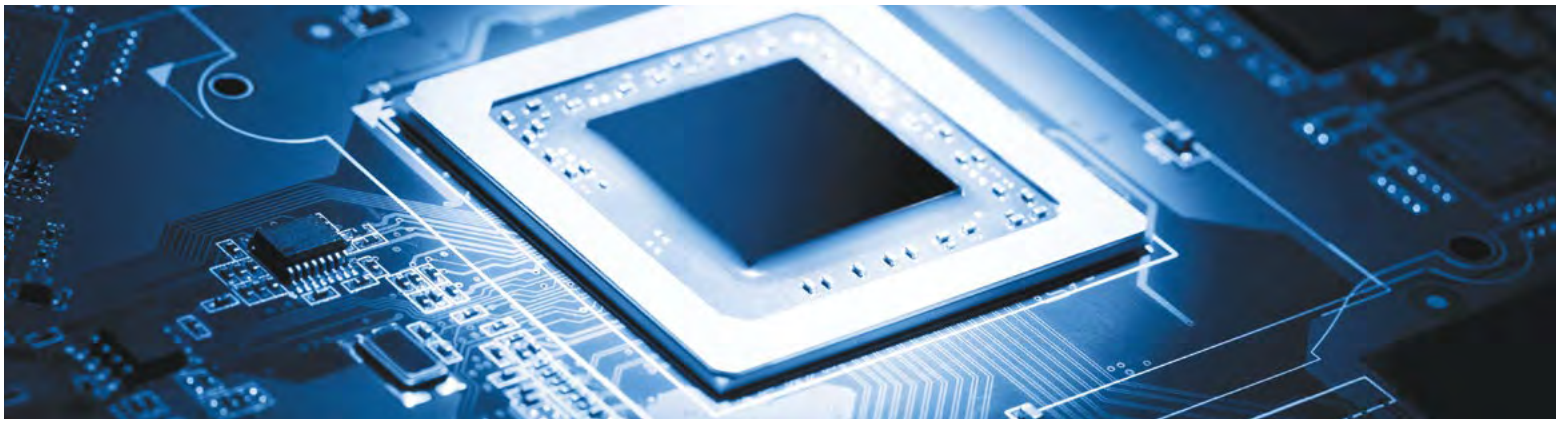
- Through-Glass Via (TGV) metalization
- Redistribution Layer (RDL) circuit formation
- High performance electronics and applications
- Glass Core Technology roadmap



MICROELECTRONICS SYSTEM SUPPORT

- Support for full channel challenges
- Package and PCB design
- Modeling and simulation
- Analysis, testing and validation

ADVANCED IC PACKAGING



COMPLETE DESIGN AND SUPPORT

DEVELOPMENT

Complete support is available from the early stages of the design process:

- Advanced IC package design
- Material selection and procurement
- Assembly processing/compatibility
- Package reliability/testing

PROTOTYPING

To help get your design to market faster, we offer quick-turn prototyping:

- Initial concept builds
- Reasonable NREs
- Industry-leading lead-times
- Minimized iterations

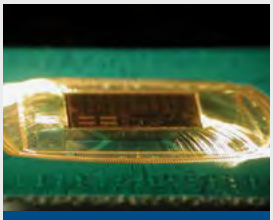
PRODUCTION

Full production capabilities support various order volumes and cost-levels:

- High yield automation/production
- Repeatability/process control
- Transfer molding capabilities
- Asian subcontractors provide flexibility

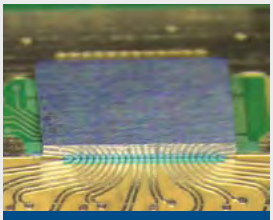
CORE PACKAGING CAPABILITIES

WIRE BONDING



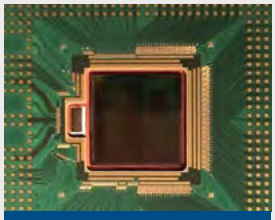
Ultra-fine pitch, ultra-low profile ball bond and wedge bond or ribbon bond

FINE PITCH FLIP CHIP AND JET UNDERFILL



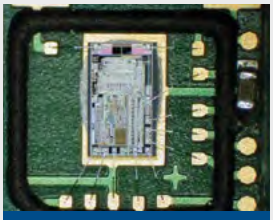
Ultra-high bump count; tight keep-out regions between die

PRECISION DIE PLACEMENT



High-speed, high accuracy die placement (to +/- 3 microns)

ENCAPSULATION



Encapsulating with dam and fill, glob top or transfer molding

ADVANCED PACKAGING AND MANUFACTURING



Advanced and glass substrates, wafer dicing, solder ball and lid attach

TECHNOLOGY **ROADMAP**

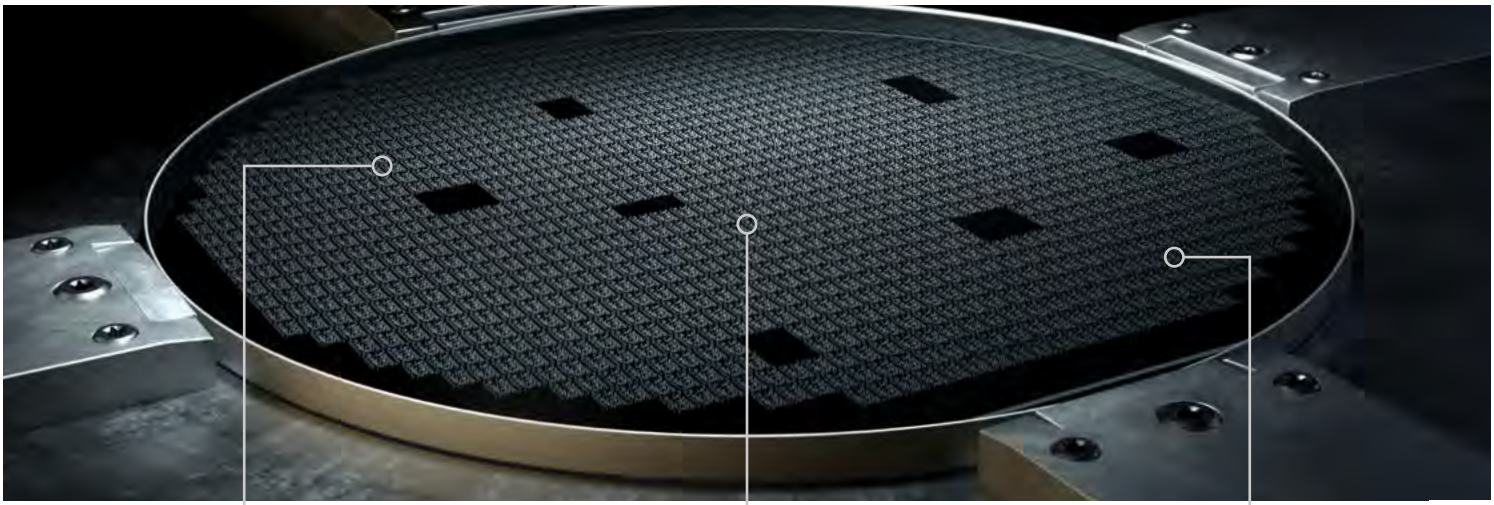
Samtec is invested in the development of innovative products and technologies to meet the density and performance demands of next generation microelectronics. Some of our current technologies in development include:

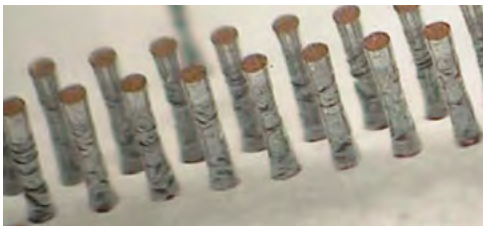
- Thermocompression bonding
- Gold stud bumping
- Anodic bonding (wafer-to-wafer)
- Transfer molding
- Silicon photonics and optics with ultra-tight tolerances

Contact Samtec Microelectronics specialists at sme@samtec.com to discuss solutions for specific IC Packaging applications.

Visit **samtec.com/microelectronics** for typical design guidelines.

GLASS CORE TECHNOLOGY





THROUGH-GLASS VIAS (TGVs) IN GLASS SUBSTRATES

The industry's only proven process for metalization and hermetic sealing of ultra-high-density TGVs enables:

Extreme Miniaturization and Integration

High-Performance Electronics

High-Reliability Packaging Solutions

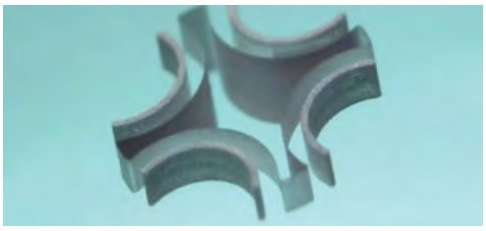


REDISTRIBUTION LAYER (RDL) CIRCUIT PATTERNING ON GLASS

RDL's unique thin-film process enables circuit formation on glass substrates, providing for:

Low Loss Fan-Out of Chip and Package Interconnects

Lower Cost Compared to Traditional Silicon-Based Interposers



CHANNELS AND SHAPED VIAS IN GLASS SUBSTRATES

Glass is ideal for applications requiring shaped vias and channels, including:

Microfluidic and Fluidic Devices

3D Structures

Integrated Passive Devices, Filters

Endless IoT Applications

HIGH-PERFORMANCE ELECTRONICS

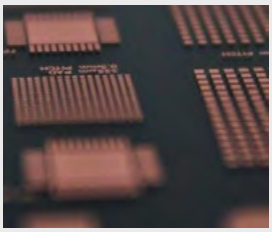
Glass substrates offer high structural integrity, resistance to vibration and temperature, environmental ruggedness, and low electrical loss, making them ideal for next generation microelectronics demands.

Samtec's proprietary Glass Core Technology process leverages the performance benefits of glass to enable performance optimized, ultra-miniaturized substrates for next generation designs.

Visit **samtec.com/microelectronics** for typical design guidelines and more information.

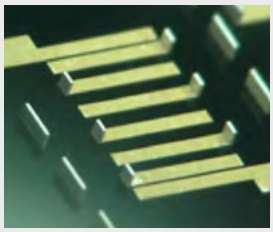
DESIRED PROPERTIES		GLASS	SILICON	ORGANIC LAMINATE
Total Thickness Variation (TTV)	< 5 µm			
Warp	< 2 µm / 20 mm			
Insulation Resistance	High			
Optical Transparency	Optical I/O			
Surface Roughness	< 5 nm			
Coefficient of Thermal Expansion (CTE)	3.2 ppm / C			
Hermetic Vias	Mil-Spec.			

HIGH-PERFORMANCE APPLICATIONS



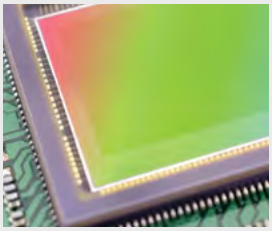
MEMs and SENSORS

- Automotive MEMS and sensors
- Smart building
- Sensor modules



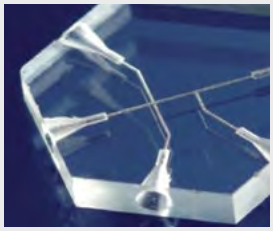
CONNECTIVITY/RF

- RF components and modules
- Advanced RF SiP
- Automotive RF



IMAGING AND OPTOELECTRONICS

- CMOS Image Sensor (CIS)
- Automotive camera modules
- Active imaging and LiDAR

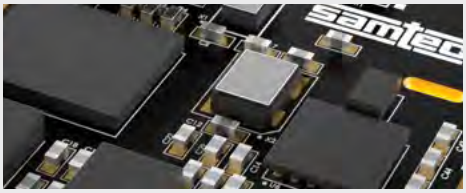


MEDTECH

- Microfluidics and lab-on-chip
- Solid state medical imaging
- Medical robotics sensors

MICROELECTRONICS SYSTEM SUPPORT

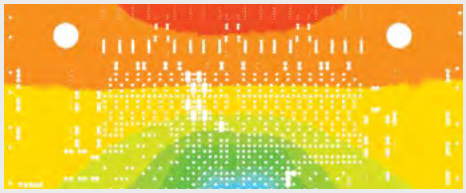
FULL CHANNEL CHALLENGES



MINIATURIZATION & INTEGRATION

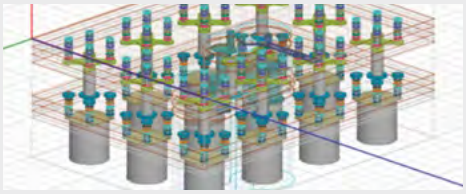


MATERIALS SELECTION



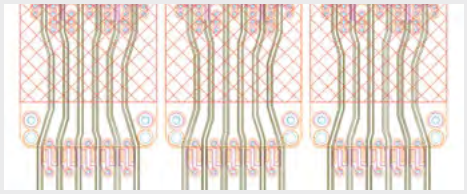
POWER & THERMAL MANAGEMENT

EXPERTISE & SUPPORT



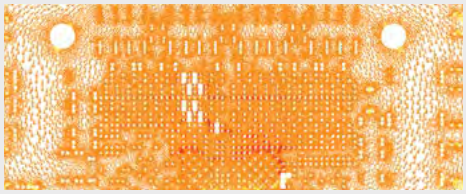
PACKAGE & PCB DESIGN

- Bumpout/ballout optimization
- Ballout transition structures
- Layout & routing
- Material recommendations



MODELING & SIMULATION

- Validate implementation and signaling requirements for critical channels
- High bandwidth full-wave simulations
- Simulations via High-Performance Computing (HPC)



ANALYSIS, TESTING & VALIDATION

- Characterization at frequencies to 67 GHz and beyond
- Package, PCB and system-level signal/power integrity
- Material characterization
- Measurement of test structures for signal/power integrity optimization

Contact Samtec Microelectronics at sme@samtec.com to discuss solutions for your next generation system design.
See pages 44-45 for more information about Samtec's full system support.

HIGH-DENSITY ARRAYS

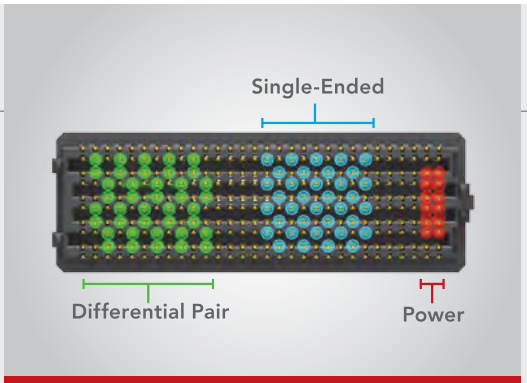


HIGH-DENSITY ARRAYS				
SERIES	**SEAM/SEAF**	**SEAR**	**SEAMI**	**SEAM8/SEAF8**
Type	SEARAY™			SEARAY™ 0.80 mm
Pitch	1.27 mm x 1.27 mm			0.80 mm
Stack Heights (mm)	7–18.5	20, 30, 40	16, 17, 17.5	7 & 10
Total Pin/ Pair Counts	40-560	240-500	320, 500	40-720
Cable Mates	SEAC			ESCA
Notes	Right-Angle, Press-Fit & Hardware Available. Guide Post Field Termination Kit Available.	Elevated	85 Ω Tuned	Ultra-High Density, Right-Angle & Hardware Available
PAGE	**56-64**			**52-54**

OPEN-PIN-FIELD ARRAYS

SEARAY™ | PAM4 56 Gbps

- 1.27 mm x 1.27 mm pitch grid array for maximum grounding and routing flexibility
- Up to 560 single-ended I/Os or 140 differential pairs
- Rugged Edge Rate® contacts
- Solder charged terminations for ease of processing (IPC-A-610F & IPC J-STD-001F Class 3)
- Standard board stack heights from 7 mm to 40 mm
- Power modules available (UBPT/UBPS Series; page 55)
- Press-fit tails available (SEAMP/SEAFP Series; page 62–63)
- Jack screw standoffs aid with unmating and protect from damage (JSO Series; page 65)

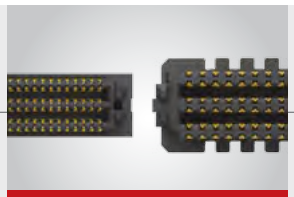


SEARAY™ OPEN-PIN-FIELD FLEXIBILITY

ULTRA-HIGH DENSITY ARRAYS

SEARAY™ .8mm | PAM4 56 Gbps

- Up to 720 Edge Rate® contacts on a 0.80 mm pitch
- 2x the density of 1.27 mm pitch SEARAY™
- 7 mm and 10 mm stack heights
- Right-angle socket available
- 2.00 mm extended wipe version available
- Power modules and standoffs available



0.80 mm SEARAY™ VS. 1.27 mm SEARAY™

LOW-PROFILE ARRAYS

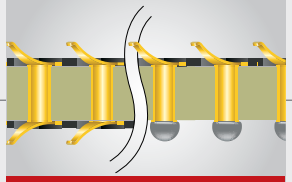
LP ARRAY™ | PAM4 56 Gbps

- 4 mm, 4.5 mm and 5 mm stack heights
- Up to 400 total pins on a 1.27 mm x 1.27 mm pitch
- 4, 6 and 8 row designs
- Dual beam contact system
- Solder crimped termination for ease of processing
- Board stacking standoffs available (JSO Series; page 65)

ULTRA-LOW PROFILE ONE-PIECE ARRAYS

Z-RAY® | PAM4 56 Gbps

- 0.80 mm and 1.00 mm pitch
- Z-Ray® is ultra-flexible with custom or standard configurations
- GMI Series is an ideal low-cost solution for board stacking, module-to-board or LGA interfaces

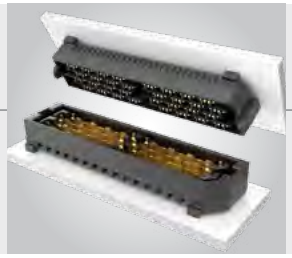


DUAL COMPRESSION OR SOLDER BALL

ULTRA-HIGH SPEED ARRAYS

NOVARAY™ | NRZ 56 Gbps

- Very low crosstalk to 40 GHz+
- Incredibly tight impedance control
- BGA for high-density, improved breakout region
- Enables aggregate data rate
- In development



HIGH-DENSITY ARRAYS			LOW-PROFILE ARRAYS			
SERIES	LPAM/LPAF	TPAR/TPAF	ZA8	ZA8H	ZA1	GMI
Type	LP Array™	SkyRay™	Z-Ray®			Compression
Pitch	1.27 mm x 1.27 mm	1.50 mm x 1.75 mm	0.80 mm		1.00 mm	
Stack Heights (mm)	4, 4.5, 5	35	1	0.3	1	1.27 & 2
Total Pin/ Pair Counts	40-400	50, 100, 150	100, 200, 300, 400	24, 42, 48, 84, 96, 168	100, 200, 300, 400	
Notes	Low Profile, Hardware Available	Elevated, 3-Piece System	Alignment & Compression Hardware Available			One-Piece System, Dual Compression Contacts
PAGE	50-51	66-67	68	69	70	74

For full SI Performance data visit samtec.com or contact sig@samtec.com. For other available stack heights and pin counts, contact Samtec.

HIGH-SPEED BOARD-TO-BOARD



	Q STRIP®					Q RATE®		Q2™		EDGE RATE®		EDGE RATE® HD	
SERIES	**QTH/QSH**		**QTS/QSS**	**QTE/QSE**		**QRM8/QRF8**		**QMS/QFS, QMSS/QFSS**		**ERM5/ERF5**	**ERM8/ERF8**	**EDM6/EDF6**	**ESM6/ESF6**
Pitch	0.50 mm		0.635 mm	0.80 mm		0.80 mm		0.635 mm		0.50 mm	0.80 mm	0.635 mm	
Stack Heights (mm)	5–25		5 & 8	5–25		7–14		10-16 (QXS) 11 (QXSS)		7–12	7–18	5	
Signaling Type	SE	DP	SE	SE	DP	SE	DP	SE	DP	SE			
Total Pin/ Pair Counts	60,120, 180	40, 80, 120	50, 100, 150	40, 80, 120	28, 56, 84	52, 104, 156	36, 72, 108	52, 104, 156	32, 64, 96	20–150	10–200	40–240	20–120
Cable Mates	HQCD (50 Ω)	HQDP (100 Ω)	Contact Samtec	EQCD (50 Ω)	EQDP (100 Ω)	EQRD	Contact Samtec				ERCD, ERDP	Contact Samtec	
Notes	Right-Angle Available					Slim Body Design; Right-Angle Available		Right-Angle, Edge Mount, Power & RF Options (QXS) EMI Shielded (QXSS)		Right-Angle Available	Right-Angle, Edge Mount Available	Compatible with UMPT/UMPS Series for power/signal applications	
PAGE	**76-79**		**82-85**	**80-81**		**86-89**		**90-99**		**100-101**	**102-105**	**114**	**115**

For full SI Performance data visit samtec.com or contact sig@samtec.com. For other available stack heights and pin counts, contact Samtec.

LOW-PROFILE GROUND PLANE CONNECTORS

QSTRIP® | 28 Gbps

- Low profile 5 mm stack height
- Choice of 0.50 mm, 0.635 mm or 0.80 mm pitch
- Vertical, perpendicular and coplanar mating
- Elevated mated stack heights from 5 mm to 25 mm



INTEGRAL POWER/GROUND PLANE RATED FOR UP TO 25 A

SLIM GROUND PLANE CONNECTORS

QRATE® | 28 Gbps

- Edge Rate® contacts optimized for signal integrity performance
- 1.20 mm contact wipe
- Integral power/ground plane
- Right-angle for coplanar and perpendicular mating

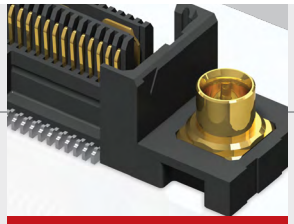


SLIM 4.60 mm BODY WIDTH SAVES BOARD SPACE

RUGGED GROUND PLANE CONNECTORS

Q2™ | 25 Gbps

- Increased insertion depth for rugged applications
- 0.635 mm pitch
- Integral power/ground plane
- Rugged shielding option
- Vertical, right-angle and edge mount

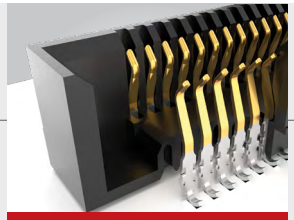


POWER PINS, RETENTION PINS & RF OPTIONS

RUGGED HIGH-SPEED STRIPS

EDGE® RATE® CONTACT | PAM4 56 Gbps

- Signal integrity optimized Edge Rate® contacts
- Up to 40% PCB space savings with 0.50 mm pitch system
- Stack heights from 7 mm to 18 mm
- Rugged latching, locking and 360° shielding

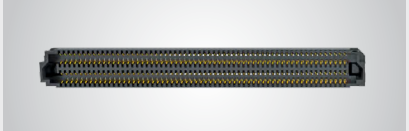


EDGE RATE® CONTACT SYSTEM REDUCES BROADSIDE COUPLING

EXTREME HIGH-DENSITY STRIPS

EDGERATE®HD | PAM4 56 Gbps

- 0.635 mm pitch high-density multi-row strips
- Incredibly dense with up to 240 I/Os in a 4-row design
- Solder ball technology for ease of processing
- Additional stack heights in development

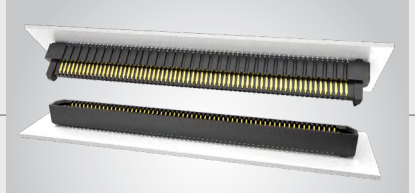


LOW-PROFILE 5 mm STACK HEIGHT AND SLIM 5 mm WIDTH (SHOWN ACTUAL SIZE, 240 POSITIONS)

SLIM HIGH-DENSITY STRIPS

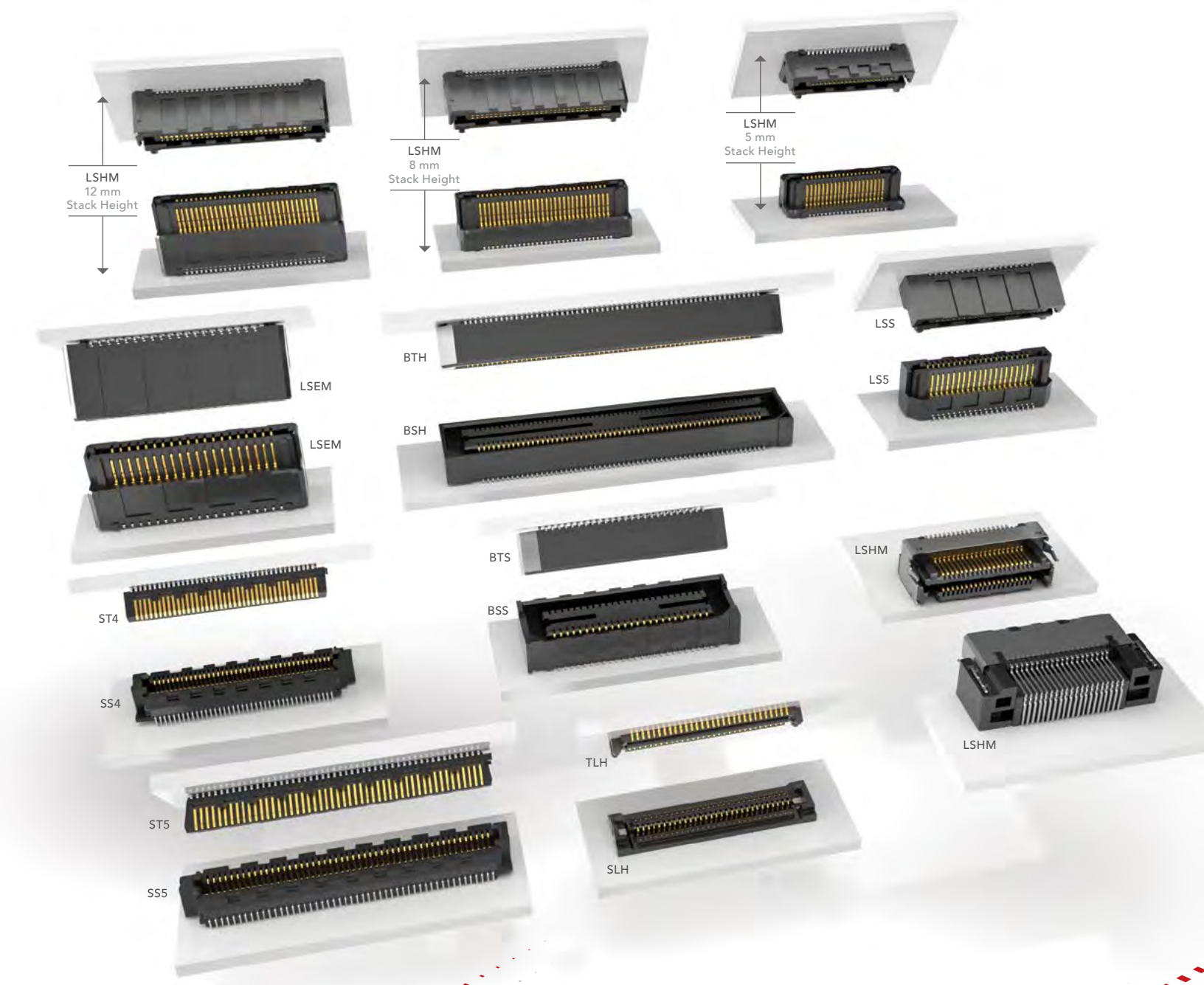
EDGERATE®HD | PAM4 56 Gbps

- Extremely slim 2.5 mm body width
- Up to 120 positions in a 2-row design
- 0.635 mm pitch with J leads for ease of processing



5 mm STACK HEIGHT WITH OTHERS IN DEVELOPMENT

ULTRA MICRO INTERCONNECTS



RUGGED HERMAPHRODITIC CONNECTORS

RAZOR™ BEAM SYSTEM | 25 Gbps

- Razor Beam™ contact for high-speed and fine-pitch systems
- 0.50 mm, 0.635 mm and 0.80 mm pitch
- 4–6x greater mating/unmating forces vs. typical micro pitch connectors
- Rugged shielding available
- Self-mating connectors reduce inventory costs and can be interchanged for varying stack heights
- Jack screw standoffs available to assist with unmating (JSO Series)
- 0.50 mm pitch hermaphroditic cable assembly available (HLCD Series)



MICRO POWER AVAILABLE FOR POWER/SIGNAL APPLICATIONS (UMPT/UMPS SERIES)

LOW-PROFILE STRIPS

RAZOR™ BEAM LP SYSTEM | PAM4 56 Gbps

- Ultra low stack height down to 2 mm
- Slim body designs for increased PCB space savings
- Ultra fine 0.40 mm and 0.50 mm pitch
- Jack screw standoffs (JSO Series) available for unmating assistance and protection from component damage
- Ultra-micro power available for power/signal applications (UMPT/UMPS Series; page 250–251)

SLIM BODY DESIGNS

(Actual size @ 20 positions per row)



BASIC BLADE & BEAM CONNECTORS

BLADE & BEAM CONTACT

- Lower cost without integral ground plane
- 0.50 mm and 0.635 mm pitch
- Polarized
- Right-angle available for perpendicular application
- E.L.P.™ certified systems

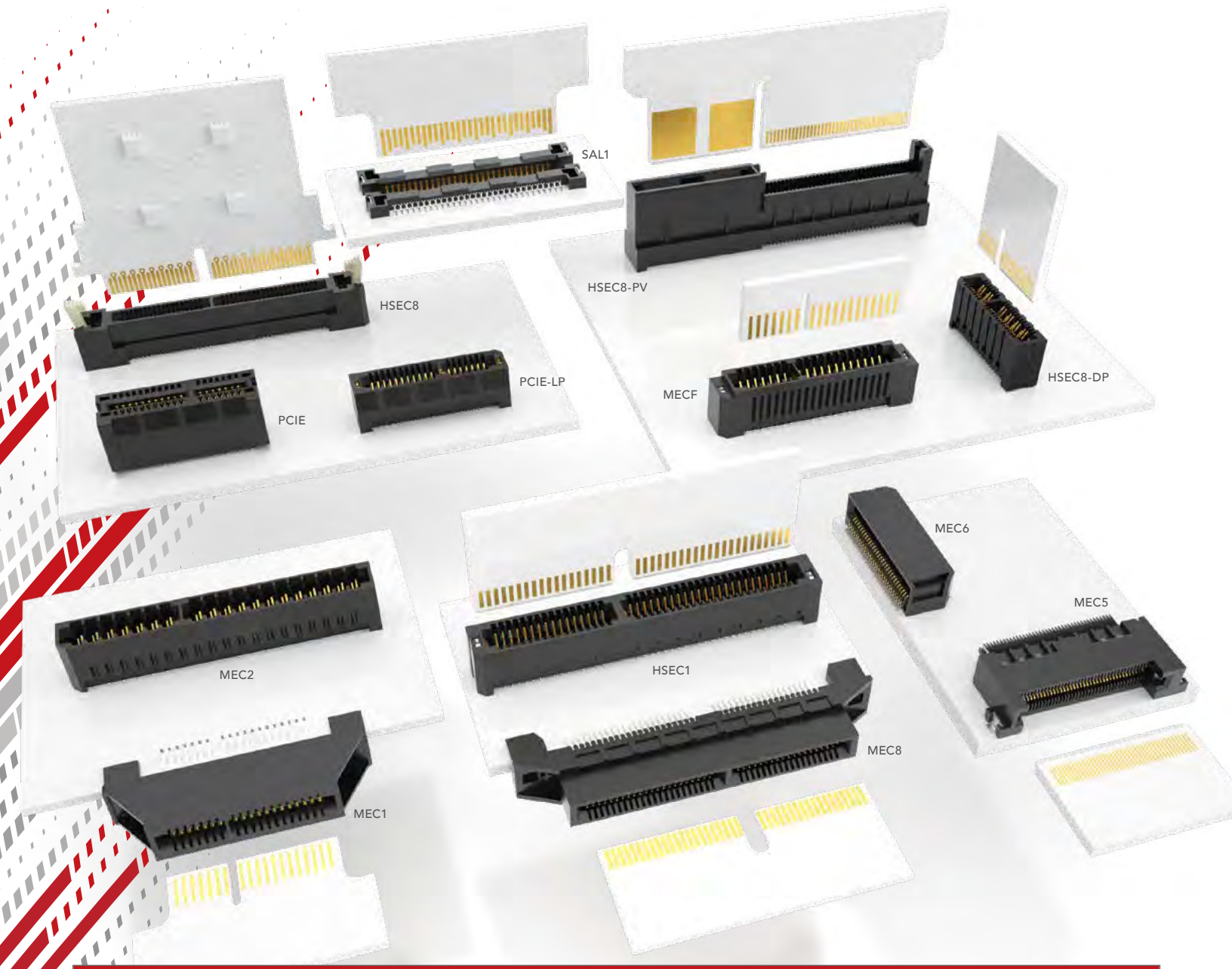


COST-EFFECTIVE BLADE & BEAM CONTACT SYSTEM

	RAZOR BEAM™ LP			RAZOR BEAM™			BLADE & BEAM		
SERIES	ST4/SS4	ST5/SS5	TLH/SLH	LSHM	LSS	LSEM	LTH/LSH	BTH/BSH	BTS/BSS
Pitch	0.40 mm	0.50 mm		0.50 mm	0.635 mm	0.80 mm	0.50 mm		0.635 mm
Stack Heights (mm)	4-6	4-5	2	5-12	6-12		2.31	5-22	5
Total Pin/ Pair Counts	20-100	20-160	20-100	10-100	20-100	40-100	20-100	60-300	50-200
Notes	Ultra-Fine Pitch		Ultra-Low Profile	Right-Angle & Shielded Available	Blade & Beam Contacts		Low Profile	Right-Angle Available	Edge Mount Available
PAGE	116	117	118	110-111	112	113	286	288-289	290

For full SI Performance data, visit samtec.com or contact sig@samtec.com. For other available stack heights and pin counts, contact Samtec.

HIGH-SPEED EDGE CARD



HIGH-SPEED EDGE CARD SOCKETS				
SERIES	HSEC8-PV	HSEC8/RU8	HSEC8-DP	HSEC1-DV
Pitch	0.80 mm			1.00 mm
Applications	Power/Signal Combo	PCI Express®, XAUI, SATA	Differential Pair	Mini Edge Card
Card Thickness (mm)	1.60	1.60 & 2.36	1.60	
Total Pin Counts	40, 60, 80 (Signal) 2, 4 (Power)	18–200 (HSEC8) 80–120 (RU8)	16–112	20–140
Notes	Up to 60 A/Power Bank	Right-Angle, Edge Mount & Pass-Through Available; Riser Card Kit	Edge Rate® Contact System	
PAGE	**127**	**128, 130-133**	**129**	**136**

0.80 mm & 1.00 mm PITCH SOCKETS

PAM4 56 Gbps | EDGE® RATE CONTACT

- Edge Rate® contacts optimized for signal integrity performance
- Surface mount, right-angle, edge mount and pass-through
- Power/Signal combo (HSEC8-PV)
- Custom designs allow for misalignment mitigation
- 1.00 mm pitch differential pair socket compatible to PCIe® Gen 5 in development (HSEC1-DP Series)

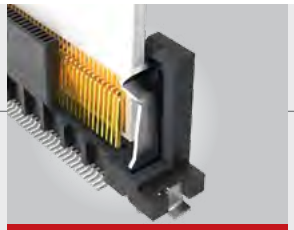


56 Gbps PAM4 WITH DIFFERENTIAL PAIR (HSEC8-DP SERIES)

0.50 mm PITCH HIGH-DENSITY SOCKETS

PAM4 56 Gbps

- Justification beam enables use of standard PCB tolerance
- Up to 200 total I/Os; 300 I/Os in development
- Supports PCIe® Gen 4
- Vertical and right-angle
- 300 positions and rugged board locks for mating with cards and cables in development



BEAM ENSURES CARD AND BODY ARE FLUSH

EDGE CARD PITCH VARIETY

25 Gbps

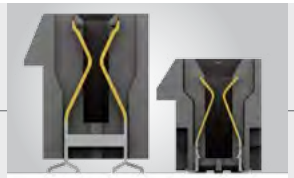
- 0.635 mm, 0.80 mm, 1.00 mm, 1.27 mm and 2.00 mm pitch stamped contacts
- Right-angle, vertical and edge mount
- Surface mount and through-hole
- Solutions for .062" (1.60 mm) and .093" (2.36 mm) thick cards



PRESS-FIT APPLICATION (MEC8 SERIES)

PCI EXPRESS® EDGE CARD SOCKETS

- Supports one, four, eight and sixteen PCI Express® links
- Compatible to Gen 4 speeds (PCIE-LP Series)
- Low profile version for space savings
- Standard jumpers and extenders available (PCIEC Series)



8 mm PROFILE (PCIE-LP SERIES) VS. STANDARD 11 mm PROFILE (PCIE SERIES)

1.00 mm PITCH THROUGH BOARD SOCKETS

- 40 to 80 I/Os per pair
- Mounts in pairs to simplify signal routing
- 1.00 mm pitch
- Mounting-flexibility for pass-through applications

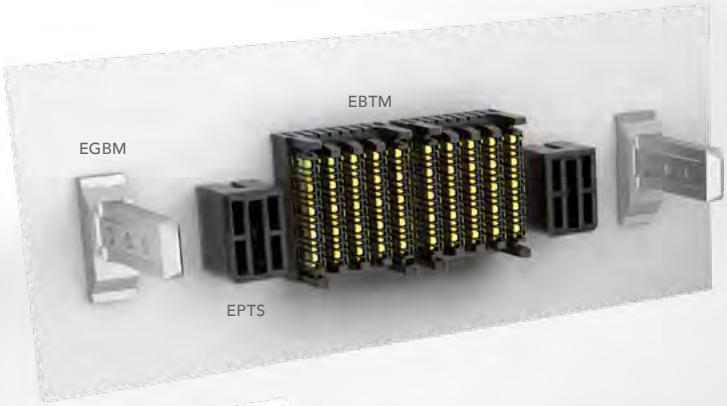
HIGH-SPEED EDGE CARD SOCKETS

SERIES	MEC5	MEC6	MEC8	MEC1	SAL1	MECF	MEC2	PCIE-LP/PCIE
Pitch	0.50 mm	0.635 mm	0.80 mm	1.00 mm		1.27 mm	2.00 mm	1.00 mm
Applications	High-Density Edge Card	Micro Edge Card			SATALink™	Mini Edge Card		PCI Express®
Card Thickness (mm)	1.60				1.60 & 2.36			1.60
Total Pin Counts	60–200	20–140		10–140	20, 27, 30, 40	10–100		36 (x1), 64 (x4), 98 (x8), 164 (x16)
Notes	Right-Angle Available		Right-Angle, Edge Mount & Press-Fit Available	Right-Angle & Edge Mount Available	Mounts in Pairs			Right-Angle & Edge Mount Available
PAGE	121	122-123	124-126	134-135	137	140	141-142	138-139

For full SI Performance data visit samtec.com or contact sig@samtec.com. For other available stack heights and pin counts, contact Samtec.

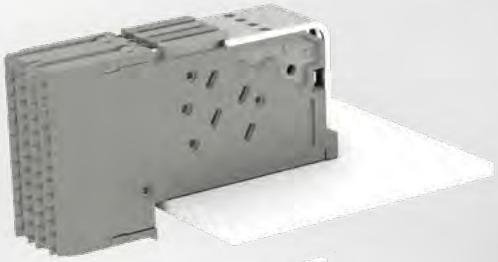
PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

HIGH-SPEED BACKPLANE



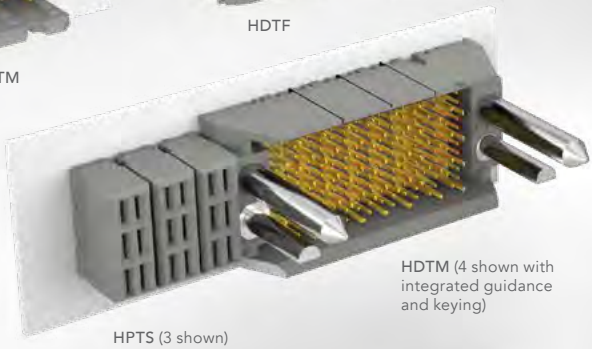



HDTM

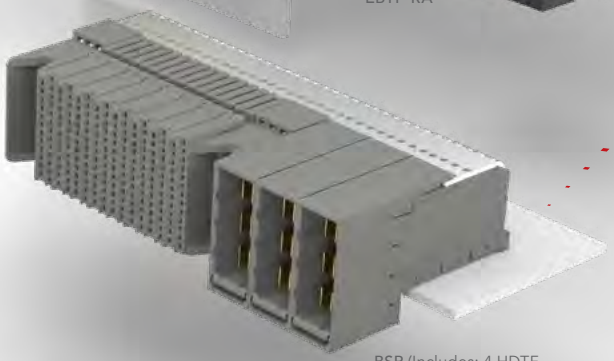

HDTF


EBDM-RA


EBTF-RA


HDTM (4 shown with integrated guidance and keying)

HPTS (3 shown)


BSP (Includes: 4 HDTF, 2 HGPF-RA & 3 HPTT-RA)

	EXAMAX®		XCEDE® HD
SERIES	**EBTM/EBTF-RA**	**EBDM-RA**	**HDTM/HDTF**
Type	Traditional Backplane	Direct Mate Orthogonal	Xcede® HD
Pitch	2.00 mm		1.80 mm
Total Pair Counts	24–72	36–72	12–48
Pairs Per Column	4 & 6	6	3, 4 & 6
Total Number of Columns	6, 8, 10 & 12 (12 only available with 6-pair)		4, 6 & 8
Notes	Power and Guidance Modules Available	Integrated Guide Post	Integrated Power, Guidance, Keying and Side Walls Available
PAGE	**146-147, 149-150**	**148**	**144-145**

For full SI Performance data visit samtec.com or contact sig@samtec.com. For other available pair and column counts, contact Samtec.

HIGH-SPEED BACKPLANE SYSTEMS

ExaMAX® | PAM4 56 Gbps

- 2.00 mm column pitch with up to 72 pairs
- Meets industry specifications such as PCI Express®, Intel OPI and VPI, SAS, SATA, Fibre Channel, InfiniBand™ and Ethernet
- Lowest mating force on the market: 0.36 N max per contact
- Press-fit termination
- Engineered for 92 Ω impedance to address both 85 Ω and 100 Ω applications
- Keying, guidance, power and staging available
- Coplanar in development (EBTM–RA Series) to bypass the backplane for a direct connection between the front and rear cards
- Backplane cable in development for cable-to-board, cable-to-ExaMAX®, cable-to-cable or cable-to-panel applications

*ExaMAX® is a registered trademark of AFCI.



INDIVIDUAL SIGNAL WAFERS WITH ONE-PIECE GROUND PLANE REDUCES CROSSTALK



TWO RELIABLE POINTS OF CONTACT AT ALL TIMES



STAGGERED, DIFFERENTIAL PAIRS



GUIDANCE AND POWER MODULES AVAILABLE (EGBM/EGBF-RA & EPTT/EPTS SERIES)

DIRECT-MATE ORTHOGONAL

ExaMAX® | PAM4 56 Gbps

- Eliminates the need for a backplane or midplane
- Shorter signal path for improved signal integrity
- Two fewer connectors for decreased cost
- Optimizes system airflow and cooling for increased thermal efficiency
- Integral guidance for blind mating



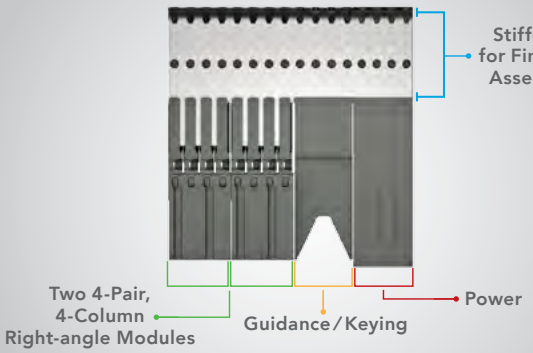
POWER MODULES FOR UP TO 100 A IN DEVELOPMENT

HIGH-DENSITY BACKPLANE SYSTEMS

XCede HD | 16 Gbps

- Small form factor and modular design provides significant space-savings and flexibility
- 1.80 mm column pitch with up to 48 pairs
- Up to 84 differential pairs per linear inch
- Integrated power, guidance, keying and end walls available (HPTS/HPTT-RA, HGPF-RA Series)
- 85 Ω and 100 Ω options
- Combine any configuration of right-angle modules to create one integrated receptacle (BSP Series), corresponding vertical modules are individually mounted to the backplane

*XCede® is a registered trademark of Amphenol Corporation.

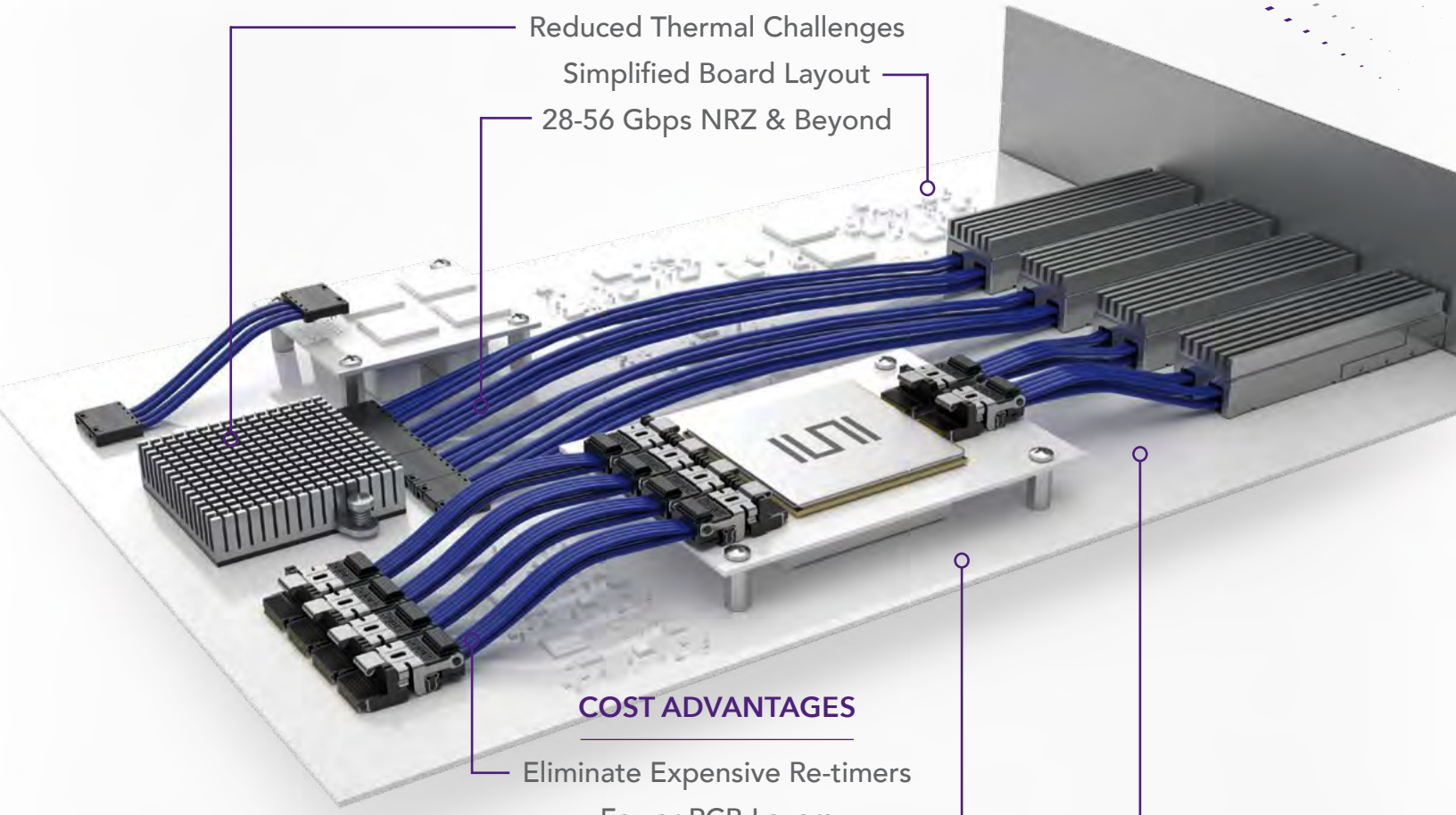


4-MODULE SYSTEM SHOWN (TOP VIEW; BSP SERIES)

FLYOVERS

PERFORMANCE ADVANTAGES

- Reduced Thermal Challenges
- Simplified Board Layout
- 28-56 Gbps NRZ & Beyond



COST ADVANTAGES

- Eliminate Expensive Re-timers
- Fewer PCB Layers
- Less Expensive PCB Materials

SAMTEC FLYOVER SYSTEMS

FLYOVER

NEXT GEN PERFORMANCE AND COST ADVANTAGES

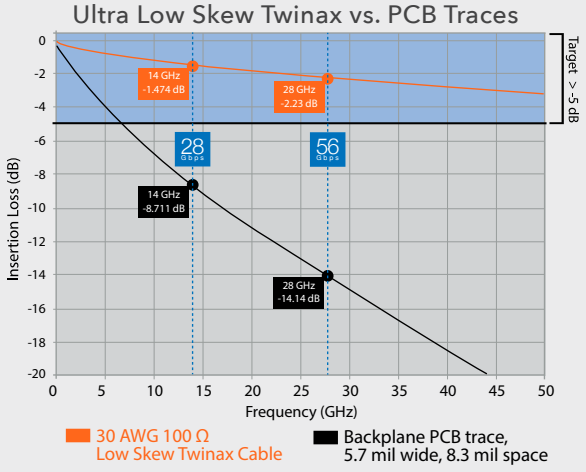
High-performance, low loss twinax cable systems support 56+ Gbps speeds for extended signal reach and system architecture design flexibility - without adding cost to the overall system.

ULTRA LOW SKEW CABLE TECHNOLOGY

Samtec's co-extruded twinax cable technology eliminates the performance limitations and inconsistencies of individually extruded dielectric twinax cabling, improving signal integrity, bandwidth and reach.

SUPPORT

Fully integrated, complementary and cross-functional Technology Centers for full system interconnect performance and cost optimization from Silicon-to-Silicon.



WHY FLYOVER?

As bandwidth requirements rapidly increase, routing signals through lossy PCBs, vias and other components has become a complex challenge.

Samtec's "flyover" design breaks the constraints of traditional signaling substrate and hardware offerings, resulting in a cost-effective, high-performance answer to the challenges of 56 Gbps bandwidths and beyond.

BANDWIDTH VS. TRADITIONAL & HIGH-SPEED MATERIALS

	FR408	MEGTRON 6	Micro Twinax	Optics
10 Gbps	<10"	10"+	10"+	10"+
14 Gbps	<5"	<10"	10"+	10"+
28 Gbps	<2"	<5"	10"+	10"+
56 Gbps	0.0"	<2"	10"+	10"+
112 Gbps	0.0"	0.0"	<10"	10"+

FLYOVER INTERCONNECT TECHNOLOGY

FLYOVER QSFP28 & QSFP28-DD

- Press-fit sidebands increase system airflow and eliminate need for extra cables
- 28 Gbps NRZ per channel
- 4 channels (FQSFP Series) and 8 channels (FQSFP-DD Series)



Page 158–159

FIREFLY™ MICRO FLYOVER SYSTEM™ (ECUE SERIES)

- 28 Gbps performance
- x4, x8 and x12 channels
- Pin compatible with optical FireFly™
- PCIe® Gen 3 protocol compatible (PCUE Series)



Page 154–156

DIRECT CONNECT™ SYSTEMS (DCH SERIES)

- Connectorless design with no transition cards
- 4 or 8 pairs on a 2.00 mm pitch
- Press-fit termination to PCB
- 56 Gbps PAM4 performance



Page 157

DIRECT PLUGGABLE ASSEMBLY (DPH SERIES)

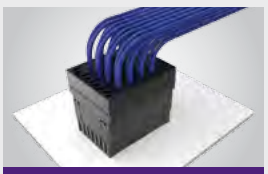
- Connect directly to board
- Horizontal applications
- 56 Gbps PAM4
- In development



Page 160

EXAMAX® BACKPLANE CABLE (EBCM/EBCF SERIES)

- Fewer layer counts for reduced costs
- Highly customizable
- 56 Gbps PAM4
- In development



Page 160

0.635 mm PITCH CABLE ASSEMBLY (ETC6/ETF6 SERIES)

- Industry-leading density with up to 92 pairs/per square inch
- Slim 5.00 mm body
- 56 Gbps NRZ
- In development



Page 160

HIGH-SPEED EDGE CARD CONNECTORS (HSEC8-DP SERIES)

- 0.80 mm pitch sockets
- Up to 56 differential pairs
- Edge Rate® contacts
- Accepts 1.60 mm thick cards



Page 129

MICRO EDGE CARD CONNECTORS (MEC5 SERIES)

- 0.50 mm pitch
- Vertical and right-angle
- Up to 200 pins
- Accepts 1.60 mm thick cards



Page 121

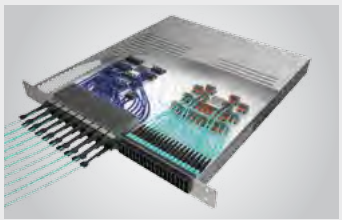
FLYOVER APPLICATIONS



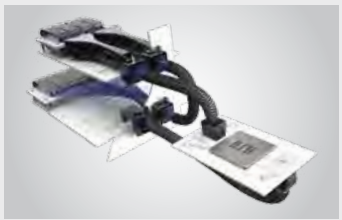
HIGH-SPEED I/O AND BACKPLANE SYSTEMS



ULTRA-LOW PROFILE HIGH-SPEED ARRAY INTERCONNECTS

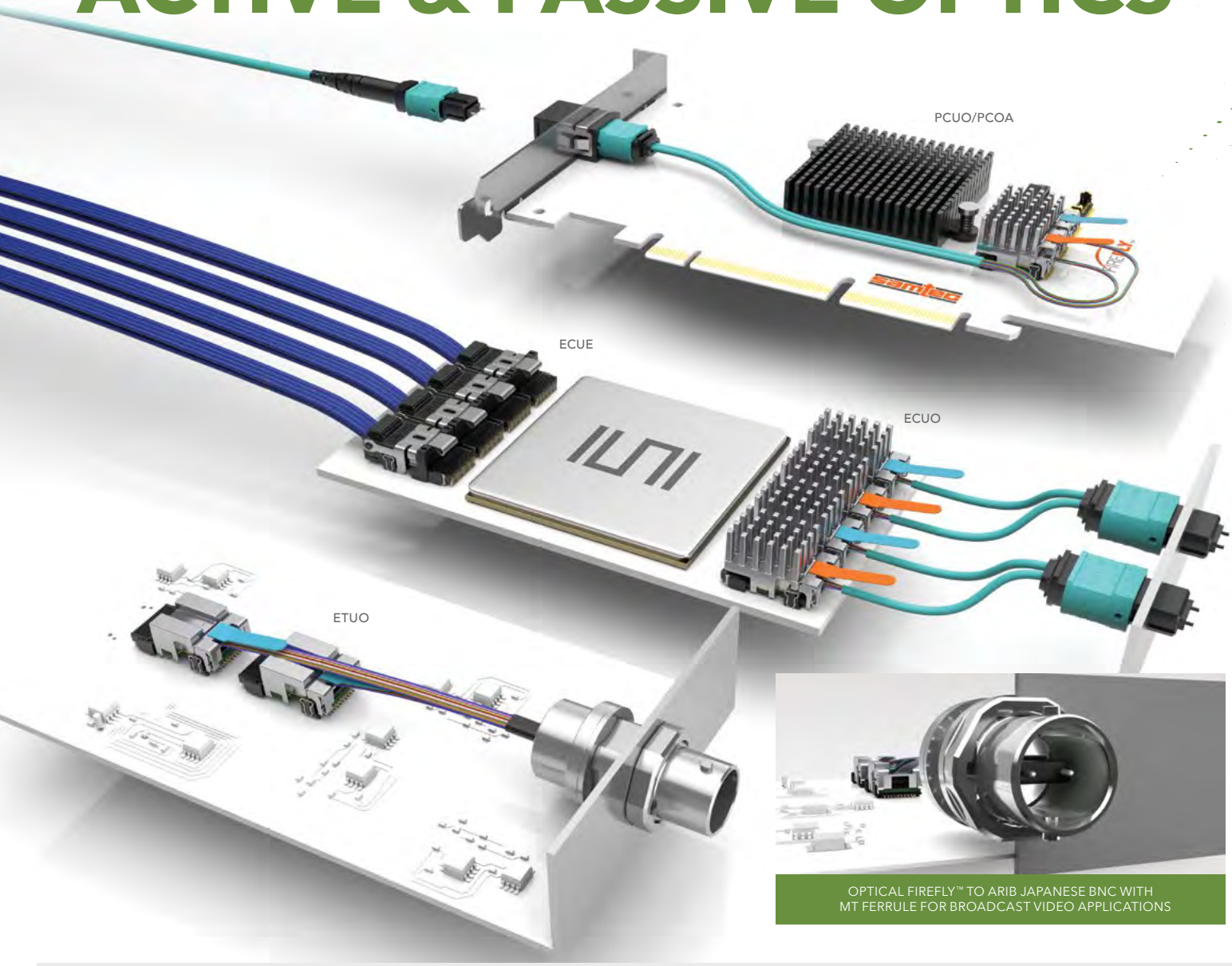


HYBRID COPPER AND OPTICAL SYSTEMS



HIGH-SPEED BACKPLANE FLYOVER SYSTEMS

ACTIVE & PASSIVE OPTICS



OPTICAL FIREFLY™ TO ARIB JAPANESE BNC WITH MT FERRULE FOR BROADCAST VIDEO APPLICATIONS

FIREFLY™ MICRO FLYOVER SYSTEM™

ECUE

Copper FireFly™

28 Gbps — x4, x8, x12

PAGE 154

ECUO

Optical FireFly™

14 Gbps — x4, x12

16 Gbps — x12

28 Gbps — x4

PAGE 188

ETUO

Extended Temp FireFly™

10 Gbps — x4, x12

PAGE 189

PCUO

PCIe®-Over-FireFly™

8 GTps — Gen 3 x4, x8, x16

Gen 4
in development

PAGE 191

PTUO

PCIe® Gen 3
Extended Temp
FireFly™
in development

Si Pho

Silicon Photonics
in development
for 56+ Gbps

The UEC5 and UCC8 connectors were designed to work specifically with the FireFly™ flyover system. They were not designed for use with mating cards other than those used with FireFly™. Please see samtec.com/edgecard or contact CustomerEngineeringSupport@samtec.com for other edge card options.

TECHNOLOGY CENTER

SAMTEC OPTICAL GROUP

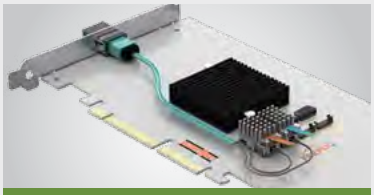
Engineering team dedicated to the design, development and application support of high-performance micro optical engines, active optical assemblies and passive optical panel solutions. For more information contact optics@samtec.com.

ACTIVE OPTICAL MICRO FLYOVERS FIREFLY™

- Designed for flexibility, FireFly™ optical is interchangeable with copper (ECUE Series) using the same two-piece connector system
- Data "flies" over lossy PCB, simplifying board layout and enhancing signal integrity from IC to faceplate
- 56 Gbps connector
- Industry-leading miniature footprint allows for higher density close to the data source
- Surface mount connector system with no screws required (UEC5/UCC8 Series; see page 190)
- Rugged, simple to use system with easy insertion/removal and trace routing
- Variety of standard integral heat sinks for optimized thermal operating conditions
- PCIe®-Over-FireFly™ (PCUO Series) supports PCIe® protocol for low latency, power savings and guaranteed transmission
- -40 °C to +85 °C extended temperature system (ETUO Series); PCIe® version in development (PTUO Series)
- x8 duplex form factor with 16 Gbps and 28 Gbps speeds in development to meet the demands of future data center growth



EXTENDED TEMPERATURE FIREFLY™ WITH AMPHENOL® AEROSPACE'S BULKHEAD JACK FOR RUGGED AND SEALED APPLICATIONS



HOST/TARGET ADAPTOR CARD (PCOA SERIES) SUPPORTS TRANSPARENT AND NON-TRANSPARENT BRIDGE LINKS (MATES WITH PCUO SERIES)

PASSIVE & ACTIVE OPTICAL SOLUTIONS

- Industry standard passive MPO-to-MPO panel adaptor (OPA Series) and optical patch cable (FOPC Series); see page 194
- FireFly™ is compatible with optical backplane systems in multiple configurations
- High-density solutions for front panel or backplane applications with MXC® connectors

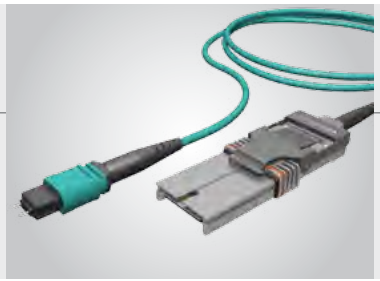
MXC® is a registered trademark of US Conec Ltd.



PENTEK FLEXOR® 5973 WITH TWO x12 OPTICAL FIREFLY™ TO MEET VITA 66.4 SPECIFICATIONS

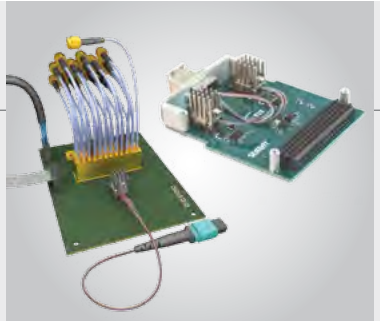
PCI EXPRESS® ACTIVE OPTICAL CABLE

- x4 and x8 Gen 3 (8.0 GT/s)
- Distances up to 100 meters
- Half cable options available
- Adaptor cards available
- PCIEO/PCIEA Series, see page 192–193

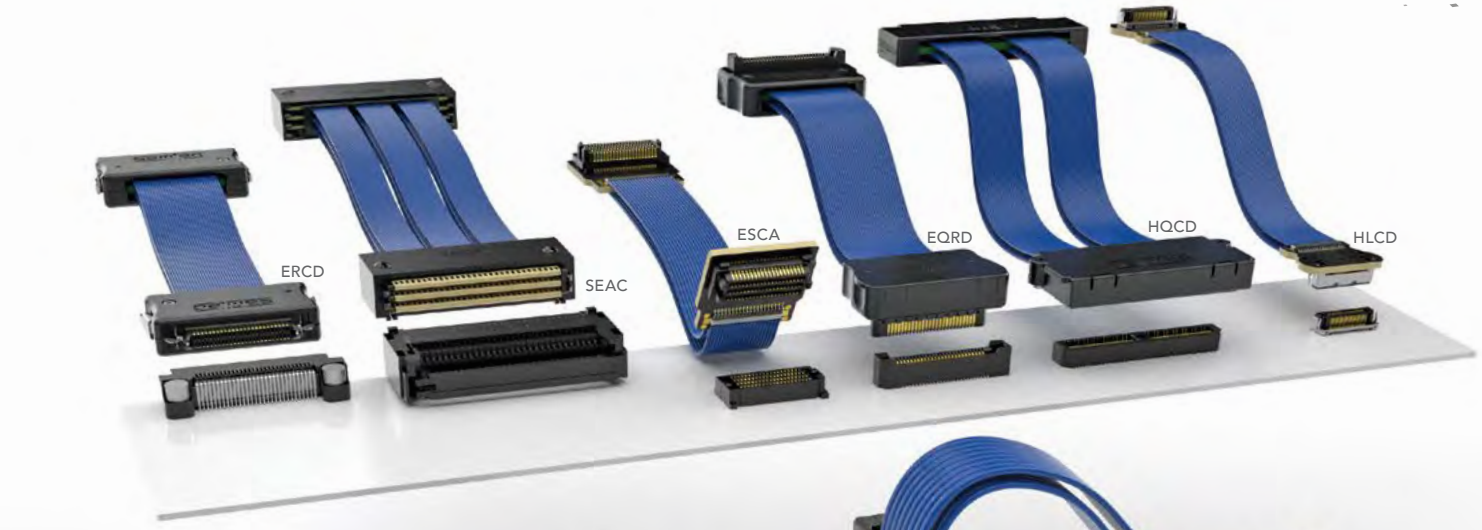


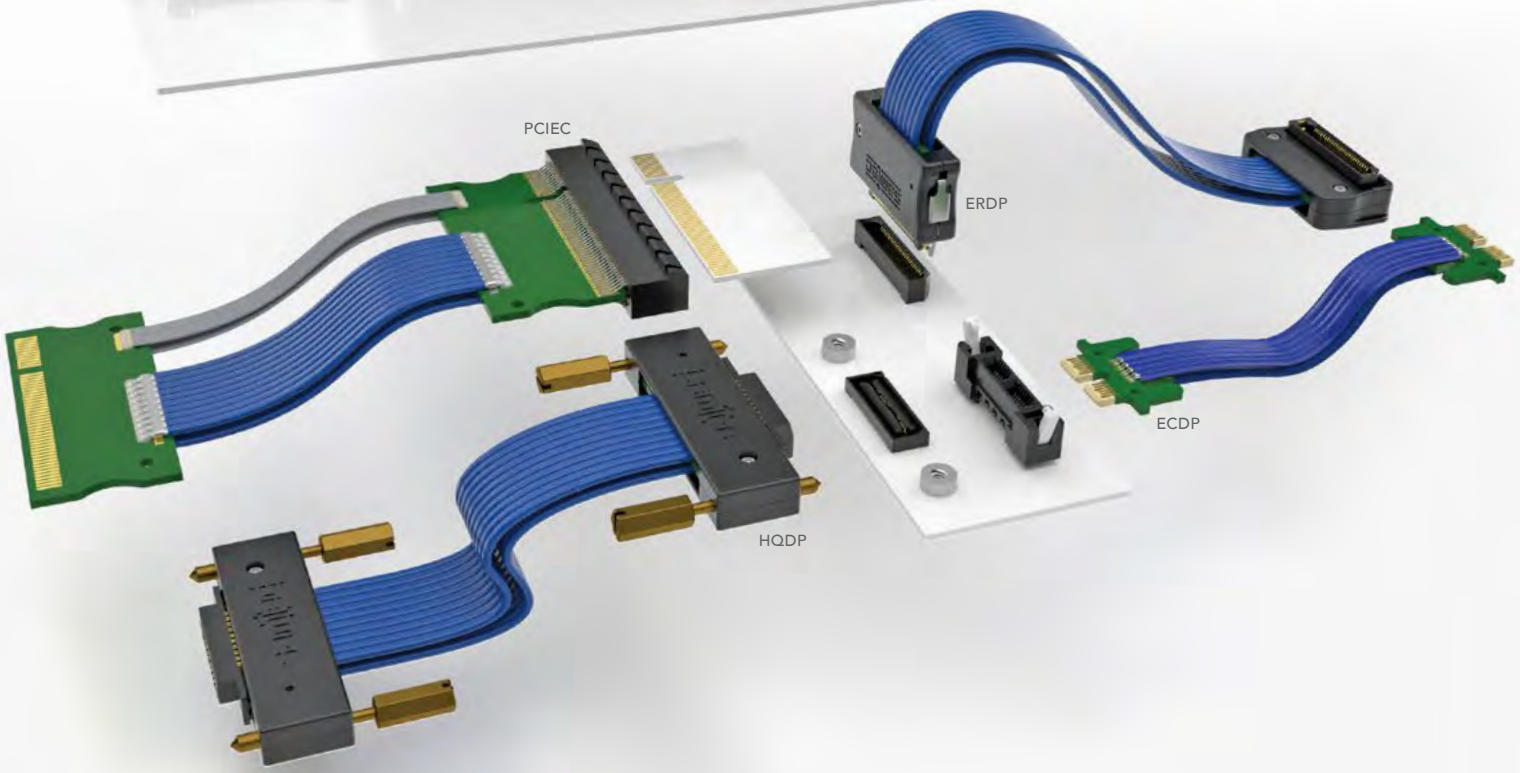
TESTING SOLUTIONS

- FireFly™ Evaluation Kit allows a designer real-time evaluation of an actively running copper or optical FireFly™ system in their lab, with their inputs (FIK-FIREFLY-XX Series)
- FireFly™ Optical FMC Module with a VITA 57.1 form factor runs actual data or BERT testing on all channels simultaneously (REF-193429-01 Series)



HIGH-SPEED CABLE SYSTEMS





STANDARD COAX & TWINAX CABLE ASSEMBLIES													
SERIES	**HQCD**	**EQCD**	**HLCD**	**EQRD**	**ERCD**	**ESCA**	**SEAC**	**ECDP**	**HQDP**	**EQDP**	**ZRDP**	**ERDP**	**PCIEC**
Cable Type	Eye Speed® Coax							Eye Speed® Twinax					PCI Express® Twinax
Cable AWG	38			34			36	30			34	30	
Pitch	0.50 mm	0.80 mm	0.50 mm	0.80 mm			1.27 mm	0.80 mm	0.50 mm	0.80 mm			1.00 mm
Mates	QTH, QSH	QTE, QSE	LSHM	QRM8, QRF8	ERM8, ERF8	SEAM8, SEAF8	SEAF	HSEC8	QTH-DP, QSH-DP	QTE-DP, QSE-DP	ZCI, ZCC	ERM8, ERF8	PCIE
PAGE	**164-165**		**166**	**167**	**168**	**169**	**170**	**161**	**162**		**71-72**	**163**	**171**

High-speed channel performance rating based on Samtec reference channel. For full SI Performance data, visit **samtec.com** or contact **sig@samtec.com**.

TECHNOLOGY CENTER

HIGH-SPEED CABLE PLANT

R&D and manufacturing of precision extruded micro coax and twinax cable used for high-speed/high-density cable assemblies. Capabilities include 26-38 AWG center conductors, 50/75/85/100 Ω impedance, and systems rated at 56 Gbps and beyond with low skew twinax cable construction.



MICRO COAX & TWINAX CABLE ASSEMBLIES

14 Gbps

- Single-ended 50 Ω standards for Q Series®, Q Rate®, Edge Rate® and Razor Beam™ high-speed connectors
- Differential 100 Ω standards for Q Pairs®, Edge Rate® and PCI Express® high-speed connectors
- SEARAY™ and SEARAY™ 0.80 mm high-density cable assemblies
- Z-Ray® ultra-low profile cable system
- Rugged features and options including strain relief, plastic housings, screw downs, latches and locks, etc.
- Many non-cataloged standards available including 75 Ω micro coax and high-density twinax solutions



Eye Speed® Cable

Ideal for small bend radii and dynamic high flexing cycle applications with individual copper serve or braided shielding

CUSTOM HIGH-SPEED CABLE ASSEMBLIES

- Ability to mix-and-match end options for application-specific requirements with extensive customizing capabilities

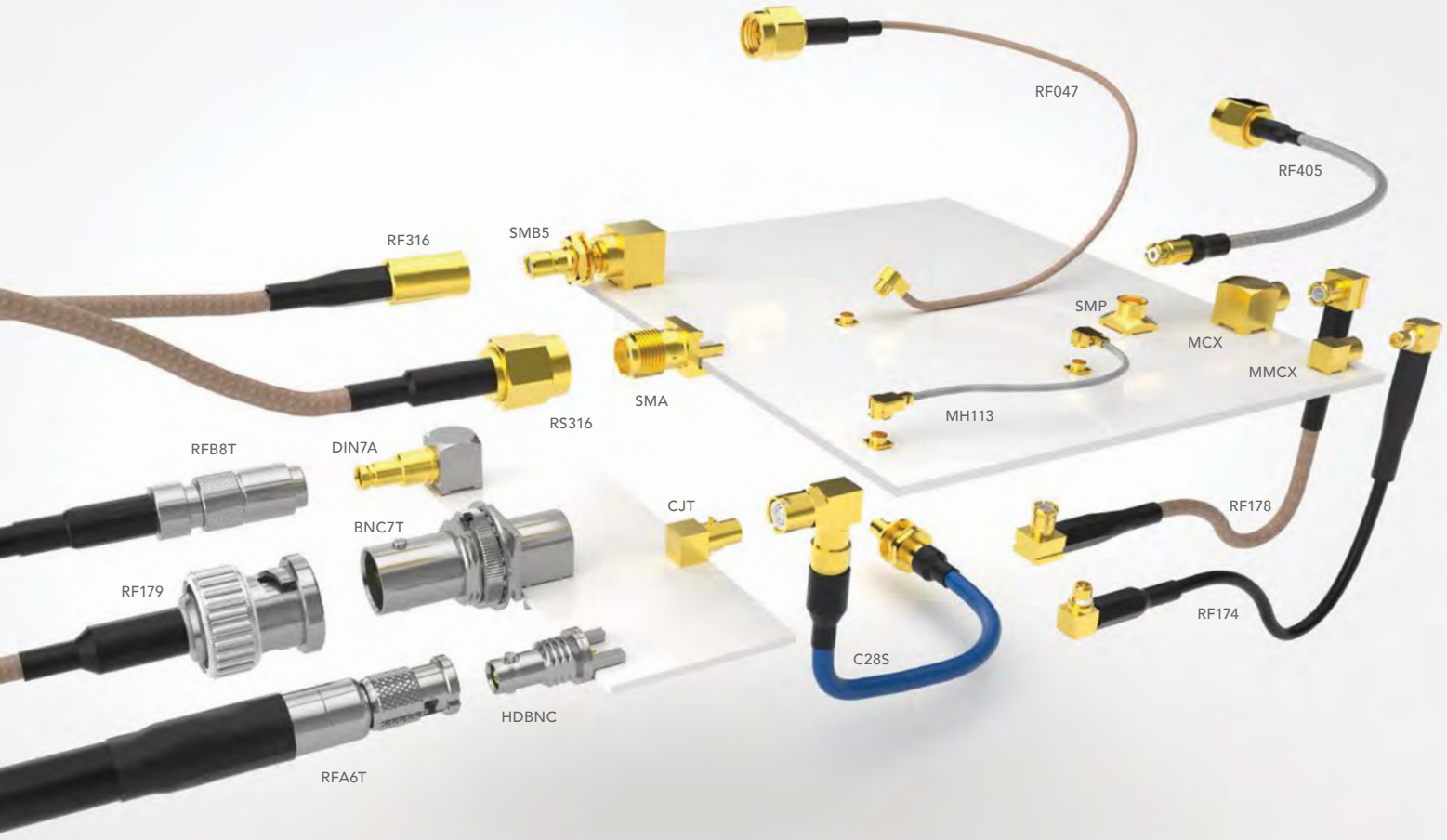
HIGH-SPEED I/O SYSTEMS

- Eye Speed® HD is the industry's densest I/O cable system with HyperTransport™ HT 3.1 performance (HDLSP Series)
- Eye Speed® I/O is designed for space savings and high cycles (EPLSP Series)
- SFP+ passive jumpers for up to 20 Gbps data transmission (SFPE Series)



HIGH-SPEED COPPER I/O SYSTEMS			
SERIES	HDLSP	EPLSP	SFPE
Cable Type	Eye Speed® HD	Eye Speed® I/O	
Application	Rugged, High-Speed, Panel-to-Panel	SFP+, SFP, XFP & XENPAK	
Cable	32 AWG Low Skew Pair Cable		
Mates	HDC/HDI6	ERC/ERI8	MECT/SFPC
Notes	48 Signal Pairs	8 or 16 Signal Pairs, 5 Power, 2 Clock	Connectors, Cages & Kits Available
PAGE	176-177	178-179	181-183

RF CABLES & CONNECTORS



50 & 75 Ω RF CABLES & CONNECTORS

- 2.92 and 2.4 mm Precision SMAs; other terminations in development
- 12G-SDI optimized 75 Ω interconnects
- 50 Ω high frequency microwave cables and micro high frequency U.FL/W.FL cable assemblies
- Wide variety of industry standard cables and components with mix-and-match flexibility
- Board level interconnects and adaptors in a choice of orientations and terminations
- Micro blind-mate SMPM connectors with ganged configurations in development



HIGH-DENSITY BNC PROVIDES 4X THE PANEL DENSITY VS. TRADITIONAL BNCs

12G-SDI BROADCAST VIDEO SOLUTIONS

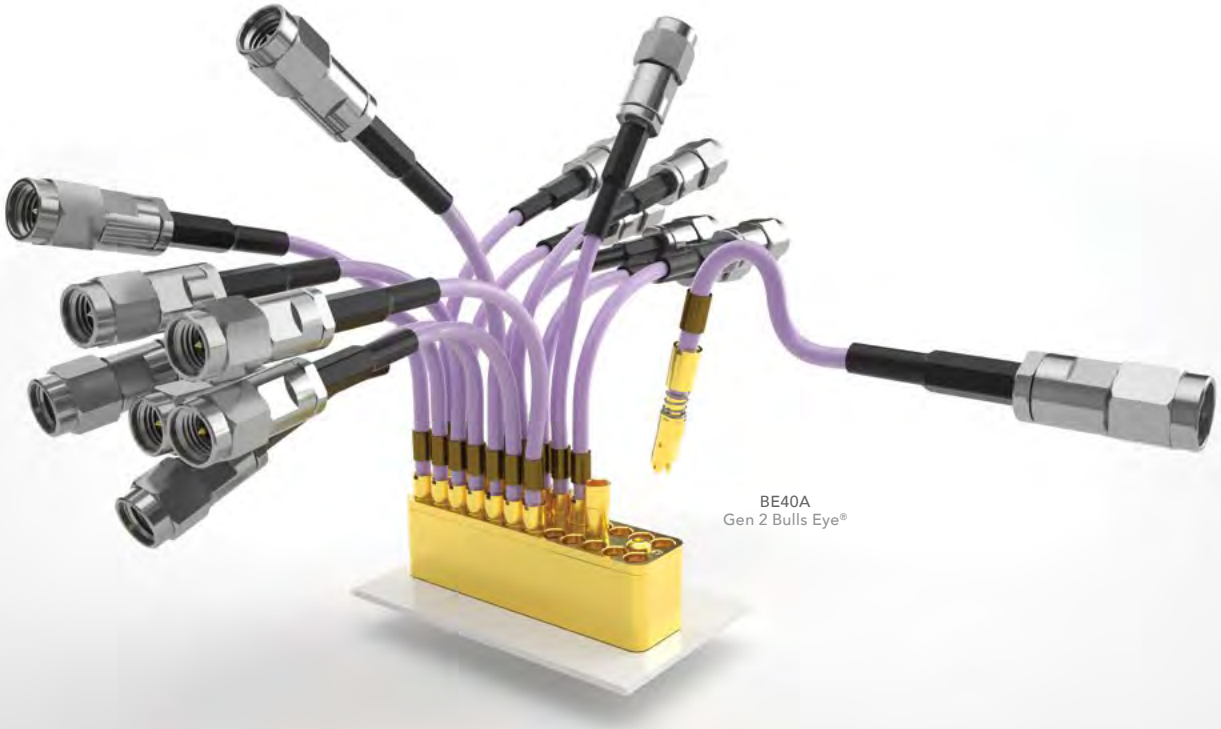
12GSDI

- Samtec has the largest variety of 12G-SDI optimized products
- 12G-SDI analysis and launch optimization: RFTechnicalGroup@samtec.com
- 75 Ω BNC, HDBNC and DIN 1.0/2.3
- Right-angle, vertical, edge mount, low-profile and standard or tall through-hole
- Visit samtec.com/12gsdi



12G-SDI FOR BROADCAST VIDEO

RF TEST SYSTEMS

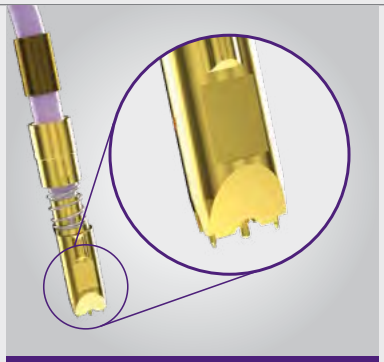


BE40A
Gen 2 Bulls Eye®

HIGH-PERFORMANCE TEST POINTS

BULLSEYE® TEST POINT SYSTEM

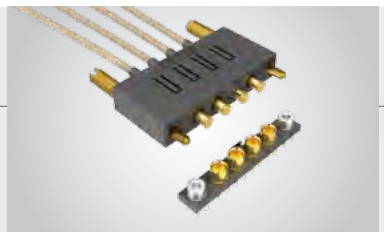
- Gen 2 up to 40 GHz and Gen 1 up to 20 GHz; 50 and 65 GHz in development
- 2.92, 2.4 and 3.5 mm Precision SMA end options; 1.0 and 1.85 mm in development
- Significantly saves space on the board compared to traditional test solutions
- 50 Ω impedance
- Compression mount allows for re-use and eliminates soldering costs
- Multi-position board mate
- Phase matched pairs
- 23 AWG solid dielectric microwave cable with copper foil shield
- Bayonet mechanical latch for easy on/off
- Compression spring for tolerance variations
- Microstrip or stripline PCB transmission
- Gen 2 is backward compatible with Gen 1 (BDRA Series only)
- Gen 1 features a fixed pin design and requires an elastomer for grounding
- See page 174 for more information



GEN 2 CABLE FEATURES POGO STYLE PINS AND BOTH SIGNAL AND GROUND

ORIGINAL SOLUTIONS

- High-speed U.FL to 500 cycles/ 10 GHz (RF047 Series)
- High vibration and 75 Ω MMCX (MMCXV & MMCX7 Series)
- Circular RF shielded twisted pair system (C28S/CJT Series; page 173)
- IsoRate® isolated signal systems for 90% performance of traditional RF at 50% of the cost (IJ5C & IJ5H Series)



GANGED MICRO SCALE ISOLATED SIGNAL SYSTEMS (GRF1 & GRF7 SERIES)

Go to **samtec.com/catalog** to order or view the RF Interconnect Catalog

MICRO/RUGGED SYSTEMS



	EDGE RATE® SYSTEMS			TIGER EYE™ SYSTEMS		
SERIES	**ERM5/ERF5**	**ERM8/ERF8**	**ESM6/ESF6**	**SFM/TFM, SFML/TFML, SFC/TFC**	**FOLC/MOLC**	**SFMC**
Pitch	0.50 mm	0.80 mm	0.635 mm	1.27 mm		
Stack Heights (mm)	7–12	7–18	5	6–12	6–11.4	6–12
Termination Options	SM & RA (Socket) SM (Terminal)	SM, RA & Edge Mount	SM	SM, RA & T/H	SM, T/H & MT	SM & T/H
Total Pin/ Pair Counts	20–150	10–200	20–120	3–100	80–200	4–100
Notes	Edge Rate® Contacts	Extended Life Product™	Edge Rate® Slim	Extended Life Product™	FOURRAY™	Tiger Eye™ Lite Contacts
PAGE	**100-101**	**102-105**	**115**	**200-205**	**206-207**	**210**

For other available stack heights and pin counts, contact Samtec.

0.50 mm, 0.635 mm & 0.80 mm SYSTEMS

EDGE® RATE CONTACT | 2.2 A per pin

- High-speed Edge Rate® contacts for 28 Gbps
- 1.50 mm contact wipe on 0.80 mm pitch
- 1.00 mm contact wipe on 0.50 mm pitch
- Up to 40% PCB space savings with 0.50 mm system
- Stack heights from 7 mm to 18 mm
- Rugged metal latching, solder locks and 360° shielding available
- 0.635 mm pitch Edge Rate® Slim connectors with 2.5 mm body width and low-profile stack heights

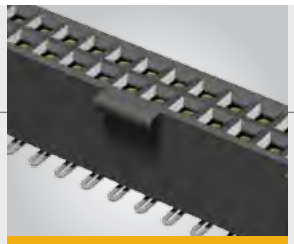


MICRO POWER AVAILABLE FOR POWER/SIGNAL APPLICATIONS (UMPT/UMPS SERIES)

1.27 mm PITCH SYSTEMS

TIGER™ EYE SYSTEM | 3.2 A per pin

- Samtec's most rugged contact system, rated to 1,000+ mating cycles
- Friction latching, locking clip, dual screw down or weld tab ruggedizing options
- Surface mount and through-hole
- Shrouded, polarized and keyed
- Discrete wire, flat and twisted pair IDC cable systems



LOCKING FEATURE INCREASES UNMATING FORCE (SFML SERIES)

2.00 mm PITCH SYSTEMS

TIGER™ EYE SYSTEM | 3.8 A per pin

- Locking clip, weld tab or dual screw down ruggedizing features
- Surface mount and through-hole
- Vertical and right-angle for micro backplane applications
- Discrete wire and IDC cable systems



SCREW DOWN OPTION FOR SECURE LOCKING

0.80 mm PITCH SYSTEMS

TIGER™ EYE SYSTEM | 2.6 A per pin

- Locking clip, alignment pin or weld tab ruggedizing features
- Extended Life Product™ testing available
- Micro pitch and slim body for space savings
- Discrete wire cable systems



MULTI-FINGER BeCu CONTACTS FOR HIGH-RELIABILITY & CYCLES

IDC CABLE SYSTEMS

TIGER™ EYE IDC | 2.5 A per pin

- 0.50" (1.27 mm) or 2.00 mm (.0787") pitch
- Choice of socket and plug terminations
- Ejector and shrouded headers
- Rugged strain relief option



STRAIN RELIEF OPTION

	TIGER EYE™ SYSTEMS				
SERIES	**FFSD/FFTP, FFMD, FMTP**	**SEM/TEM/SEML SEMS/TEMS**	**S2M/T2M**	**SMM/TMM**	**TCSD/TCMD**
Pitch	1.27 mm	0.80 mm	2.00 mm		
Stack Heights (mm)	N/A	6, 7, 10 mm	6 & 7 mm	Flex Stack	N/A
Termination Options	IDC	SM (Socket) SM, RA & T/H (Terminal)	SM & T/H (Socket) SM, RA & T/H (Terminal)	SM (Socket) SM, RA & T/H (Terminal)	IDC
Total Pin/ Pair Counts	8–50	10–100	10–60	1–200	8–50
Notes	Flat Cable & Twisted Pair	Extended Life Product™	Tiger Eye™ Contacts	Extended Life Product™	Tiger Eye™ IDC
PAGE	**384-386**	**198-199**	**208-209**	**318-319, 337**	**378-379**

For other available stack heights and pin counts, contact Samtec.

DISCRETE WIRE SYSTEMS



DISCRETE WIRE CABLE ASSEMBLIES				
SERIES	**SESDT**	**S1SX**	**SFSX**	**S2SD**
Brand	Tiger Eye™		Tiger Eye™	Tiger Eye™
Pitch	0.80 mm	1.00 mm	1.27 mm	2.00 mm
Cable AWG	32	28 & 30		24, 26, 28, 30
CCC (1 pin powered/row)	1.9 A	3.3 A (S1SS/T1M)	2.9 A (SFSD/TFC)	3.8 A (S2SD/T2M)
Shrouded Headers	TEM-L1	T1M	TFM/SFM, TFC/SFC	T2M/S2M
Total Pin Counts ‡	10-40	2-40	3-100	10-60
Components	ISDE/CC396	ISS1/ISD1/CC09	ISDF/CC03	ISD2/CC81
PAGE	**212-213**	**214-217**	**218-220**	**221-222**

LOW-PROFILE 1.00 mm PITCH DISCRETE WIRE

3.3 A per pin

- 2 through 40 I/Os, single or double row
- Crimp-style dual leaf contact system
- Low profile down to 3.2 mm
- Available as components or complete assemblies
- Panel mount and cable-to-cable assemblies in development



MICRO RUGGED DISCRETE WIRE ASSEMBLIES

TIGER™ EYE SYSTEM | 3.8 A per pin

- Multi-finger, BeCu contact system for high-reliability and high cycle applications
- 0.80 mm, .050" (1.27 mm) & 2.00 mm pitch
- Rugged screw down and retention latch options
- Shrouded, polarized & keyed
- Available as components or complete assemblies
- Rugged shielded Tiger Eye™ cable assembly in development



RUGGED DISCRETE WIRE ASSEMBLIES

miniMATE® POWERMATE® | 10.3 A per pin

- Mini Mate® .100" (2.54 mm) pitch and Power Mate® .165" (4.19 mm) pitch
- Single and double row
- Standard and high power versions
- Polarized, guide pins and latching systems
- Mini Mate® panel mount and 2.54 mm pitch universal assemblies available
- Available as components or complete assemblies
- Creepage and clearance dimensions available at samtec.com/power*



HIGH POWER DISCRETE WIRE ASSEMBLIES

POWER™ STRIP | 58.7 A per blade

- PowerStrip™/30 on 5.00 mm pitch
- PowerStrip™/40 on (6.35 mm) .250" pitch
- Power/signal combination available
- Available as components or complete assemblies
- Creepage and clearance dimensions available at samtec.com/power*



DISCRETE WIRE TOOLING

- Hand tools and quick-change semi-automatic crimp applicators
- Wire ranges from 32 to 10 AWG
- Wide variety of additional application specific hardware and field service capabilities
- Visit samtec.com/tooling



DISCRETE WIRE CABLE ASSEMBLIES					
SERIES	**MMSX(T)**	**PMSX(T)**	**MPSS**	**MPCC**	**PESS**
Brand	Mini Mate®	Power Mate®	PowerStrip™/30		PowerStrip™/40
Pitch	2.54 mm	4.19 mm	5.00 mm		6.35 mm
Cable AWG	20, 22, 24, 26, 28 & 30	16, 18, 20, 22, 24	14 & 16	14, 16, 24, 26, 28, 30	10 & 12
CCC (1 pin powered/row)	4.8 A (MMSD/IPL1)	10.3 A (PMSD/IPBT)	19.7 A (MPSS/MPT)	Signal 3.4 A † Power to 23.2 A	34.5 A (PESS/PET)
Shrouded Headers	IPL1	IPBT	MPT	MPTC	PET
Total Pin Counts ‡	2-50	2-30	2-8	4 Power, 16 or 24 Signal	2-8
Components	IPD1/CC79/PK-79	IPBD/CC69	IMS5/CC46	IMSC5/CC46/CC81	IPS6/CC10
PAGE	**223-225**	**226-227**	**228**	**229**	**230**

*Selectively loading contacts achieves customer specific creepage and clearance requirements. Contact ASP@samtec.com.
†4 adjacent pins powered
‡See catalog page for exact pin counts

samtec.com/discretewire

POWER & PANEL SYSTEMS



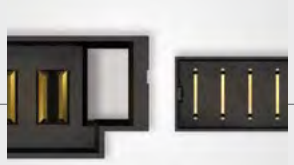
HIGH POWER SYSTEMS								
SERIES	**LPHT/LPHS**	**ET60T/ET60S**	**PEX/PEXC**	**MPX/MPXC/ MPPT**	**UPT/UPS/ UPPT**	**UMPT/ UMPS**	**IPBT/IPBS**	**IPT1/IPS1**
Brand	EXTreme LPHPower™	EXTreme Ten60Power™	PowerStrip™/40	PowerStrip™/30	PowerStrip™/20	Ultra Micro Power	Power Mate®	Mini Mate®
Current Rating	30 A/power blade (4 blades)	60 A/power blade (2 blades)	Up to 58.7 A/blade	28.8 A/blade	23 A (-V)/blade	15 A/blade	10.3 A/blade	5.9 A/blade
Pitch	12.00 mm		6.35 mm	5.00 mm	3.81 mm	2.00 mm	4.19 mm	2.54 mm
Stack Heights (mm)			19	14	7, 10	5-10	15.25, 16.84	11.05-35
Total Power Blades*	2-10	2-20	2-8	2-10	2, 4, 6, 8	2-5		
Total Signal Pins*	16, 20, 24, 32	0-40	12, 40	16, 24, 40, 80			2-30	10-50
Creepage**	5.63 mm		3.66 mm	2.95 mm	5.80 mm		4.27 mm	2.55 mm
Clearance**	2.69 mm		3.31 mm	2.72 mm	1.51 mm		3.05 mm	1.91 mm
PAGE	**232-233**	**234-237**	**238-239**	**240-245**	**247-249**	**250-251**	**252-253**	**254-255**

* Asymetric power pins and other signal pin counts available. Contact Samtec.
** Selectively loading contacts achieves customer specific creepage and clearance requirements. Contact ASP@samtec.com.

ULTRA MICRO POWER SYSTEMS

15 A per blade

- 5 mm to 10 mm stack heights
- Design flexibility as a power-only system or a two-piece system for power/signal applications
- Use with Samtec's high-speed connector systems (Edge Rate®, SEARAY™, Q Series®, Razor Beam™, Razor Beam™ LP, LP Array™, etc.)



2.00 mm PITCH (UMPX SERIES)
VS. 3.81 mm PITCH (UPX SERIES)

RUGGED POWER SYSTEMS

miniMATE® POWERMATE®

10.3 A per pin

- Board-to-board system with individually shrouded contacts
- Reliable Tiger Buy™ contacts (Mini Mate®)
- Optional polarization
- Elevated stack height options



DISCRETE WIRE ASSEMBLIES
ALSO AVAILABLE
(PMSX(T), MMSX(T) SERIES)

HIGH POWER SYSTEMS

POWER™ STRIP

58.7 A per blade

- Small form factor high power systems
- Power only, or power/signal combinations
- Hermaphroditic designs (MPPT, UPPT Series) and "hinging" (FMPT/FMPS Series) available
- 3.81, 5.00, 5.50 and 6.35 mm pitch



DISCRETE WIRE ASSEMBLIES
ALSO AVAILABLE
(PESS, MPSS, MPCC SERIES)

EXTREME TEN60POWER™

60 A per blade

- High-density signals available in the same form factor
- AC power, AC/DC combo, split power and power/signal combo options

EXTREME LPHPOWER™

30 A per blade

- Double stacked blades for increased density and power
- Low 7.50 mm profile design (right-angle)

RUGGED SEALED SYSTEMS

ACCLIMATE™

- IP67 miniature push-pull latching system with lightweight plastic shell
- IP68 bayonet-style latching circulars with metal or plastic shells and flexible configurations
- Cost-effective crimp version available
- Rectangular design for maximum panel area savings
- Ethernet and USB signal systems
- IP68 threaded circulars with rugged overmold design
- Kitted components available for efficient field assembly



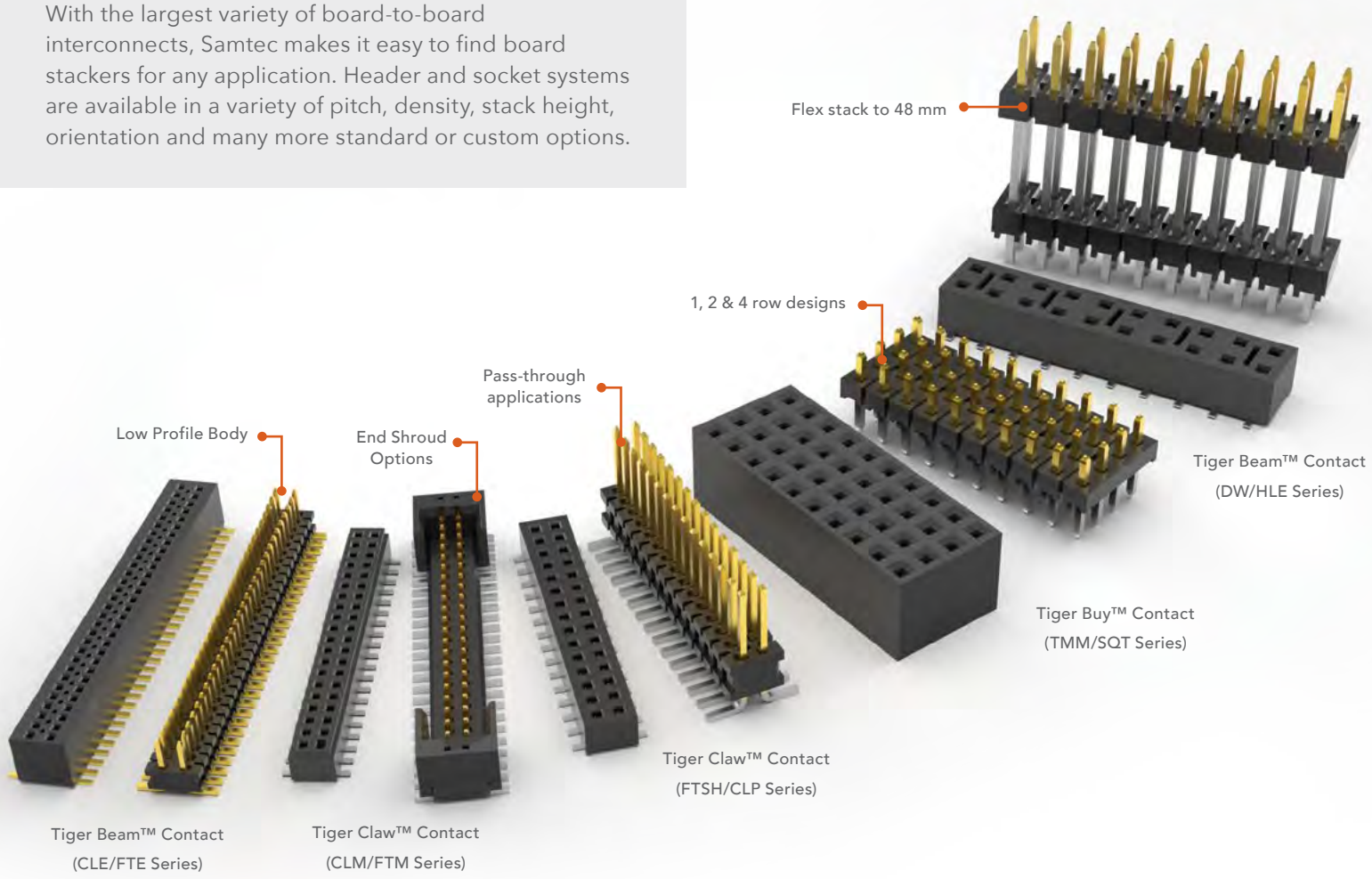
IP67 SEALED USB TYPE C PORT SEALS TO PANEL WITHOUT COSTLY METAL SCREWS OR DUST CAPS

ACCLIMATE™ CABLE PLUG & RECEPTACLES

SERIES	MCP/MCR (IP67)	CCP/CCR (IP68)	ACP/ACR (IP68)			RCE/RPBE/RPCE	RCU/RPBU/RPCU	SSU-C
Shell Size	Miniature	12 mm	12 mm	16 mm	22 mm	Rectangular		
Wire AWG	28 (crimp)		20-30	14-30	14-24	24	20 (Power), 25 (Signal), 28 (Drain)	AWG variety for power & signal
Standard Pin Count/ Terminations	12	8	4, 5, 6	8, 10, 14	8, 20, 30	Ethernet (CAT3, CAT5, CAT5e)	USB (Type A & B)	USB (Type C; 2.0 & base 3.1)
Notes	Efficient field assembly kits are available. Either signal/power pins or combinations are available as sockets or terminals.					Field termination kit available		
PAGE	276	274-275	262-273			278	279	280

FLEXIBLE STACKING

With the largest variety of board-to-board interconnects, Samtec makes it easy to find board stackers for any application. Header and socket systems are available in a variety of pitch, density, stack height, orientation and many more standard or custom options.



INCREDIBLE FLEXIBILITY

- Post height: adjustable in .005" increments
- Body positions: adjustable in .005" increments
- Board stacking distance: 1.65 mm - 48.51 mm
- Number of pins: 2-300
- Number of rows: 1-6

VARIETY OF PITCHES

- 0.80 mm
- 1.00 mm
- 1.27 mm
- 1.27 x 1.27 mm
- 1.27 x 2.54 mm
- 2.00 mm
- 2.54 mm

BUILD IT YOURSELF

Check out Solutionator® to quickly build a mated set for your specific application. Visit **samtec.com/solutionator**

Solutionator®

CUSTOMIZABLE

- Mix-and-match headers and sockets to find the right solution
- Quick and easy custom parts are available. Contact Samtec.

VARIETY OF CONTACTS

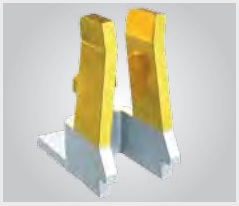
TIGER™ EYE CONTACT

- High-reliability
- High mating cycles
- Multi-finger contact



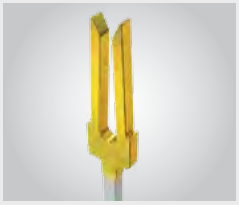
TIGER™ CLAW CONTACT

- Pass-through
- Ultra-low profile
- Dual wipe contact



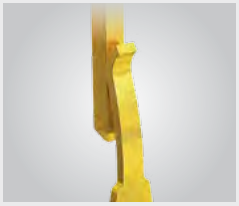
TIGER™ BUY CONTACT

- High-retention
- Cost-effective
- Tuning fork contact

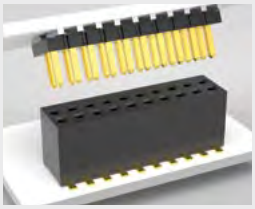


TIGER™ BEAM CONTACT

- Best cost
- Reliable performance
- Post & beam contact

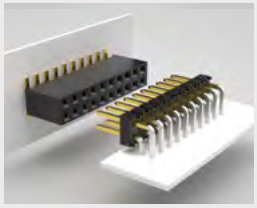


VARIETY OF ORIENTATIONS/APPLICATIONS



Standard

- Choice of contact system
- Single, double and triple row designs
- Largest variety



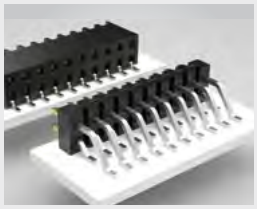
Right-angle

- Design flexibility
- Tiger Claw™ & Tiger Buy™ contacts
- Through-hole, surface mount



Low Profile

- Down to 1.65 mm stack height
- Tiger Claw™ contacts
- Space saving



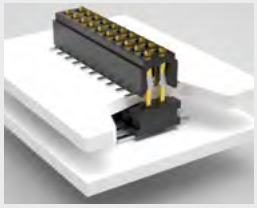
Coplanar

- 1-4 row designs
- Surface mount, through-hole or mixed technology
- Tiger Claw™ & Tiger Beam™ contacts



Elevated

- Up to 48.26 mm stack height
- Design flexibility
- Clearance, air flow



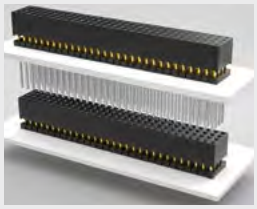
Bottom Entry

- Tiger Claw™ contacts
- Access to components when mated
- Space savings



Pass-through

- Connect three or more boards
- Tiger Claw™ and Tiger Beam™ contacts
- Surface mount or offset through-hole



Self-nesting

- Tiger Buy™ contacts
- Press-fit or through-hole tails
- PC/104-*Plus*™ embedded applications

BOARD STACKING REFERENCE

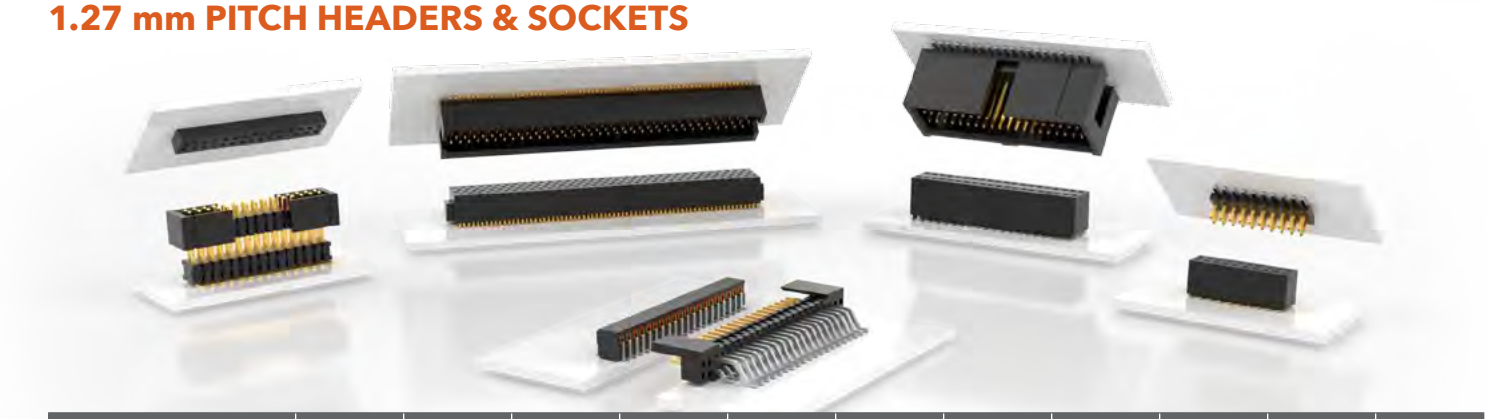
Focused/most popular series in charts. For all flexible stacking solutions see pages 282-366 or visit samtec.com/connectors

ONE-PIECE, 0.80 mm & 1.00 mm PITCH



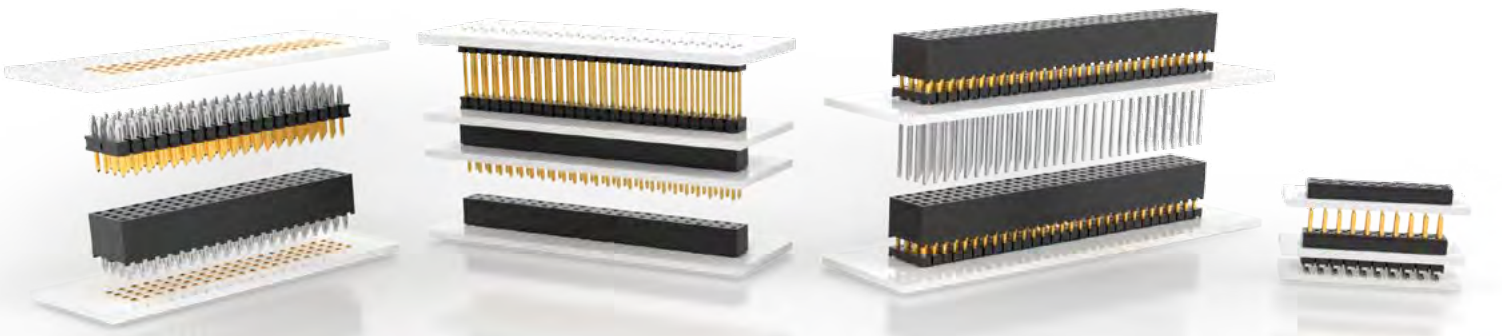
SERIES		FSI	SEI	SIB	CLE	FTE	CLM	FTMH/ FTM	MLE	MW
PITCH		1.00 mm		2.54 mm	0.80 mm		1.00 mm			
ORIENTATION		V				V & RA	V	V & RA	V	
BOARD STACKING (mm)	min	3	1.65	3.8	5	5	3.48		4.57	4.62
	max	10			9.14		8.43	5.11	9.27	
CONTACT SYSTEM					Tiger Beam™		Tiger Claw™		Tiger Beam™	
MATES		One-Piece			FTE, AW	CLE	FTM, FTMH, MW	CLM, MLE	FTM, FTMH, MW	CLM, MLE
PAGE		282-283	285	284	293	292	299	296-297	299	298

1.27 mm PITCH HEADERS & SOCKETS



SERIES		CLP	FLE	FTS	FTSH	FW	SOLC	TOLC	DWM/ HDWM	FTR	RSM	SLM
PITCH		1.27 mm x 1.27 mm							1.27 mm x 2.54 mm			
ORIENTATION		V & RA	V		V & RA	V						
BOARD STACKING (mm)	min	3.53	5.82	3.53	5.18	7.72	6.35		9.65	9.78		7.11
	max	17.75	19.15	5.82	7.49	19.15	12.00		22.99	14.73	19.69	19.43
CONTACT SYSTEM		Tiger Claw™	Tiger Beam™				Tiger Buy™					Tiger Buy™
MATES		FTSH, FTS, FW		CLP, FLE			TOLC	SOLC	SMS, SLM, RSM		FTR, HTMS, HDWM, DWM, TML, ZML, TMS	HTMS, TMS, MTMS, DWM, HDWM, FTR, HMTMS
PAGE		308	309	305	302-304	306-307	300	301	314	315	316	317

2.00 mm PITCH HEADERS & SOCKETS



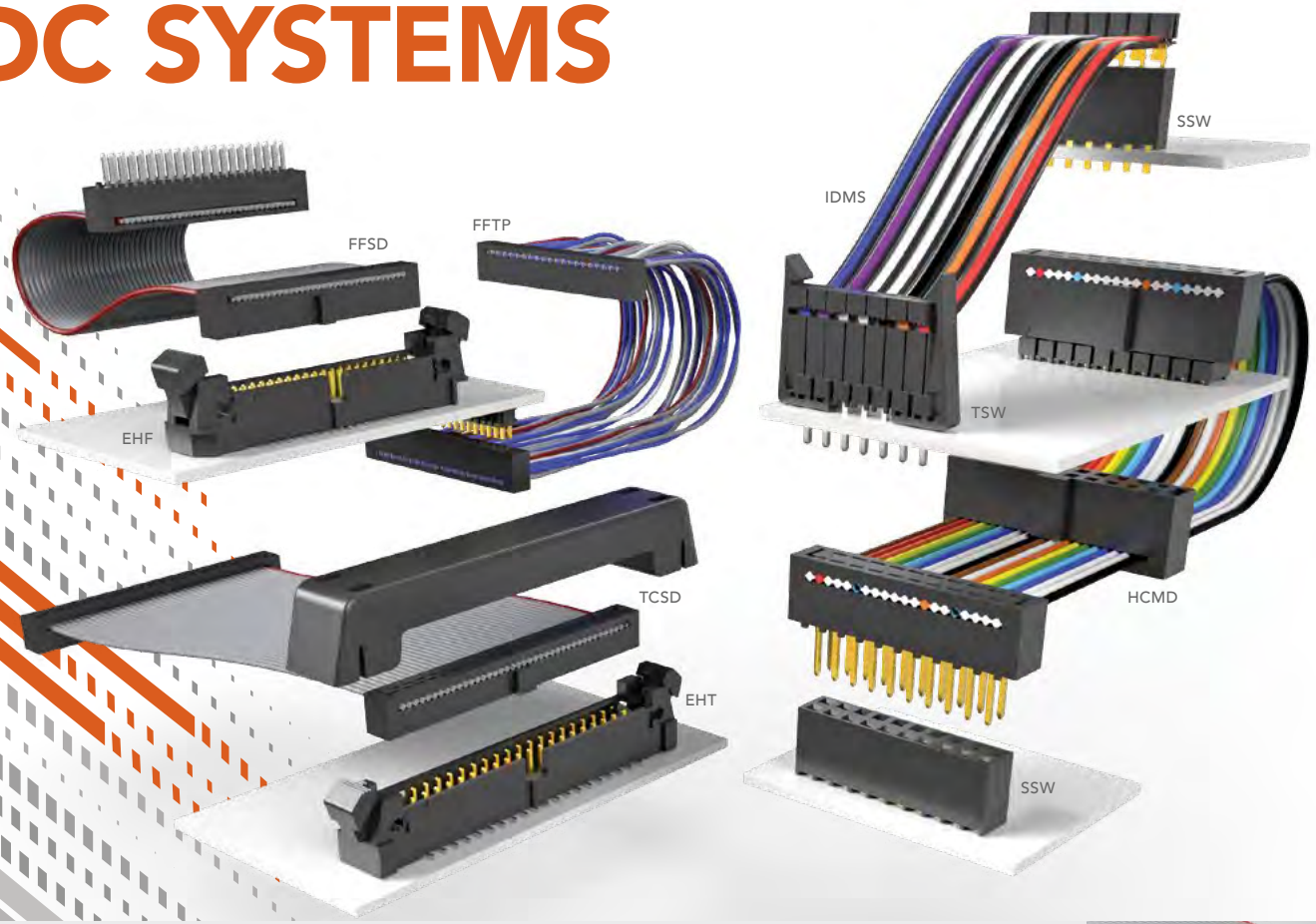
SERIES		MMT	TMM/ MTMM	TMMH	TW	ZLTMM	CLT	ESQT/ -368	MMS	SMM	SQT	SQW	TLE
ORIENTATION		RA	V & RA		V				V & RA	V	V & RA	V	
TERMINATION		SMT & MT	T/H & SMT			T/H	T/H & SMT	T/H	T/H & SMT	SMT	T/H	T/H & SMT	SMT
BOARD STACKING (mm)	min	2	3.63	4.14	7.49	7.62	3.63	9.37	5.94	6.07	7.85		6.99
	max	4	18.87	22.07	43.31	13.34	4.98	43.31	19.81	17.78	29.59		17.53
CONTACT SYSTEM							Tiger Claw™	Tiger Buy™	Tiger Claw™	Tiger Eye™	Tiger Buy™		Tiger Beam™
MATES		CLT, SQT, SQW, ESQT, TLE, SMM, MMS				SQT, SQW, ESQT, SMM	TMM, TMMH, MTMM, MMT, TW, TSH	TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, ESQT, PTT, TSH, TMMS, PTHF	TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, TSH	TMM, TMMH, MTMM, MMT, LTMM, TW, PTT, ZLTMM	TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, PTT, ESQT, TSH	TMMH, TMM, MTMM, MMT, TW, TSH, LTMM, PTT	TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, TSH
PAGE		321	318-320	322-325	328-329	326	336	331, 334	335	337	333	332	338

2.54 mm PITCH HEADERS & SOCKETS



SERIES		DW, EW, ZW	HW	MTSW/ HMTSW	TLW/ MTLW	TSM	TSW/ HTSW	BCS	ESW, ESQ	HLE	SSM	SSQ	SSW
ORIENTATION		V		V & RA				V & RA	V		V & RA		
TERMINATION		T/H	T/H & SMT	T/H		SMT & MT	T/H			T/H & SMT	SMT	T/H	T/H & SMT
BOARD STACKING (mm)	min	13.59	10.03	7.24	6.1	7.47	7.87	9.02	13.59	7.47	11.18	10.03	
	max	48.51	30.73	46.36	20.96	14.48	35.69	18.92	48.51	26.16	30.1	38.35	
CONTACT SYSTEM								Tiger Claw™	Tiger Buy™	Tiger Beam™	Tiger Claw™	Tiger Buy™	
MATES		SSW, SSQ, ESW, ESQ, CES, SLW, BSW, BCS, SSM, HLE, PHF		SSW, SSQ, ESW, ESQ, BCS, BSW, CES, SLW, HLE, SSM	BSW, CES, SLW, HLE	SSW, SSQ, SSM, BSW, ESW, ESQ, BCS, SLW, CES, HLE	SSW, SSQ, SSM, ESW, ESQ, BCS, BSW, CES, SLW	TSW, MTSW, HTSW, HMTSW, TSS, ZSS, DW, EW, ZW, HW, TSM, MTLW, PHT	TSW, MTSW, EW, MTLW, TSS, ZSS, TSM, DW, ZW, HW, TSSH, HTSS	TSW, MTSW, DW, EW, ZW, TLW, TSM, MTLW, HW	TSW, MTSW, TST, TSS, ZST, ZSS, DW, EW, ZW, TSM, HMTSW, HTSW, TSSH, BST, HTSS, TLW, MTLW	TSW, MTSW, MTLW, EW, ZW, TSS, ZSS, TSM, TSSH, HTSS	TSW, MTSW, HTSW, HMTSW, MTLW, EW, ZW, TSS, HTSS, ZSS, TSM, TSSH, DW, HW
PAGE		348	348-349	344-345	347	342-343	340-341	358	356	357	355	352-353	

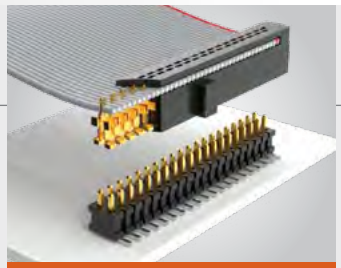
IDC SYSTEMS



1.27 mm & 2.00 mm PITCH IDC CABLE SYSTEMS

TIGER™ EYE IDC

- Exceptionally low-profile design
- Choice of socket and plug terminations
- Single or double ended
- Twisted pair or flat cable
- Tiger Eye™ board level mates
- Mating shrouded and ejector terminal strips
- Variety of options including rugged strain relief, polarization and standard wiring configurations



HIGH-RELIABILITY, HIGH CYCLE TIGER EYE™ IDC CONTACTS

FLEXIBLE FLAT RIBBON IDC SYSTEMS

- Low profile with no bulky side locks
- Choice of dual beam socket or plug terminations

MOLDED-TO-POSITION IDC ASSEMBLIES

- Low profile and skinny side locks
- Plugs with (0.64 mm) .025" square tail headers

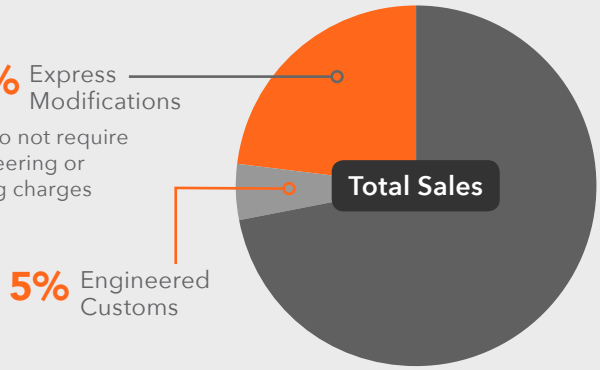
IDC CABLE ASSEMBLIES & HEADERS

SERIES	IDMX/IDSX	HCMX/HCSX	TCSD/TCMD	FFSD/FFMD	FFTP/FMTP
Pitch	2.54 mm		2.00 mm	1.27 mm	
Cable	28 AWG Color Coded (standard) or Gray (optional)		28 AWG Gray	30 AWG Gray	30 AWG Twisted Pair
Headers	HTST/TST/ZST/EJH	TST/ZST/EJH	STMM/ETMM/EHT	SHF/ESHF/EHF	SHF/EHF
Contacts	Dual Beam Contacts		Tiger Eye™ Contacts		
Notes	Low Profile & Slim Body	Low Profile	Strain Relief Available		
PAGE	372-373	374-375	378-379	384-385	386

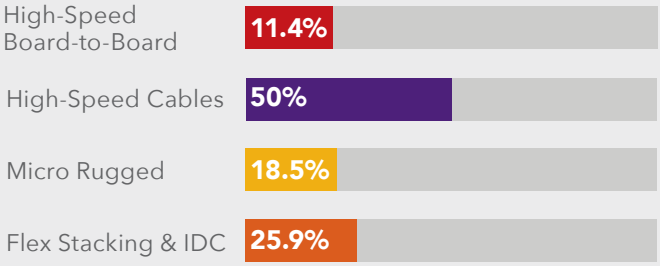
MODIFIED & CUSTOM SOLUTIONS

WILLINGNESS, SUPPORT & EXPERTISE

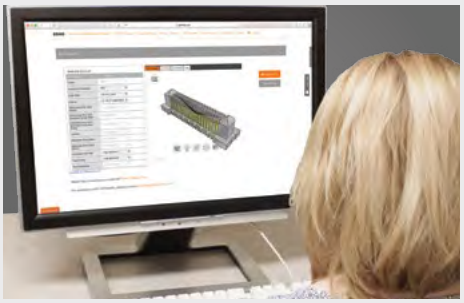
Customs and Modifications make up about 28% of Samtec's total sales.



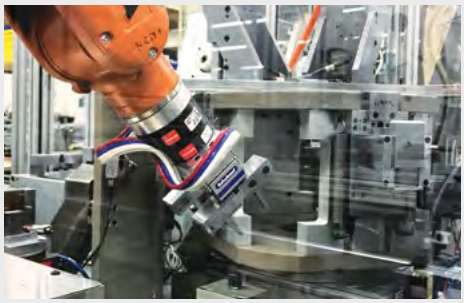
A substantial percentage of Samtec's product segments are custom.



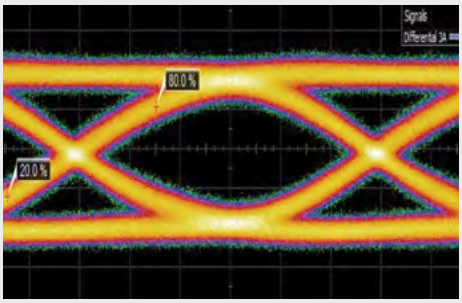
INDUSTRY LEADING CUSTOMER SERVICE



FLEXIBLE IN-HOUSE MANUFACTURING

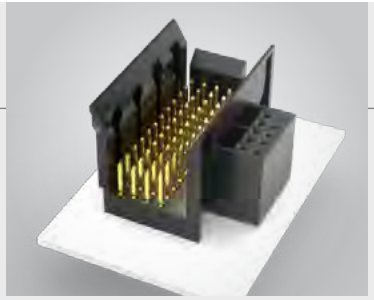


SIGNAL INTEGRITY EXPERTISE



FLEXIBLE CAPABILITIES

- Full engineering, design and prototype support
- Design, simulation and processing assistance
- Quotes and samples turned around in 24 hours
- Flexible, quick-turn manufacturing
- Dedicated Application Specific Product engineers and technicians
- Modified or custom options for board level connectors and cable assemblies including: contacts, bodies, stamping, plating, wiring, molding, ruggedizing features and much more
- Contact the Application Specific Products Group at asp@samtec.com for express modifications or customasp@samtec.com for engineered customs.



ENGINEERED CUSTOM

Multi-power staging, power/ signal combo, header/socket combo & custom body



EXPRESS MODIFICATION

2.54 mm pitch Mini Mate® discrete wire assembly with custom color coded breakout

samtec.com/custom

FULL SYSTEM SIGNAL INTEGRITY

FULL CHANNEL CHALLENGES

MINIATURIZATION AND INTEGRATION

IC PACKAGE, PCB ROUTING AND BREAKOUT REGIONS

MATERIALS SELECTION

PROTOCOL COMPLIANCE

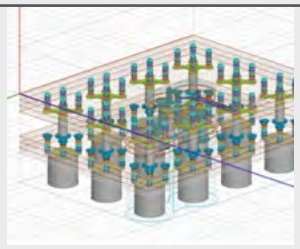
COST CONTROL

POWER AND THERMAL MANAGEMENT

FULL CHANNEL EXPERTISE & SUPPORT

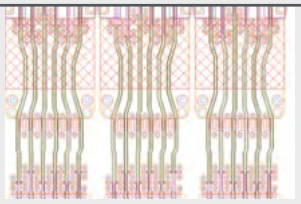
PACKAGE AND PCB DESIGN

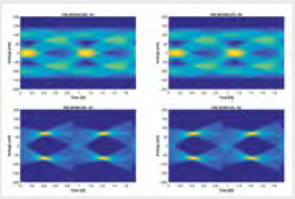
- Bumpout/ballout optimization
- Ballout transition structures
- Layout and routing
- Material recommendations



MODELING AND SIMULATION

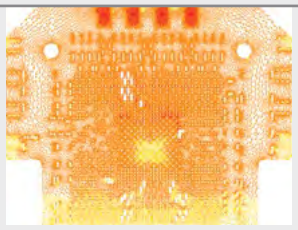
- Validate implementation and signaling requirements for critical channels
- High bandwidth full-wave simulations
- Design rules for package and PCB designs
- Simulations via High-Performance Computing (HPC)

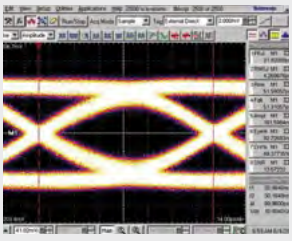




ANALYSIS, TESTING & VALIDATION

- Characterization at frequencies to 67 GHz and beyond
- Package, PCB and system-level signal integrity/power integrity
- Material characterization
- Post-design test, simulation and measurement
- Measurement of test structures for signal/power integrity optimization

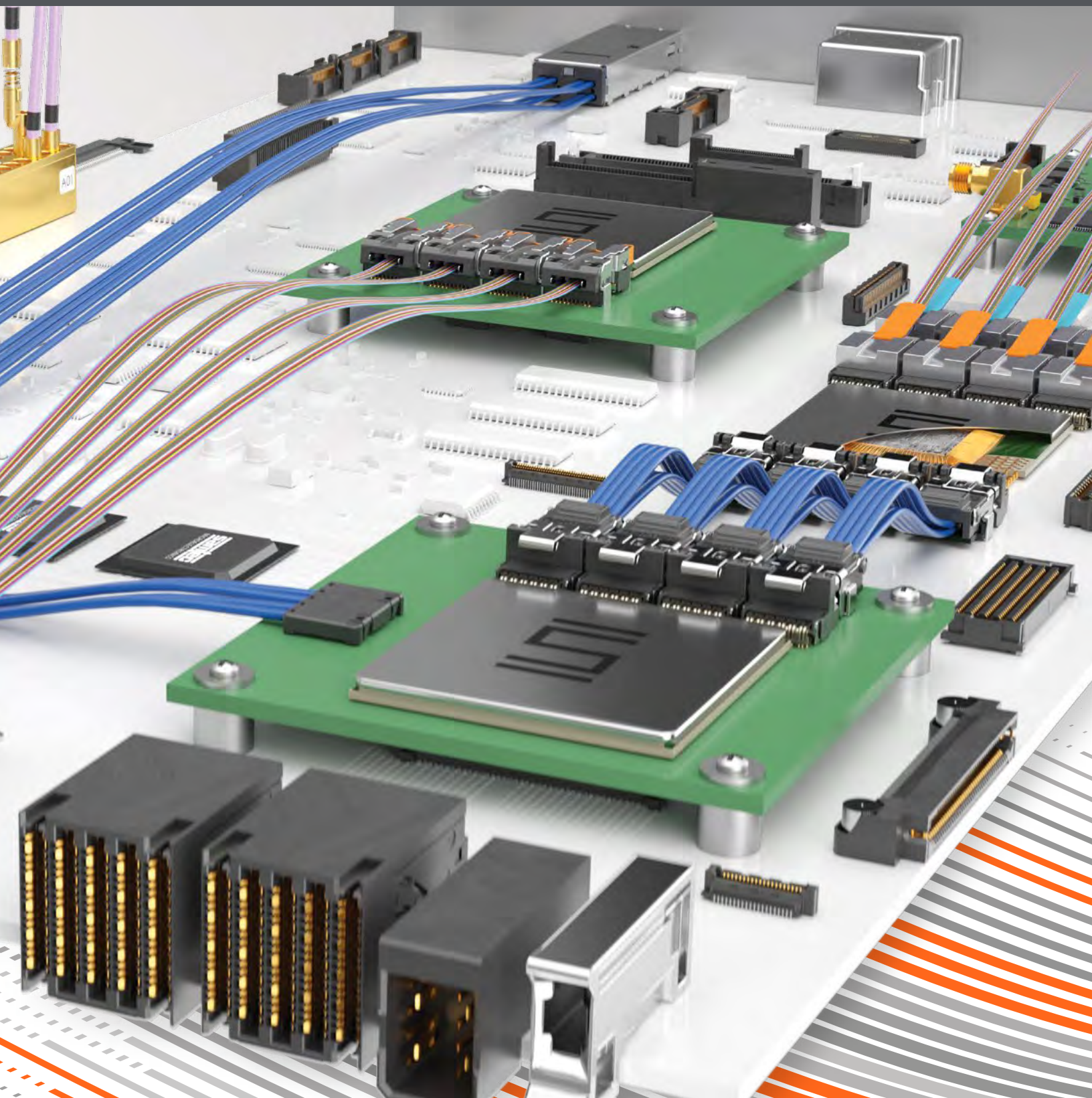




Contact sig@samtec.com for full system support.

Support and services are available at any level required: from early stages of the design process including package design, material selection and PCB routing, through in-depth analysis, modeling and simulation, with measurement validation services available to 67 GHz, **Samtec Teraspeed Consulting and Signal Integrity Group engineers help optimize and validate high-performance systems**.

SILICON-TO-SILICON SUPPORT | EVERY POINT OF INTERCONNECTION IS CRITICAL



SUDDEN SERVICE® ADVANTAGE

Samtec's Sudden Service® provides unmatched global service, free access to data and industry leading tools, along with engineering support, to help you design, develop, test and deliver the best solution for any complex application.



Global Operations Network









LEAD TIMES - TYPICALLY IN DAYS, NOT WEEKS

- 24 Hour Free "Sudden Samples"
- World Direct Shipping - 2 Days to all Major Markets
- Most Products Ship in 3 Days
- Dual Operations - Speed and Cost Optimized







TECH SUPPORT - 24/7 WORLDWIDE ACCESS

- Samtec Teraspeed Consulting
- Signal Integrity Group
- Application Support Group
- Application Engineering Groups
- Interconnect Processing Group

SUPPLY CHAIN SUPPORT - SERVICE & TECHNOLOGY LEADER

- My Samtec – Real-Time Account Access
- Scheduling Flexibility – Pull-ins / Push-outs
- Global Pricing – Global Systems
- Personal Account Managers and CSRs
- 24 Hour Quotes – Upfront and Aggressive
- No MOQs on Catalog Products

ONLINE TOOLS - DESIGN IN A MINUTE

- Simulator™ Real-Time Performance Calculator
- Solutionator® Mated Set Generator
- Channelyzer™ Full Channel Simulation and Analysis
- Easy Picture Search
- Part Number and Series Search
- Download Tools



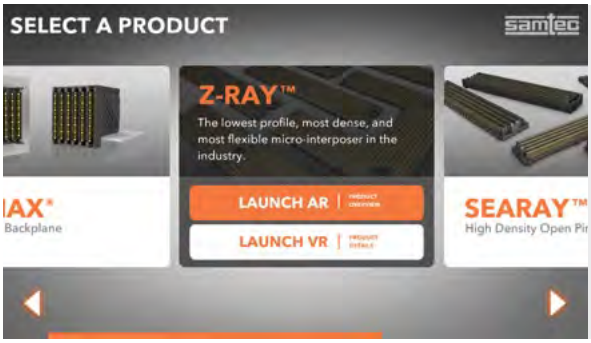




TECHNOLOGY CENTERS - INTEGRATION LEADS TO INNOVATION

- Advanced Interconnect Design
- Signal Integrity Group
- High-Speed Cable Plant
- Samtec Microelectronics Group
- Samtec Optical Group
- Samtec Teraspeed Consulting

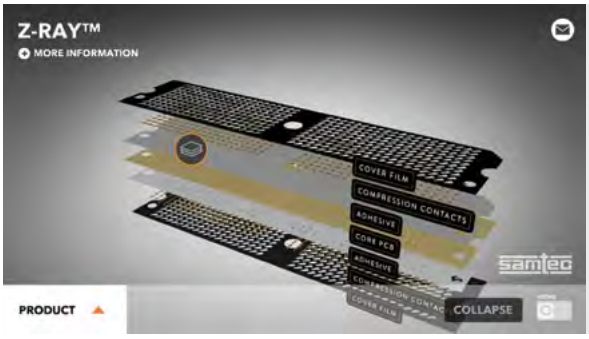
NEXT GENERATION "SAMTEC REALITY" APP



The next generation of the Samtec Reality app combines all the great features of our two virtual product experiences – Augmented Reality and Virtual Product Explorer – into one amazing "super app" designed to provide an even more in-depth, user-friendly way to explore our latest technologies and products.

To begin your exploration, download the Samtec Reality app from the Apple App Store. An iPad Air or iPhone 5 or newer device is required.

Then launch VR (Virtual Reality) or AR (Augmented Reality) and begin exploring.



VR FEATURE

The Virtual Reality (VR) feature displays a dynamic virtual product sample in the app environment, and allows you to view additional product details such as application ideas, product specifications and part numbers.



AR FEATURE

The Augmented Reality (AR) feature allows you to examine rich 3D products in your environment, in real time, while providing a quick overview of the product's key features and benefits. Simply point your device's camera at the printed target (below) and rotate the target for a clear view of all sides, in mated and unmated positions, and more.



AR TARGET

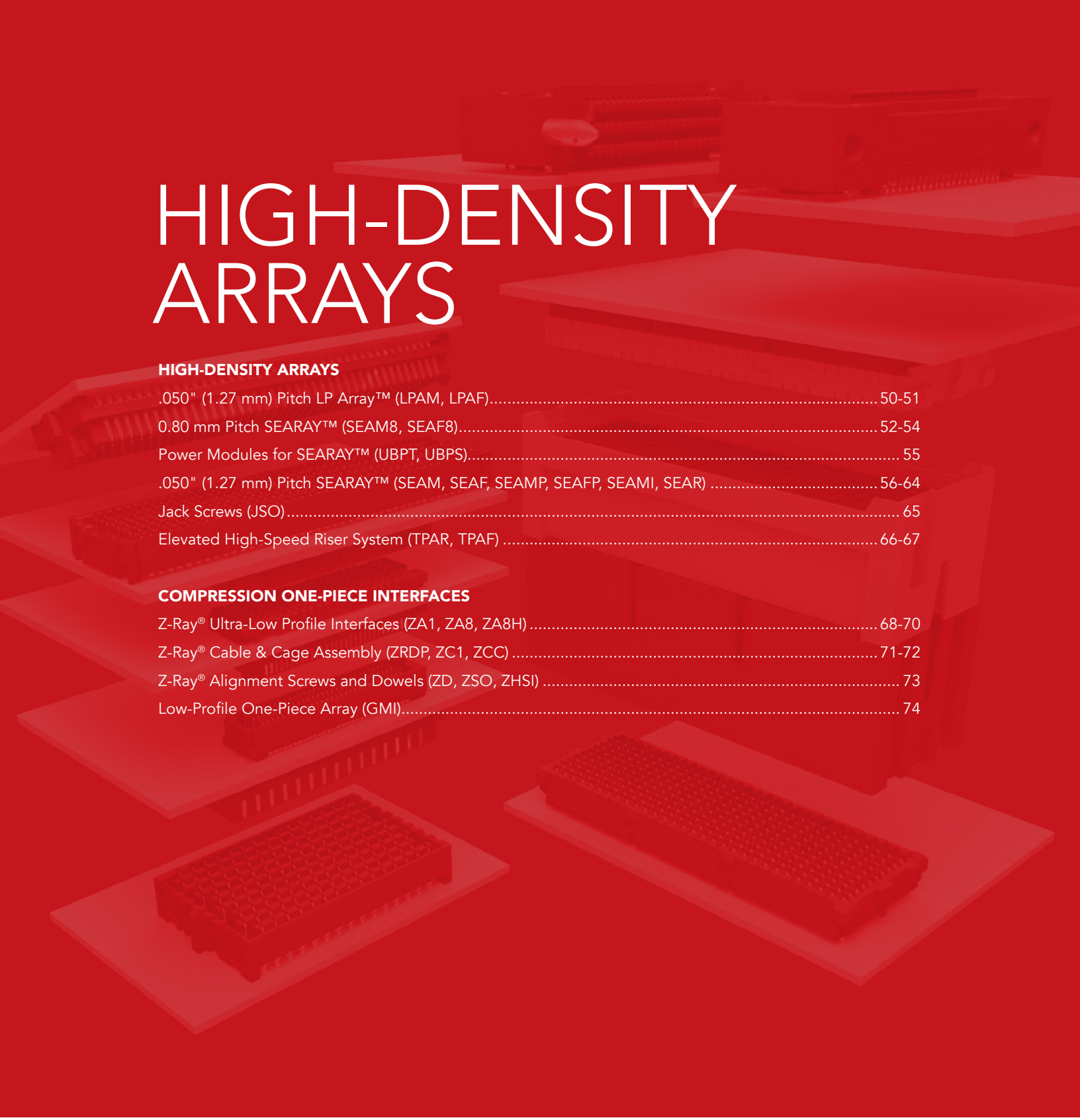
USE THE TARGET TO LAUNCH THE AR FEATURE

1. Choose "Launch AR" from one of the product selection boxes
2. Point your device's camera at the target to the left
3. Rotate, zoom, mate, unmate, and explore

CURRENT SAMTEC REALITY PRODUCTS

1. **ExaMAX®** High-Speed Backplane System
2. **Z-Ray®** Ultra-Low Profile Micro Interfaces
3. **SEARAY™** High-Density Open-Pin-Field Arrays
4. **FireFly™** Micro Flyover Copper & Optical System

HIGH-DENSITY ARRAYS



HIGH-DENSITY ARRAYS

.050" (1.27 mm) Pitch LP Array™ (LPAM, LPAF) 50-51
0.80 mm Pitch SEARAY™ (SEAM8, SEAF8) 52-54
Power Modules for SEARAY™ (UBPT, UBPS) 55
.050" (1.27 mm) Pitch SEARAY™ (SEAM, SEAF, SEAMP, SEAFP, SEAMI, SEAR) 56-64
Jack Screws (JSO) 65
Elevated High-Speed Riser System (TPAR, TPAF) 66-67

COMPRESSION ONE-PIECE INTERFACES

Z-Ray® Ultra-Low Profile Interfaces (ZA1, ZA8, ZA8H) 68-70
Z-Ray® Cable & Cage Assembly (ZRDP, ZC1, ZCC) 71-72
Z-Ray® Alignment Screws and Dowels (ZD, ZSO, ZHSI) 73
Low-Profile One-Piece Array (GMI) 74

APPLICATIONS

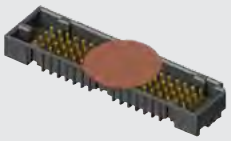
High-Density Arrays 14-15

samtec

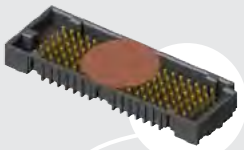
LP ARRAY™

(1.27 mm) .050"

LPAM–20–01.5–L–04–2–K



LPAM–20–01.5–L–06–2–K



LPAM SERIES

HIGH-SPEED LOW-PROFILE OPEN-PIN-FIELD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LPAM

Insulator Material:
Black LCP
Terminal Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.2 A per pin
(6 adjacent pins powered)
Working Voltage:
250 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

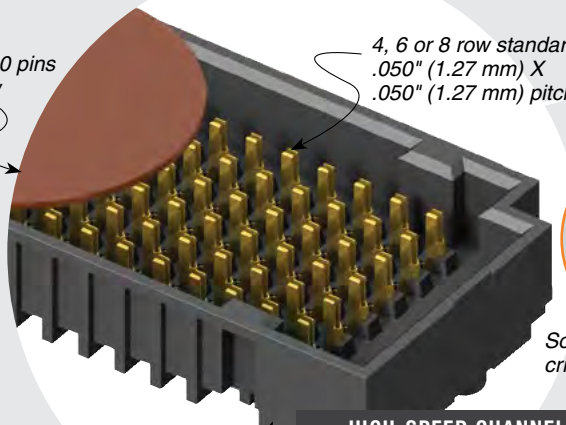
FILE NO. E111594

Mates with:
LPAF
Standoffs:
JSO, SO

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



HIGH-SPEED CHANNEL PERFORMANCE

LPAM/LPAF @ 5 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4 56 Gbps

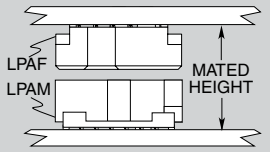
ALSO AVAILABLE (MOQ Required)

- Tin-Lead Solder Charge
- Other pins/row and row counts
- Other Gold plating options

Contact Samtec.

LPAM	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	K	TR
	–10, –20, –30, –40 (Per Row)	–01.0 = (1.0 mm) .039" –01.5 = (1.5 mm) .060"	–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail	–04 = Four Rows –06 = Six Rows –08 = Eight Rows	–2 = Lead-Free Solder Crimp	–K = Polyimide film Pick & Place Pad	–TR = Tape & Reel

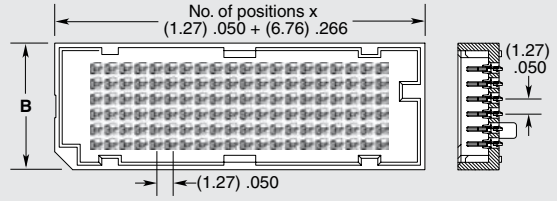
MATED HEIGHT

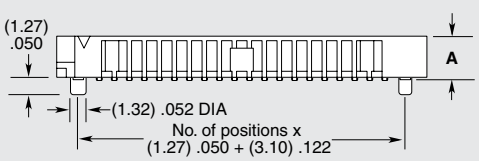


MATED HEIGHT*		
LPAM LEAD STYLE	LPAF LEAD STYLE	
	–03.0	–03.5
–01.0	(4.00) .157	(4.50) .177
–01.5	(4.50) .177	(5.00) .197

*Processing conditions will affect mated height.

NO. OF ROWS	B
–04	(8.18) .322
–06	(10.72) .422
–08	(13.26) .522





LEAD STYLE	A
–01.0	(3.68) .145
–01.5	(4.19) .165

Notes:
Patent Pending

Some sizes, styles and options are non-standard, non-returnable.

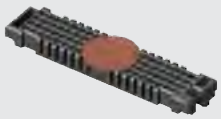
Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

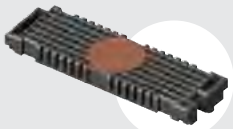
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samtec

LP ARRAY™



LPAF–20–03.5–L–04–2–K



LPAF–20–03.5–L–06–2–K

(1.27 mm) .050"

LPAF SERIES

HIGH-SPEED LOW-PROFILE OPEN-PIN-FIELD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LPAF

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.2 A per pin
(6 adjacent pins powered)
Working Voltage:
250 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Tin-Lead Solder Charge
- Other pins/row and row counts
- Other Gold plating options

Contact Samtec.

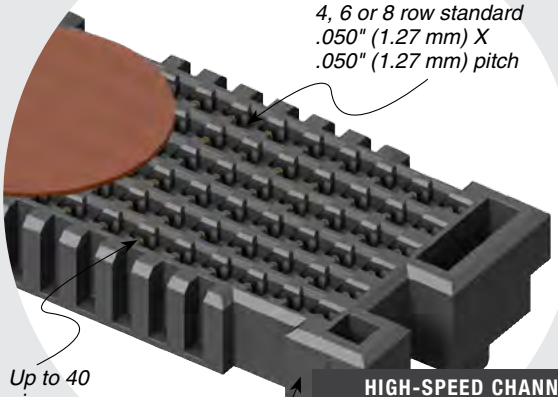
Mates with:
LPAM

Standoffs:
JSO, SO

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions





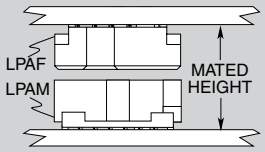
HIGH-SPEED CHANNEL PERFORMANCE

LPAM/LPAF @ 5 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4
56
Gbps

LPAF	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	NO. OF ROWS	–	SOLDER TYPE	–	K	–	TR
		–10, –20, –30, –40 (Per Row)		–03.0 = (3.0 mm) .118" –03.5 = (3.5 mm) .138"		–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail		–04 = Four Rows –06 = Six Rows –08 = Eight Rows		–2 = Lead-Free Solder Crimp		–K = Polyimide film Pick & Place Pad		–TR = Tape & Reel

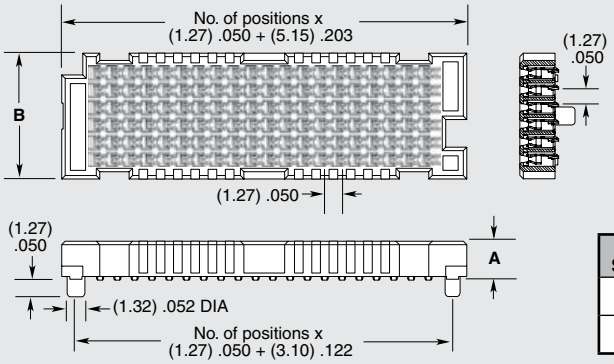
MATED HEIGHT



MATED HEIGHT*		
LPAF LEAD STYLE	LPAM LEAD STYLE	
	–01.0	–01.5
–03.0	(4.00) .157	(4.50) .177
–03.5	(4.50) .177	(5.00) .197

*Processing conditions will affect mated height.

NO. OF ROWS	B
–04	(6.71) .264
–06	(9.25) .364
–08	(11.79) .464



LEAD STYLE	A
–03.0	(2.79) .110
–03.5	(3.30) .130

Notes:
Patent Pending

Some sizes, styles and options are non-standard, non-returnable.

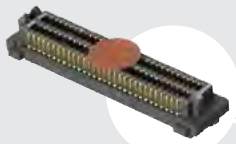
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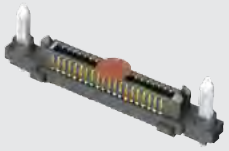
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samtec

SEARAY™ .8mm

SEAM8–30–S02.0–S–06–2–K





SEAM8–20–S02.0–S–04–2–GP–K

(0.80 mm) .0315"

SEAM8 SERIES

ULTRA-HIGH DENSITY OPEN-PIN-FIELD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAM8

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.3 A per pin
(10 adjacent pins powered)
Working Voltage:
220 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other pin counts

Contact Samtec.

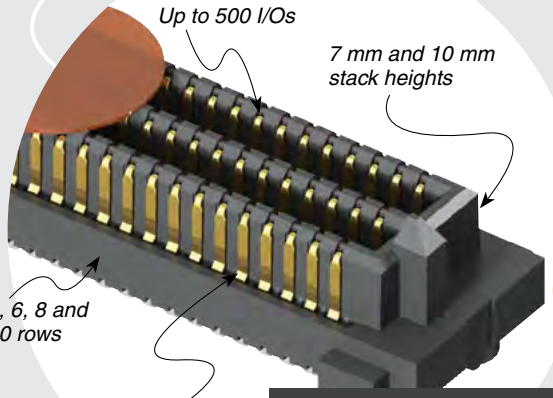
Board Mates:
SEAF8
Cable Mates:
ESCA
Standoffs:
JSO

EDGE® RATE CONTACT

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



HIGH-SPEED CHANNEL PERFORMANCE

SEAM8/SEAF8 @ 7 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

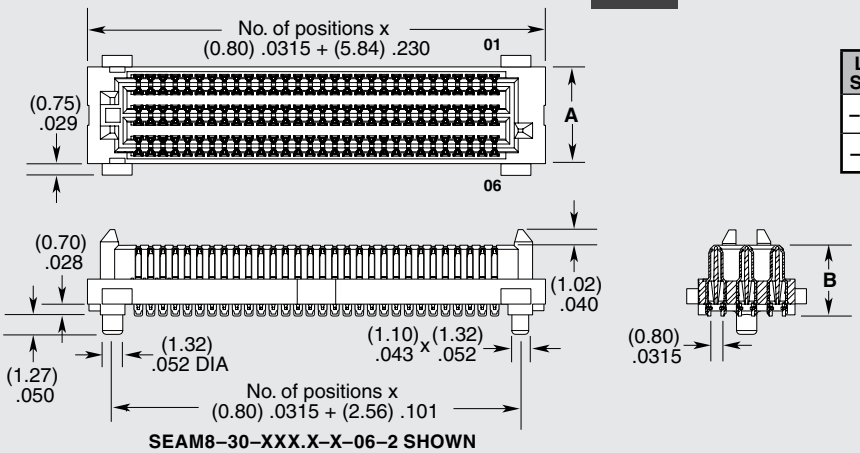
PAM4 56 Gbps

SEAM8	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	OPTION	K
	–10, –20, –30, –40, –50 (Standard sizes)	–S02.0 = 2 mm Body Height –S05.0 = 5 mm Body Height	–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail –S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail	–04 = Four Rows –06 = Six Rows –08 = Eight Rows –10 = Ten Rows	–2 = Lead-Free Solder Charge	–GP = Guide Post (–S02.0 lead style only) (Mates with SEAF8-RA-GP)	–K = Polyimide film Pick & Place Pad

NO. OF ROWS	A
–04	(4.30) .169
–06	(6.30) .248
–08	(8.30) .327
–10	(10.30) .406

MATED HEIGHT*		
SEAF8 LEAD STYLE	SEAM8 LEAD STYLE	
	–S02.0	–S05.0
–05.0	(7.00) .276	(10.00) .394

*Processing conditions will affect mated height.



LEAD STYLE	B
–S02.0	(4.54) .179
–S05.0	(7.54) .297

SEAM8–30–XXX.X–X–06–2 SHOWN

Notes:
Patent Pending

Tape & Reel packaging is standard.

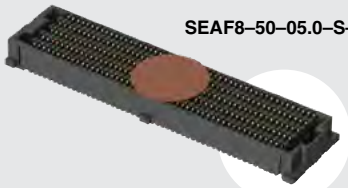
Some sizes, styles and options are non-standard, non-returnable.

samtec

SEARAY™ .8mm



SEAF8–30–05.0–S–04–2–K



SEAF8–50–05.0–S–10–2–K

(0.80 mm) .0315"

SEAF8 SERIES

ULTRA-HIGH DENSITY OPEN-PIN-FIELD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAF8

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.3 A per pin
(10 adjacent pins powered)
Working Voltage:
220 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other pin counts

Contact Samtec.

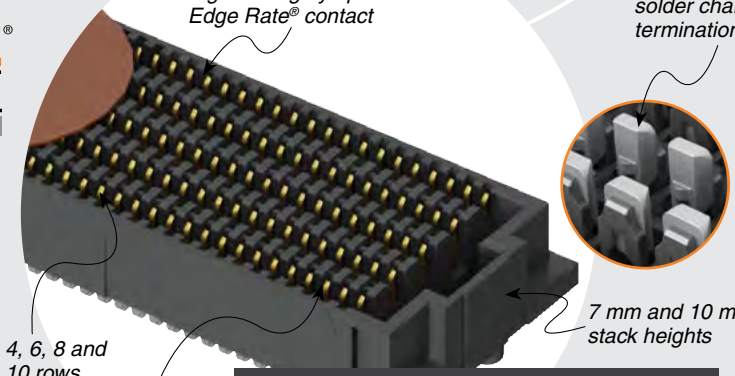
Board Mates:
SEAM8
Cable Mates:
ESCA
Standoffs:
JSO

EDGE® RATE CONTACT

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



HIGH-SPEED CHANNEL PERFORMANCE

SEAM8/SEAF8 @ 7 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4 56 Gbps

SEAF8	–	NO. PINS PER ROW	–	05.0	–	PLATING OPTION	–	NO. OF ROWS	–	SOLDER TYPE	–	K

–10, –20, –30, –40, –50
(Standard sizes)

–L
= 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail

–S
= 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail

–04
=Four Rows

–06
=Six Rows

–08
=Eight Rows

–10
=Ten Rows

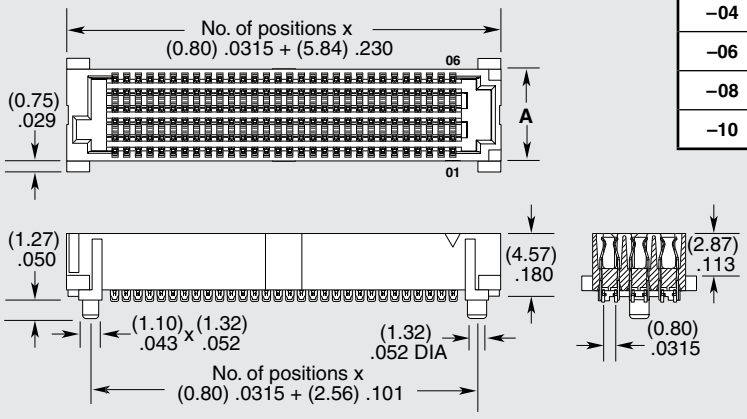
–2
= Lead-Free Solder Charge

–K
= Polyimide film Pick & Place Pad

MATED HEIGHT*		
SEAF8 LEAD STYLE	SEAM8 LEAD STYLE	
	–S02.0	–S05.0
–05.0	(7.00) .276	(10.00) .394

*Processing conditions will affect mated height.

NO. OF ROWS	A
–04	(4.30) .169
–06	(6.30) .248
–08	(8.30) .327
–10	(10.30) .406



Notes:
Patent Pending

Tape & Reel packaging is standard.

Some sizes, styles and options are non-standard, non-returnable.

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samtec

SEARAY™ .8mm

(0.80 mm) .0315"



SEAF8–30–1–S–10–2–RA–GP



SEAF8–50–1–S–10–2–RA

SEAF8-RA SERIES

HI-DENSITY RIGHT-ANGLE OPEN-PIN-FIELD

SPECIFICATIONS

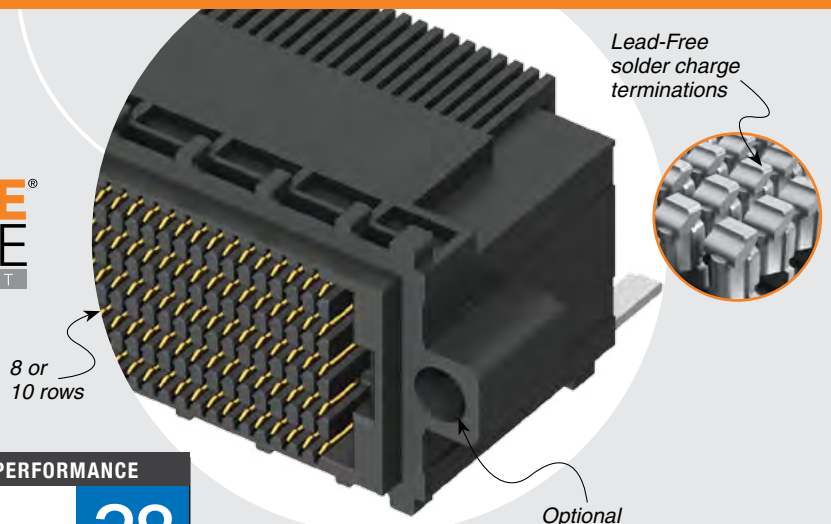
For complete specifications and recommended PCB layouts see www.samtec.com?SEAF8-RA

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1 A per pin
(10 adjacent pins powered)
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

Board Mates:
SEAM8

Cable Mates:
ESCA

EDGE® RATE CONTACT



HIGH-SPEED CHANNEL PERFORMANCE

SEAF8-RA/SEAM8-2.0
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

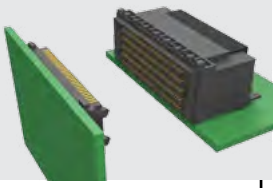
28 Gbps

ALSO AVAILABLE (MOQ Required)

- Other pin counts
- Other row options

Contact Samtec.

APPLICATION



SEAF8	–	NO. PINS PER ROW	–	1	–	PLATING OPTION	–	NO. OF ROWS	–	SOLDER TYPE	–	RA	–	OPTION

NO. PINS PER ROW
–20, –30, –40, –50
(Standard sizes)

PLATING OPTION
–L
= 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail
–S
= 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail

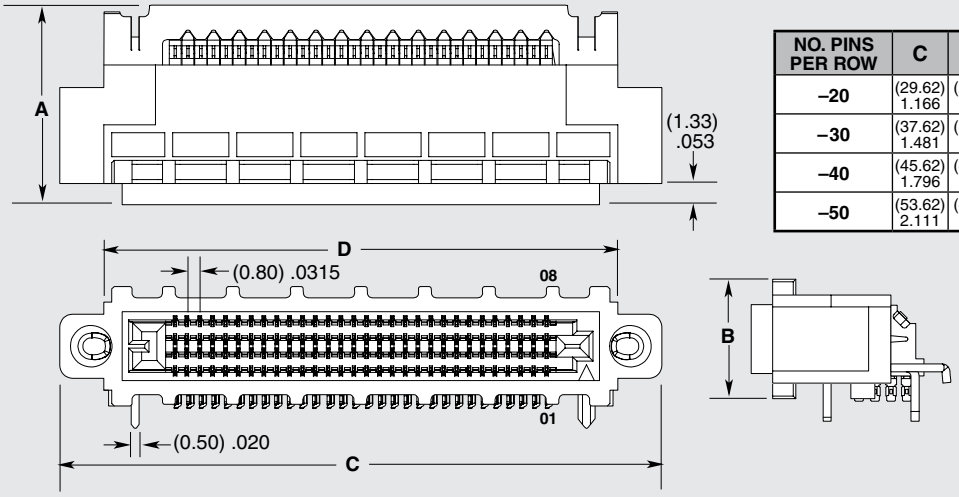
NO. OF ROWS
–08 = Eight Rows
–10 = Ten Rows

SOLDER TYPE
–2 = Lead-Free Solder Charge

OPTION
–GP = Guide Post Hole

–L PRELIMINARY

NO. OF ROWS	A	B
–08	(16.48) .649	(11.46) .451
–10	(18.48) .728	(13.46) .530



NO. PINS PER ROW	C	D
–20	(29.62) 1.166	(24.12) .950
–30	(37.62) 1.481	(32.12) 1.265
–40	(45.62) 1.796	(40.12) 1.580
–50	(53.62) 2.111	(48.12) 1.894

Notes:
Patent Pending

Some sizes, styles and options are non-standard, non-returnable.

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samtec

SEARAY™



UBPS–4–S–RA



UBPT–4–01.0–S

(1.50 mm) .059"

UBPT, UBPS-RA SERIES

SEARAY™ POWER MODULES

Mates with:
UBPS
(used with SEAM8, SEAM)

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?UBPT

Current Rating:
20 A per module

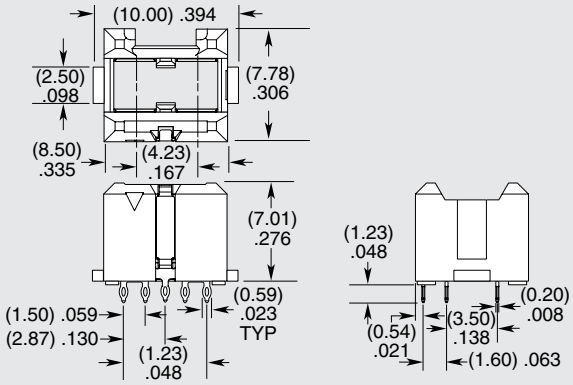
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

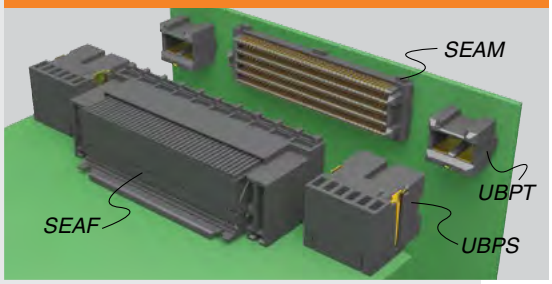
FILE NO. E111594

Note:
Some lengths, styles and options are non-standard, non-returnable.

UBPT	NO. OF POSITIONS	LEAD STYLE	PLATING OPTION
	–4 = 4 positions (Total 2 per row)	–01.0 = Extended	–S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail



APPLICATION



Mates with:
UBPT
(used with SEAF8, SEAF)

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?UBPS-RA

Current Rating:
20 A per module

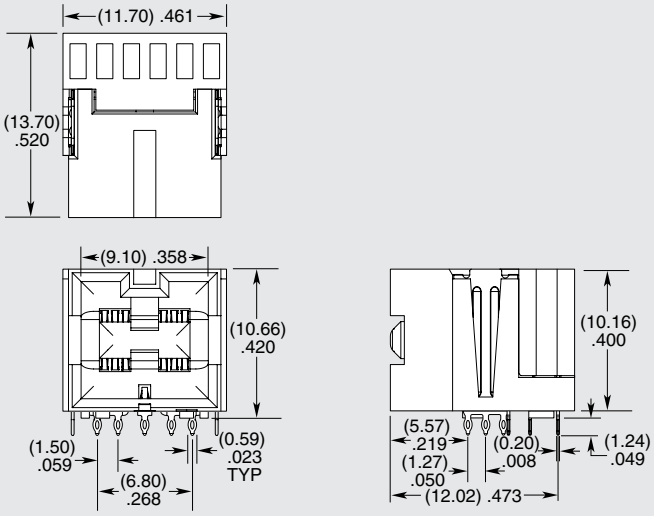
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note:
Some lengths, styles and options are non-standard, non-returnable.

UBPS	NO. OF POSITIONS	PLATING OPTION	RA
	–4 = 4 positions (Total 2 per row)	–S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail	–RA = Right-angle



Due to technical progress, all designs, specifications and components are subject to change without notice.

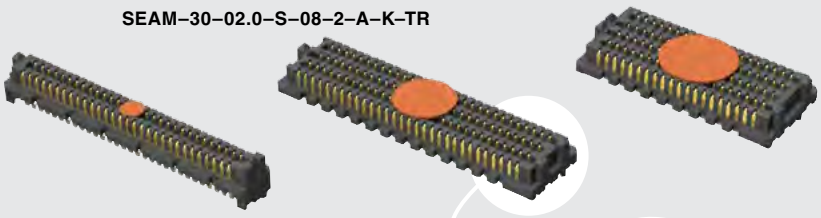
All parts within this catalog are built to Samtec's specifications.
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samtec

SEARAY™

SEAM–20–02.0–S–10–2–A–K–TR

SEAM–30–02.0–S–08–2–A–K–TR



SEAM–30–03.5–S–04–2–A–K–TR

(1.27 mm) .050"

SEAM SERIES

HIGH-SPEED/HIGH-DENSITY OPEN-PIN-FIELD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAM

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Operating Temp Range:
-55 °C to +125 °C
Current Rating (7 mm stack height):
1.8 A per pin
(10 adjacent pins powered)
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Working Voltage: 240 VAC
RoHS Compliant: Yes
Lead-Free Solderable: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

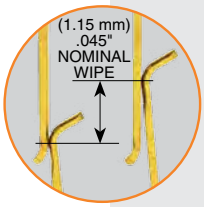
STANDARDS

- VITA 42 XMC (alternative to SamArray®)
- VITA 47
- VITA 57.1 FMC
- VITA 57.4 FMC+
- VITA 74 VNX

PROTOCOLS

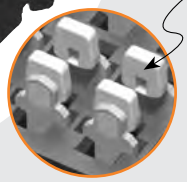
- 100 GbE
- Fibre Channel
- Rapid I/O
- PCI Express®
- SATA
- InfiniBand™

Mates with:
SEAF, SEAFP
Standoffs:
JSO





10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



HIGH-SPEED CHANNEL PERFORMANCE

SEAF/SEAM @ 10 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4
56
Gbps

OTHER SOLUTIONS

- Up to 560 pins

SEAM – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – NO. OF ROWS – SOLDER TYPE – A – K – TR

NO. PINS PER ROW
–10, –15, –20, –30, –40, –50
(–10 only available in 04 row)
(-15 is only available in 4 Row with -02.0 lead style and 10 row with any lead style)

LEAD STYLE
Specify LEAD STYLE from chart

PLATING OPTION
–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail
–S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail

NO. OF ROWS
–04 = Four Rows (–06.5 not available)
–05 = Five Rows (–06.5 not available)
–06 = Six Rows (–06.5 not available)
–08 = Eight Rows
–10 = Ten Rows

SOLDER TYPE
–1 = Tin/Lead Alloy Solder Charge
–2 = Lead-Free Solder Charge

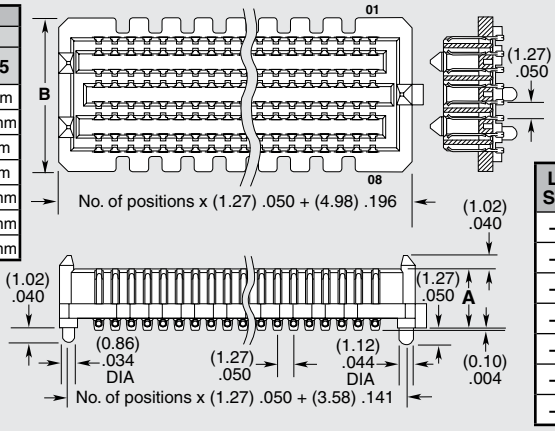
A
–A = Alignment Pins (Required. Arrays will not self-center on solder pads)

K
–K = Polyimide film Pick & Place Pad

TR
–TR = Tape & Reel

NO. OF ROWS	B
–04	(7.06) .278
–05, –06	(9.60) .378
–08	(12.14) .478
–10	(14.68) .578

MATED HEIGHTS				
SEAM LEAD STYLE	SEAF LEAD STYLE			
	–05.0	–06.0	–06.5	–07.5
–02.0	7 mm	8 mm	8.5 mm	9.5 mm
–03.0	8 mm	9 mm	9.5 mm	10.5 mm
–03.5	8.5 mm	9.5 mm	10 mm	11 mm
–06.5	11.5 mm	12.5 mm	13 mm	14 mm
–07.0	12 mm	13 mm	13.5 mm	14.5 mm
–09.0	14 mm	15 mm	15.5 mm	16.5 mm
–11.0	16 mm	17 mm	17.5 mm	18.5 mm



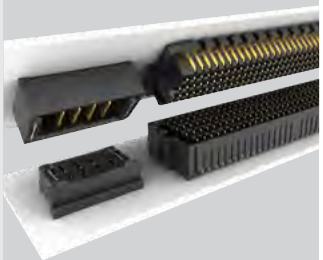
LEAD STYLE	A
–02.0	(4.60) .181
–03.0	(5.59) .220
–03.5	(6.10) .240
–06.5	(9.14) .360
–07.0	(9.60) .378
–09.0	(11.60) .457
–11.0	(13.60) .535

Notes:
Patented

IPC-A-610F and IPC J-STD-001F Class 3 solder joint.

Some sizes, styles and options are non-standard, non-returnable.

POWER/SIGNAL APPLICATION



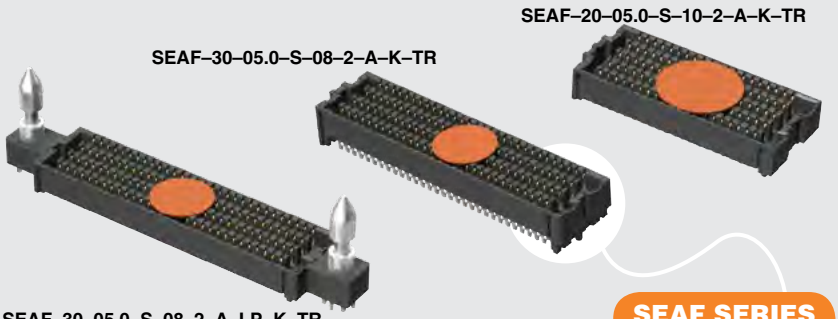
Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

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samtec

SEARAY™



(1.27 mm) .050"

SEAF SERIES

HIGH-SPEED/HIGH-DENSITY OPEN-PIN-FIELD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAF

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Operating Temp Range:
-55 °C to +125 °C
Current Rating (7 mm stack height):
1.8 A per pin
(10 adjacent pins powered)
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Contact Resistance:
5.5 mΩ
Working Voltage:
240 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

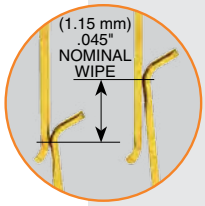
STANDARDS

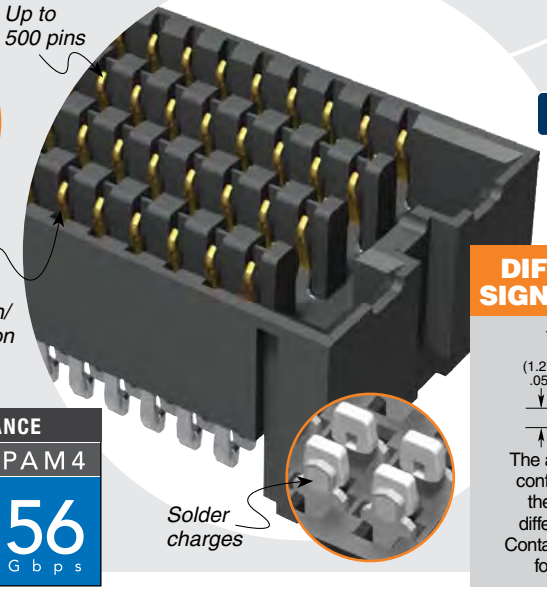
- VITA 42 XMC (alternative to SamArray®)
- VITA 47
- VITA 57.1 FMC
- VITA 57.4 FMC+
- VITA 74 VNX

PROTOCOLS

- 100 GbE
- Fibre Channel
- Rapid I/O
- PCI Express®
- SATA
- InfiniBand™

Board Mates:
SEAM, SEAMP, SEAR, SEAMI
Cable Mates:
SEAC*
Standoffs:
JSO





10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

IN DEVELOPMENT*

- Connector (SEAFC) optimized for cable application.

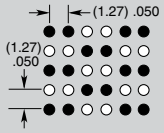
Contact Samtec.

HIGH-SPEED CHANNEL PERFORMANCE

SEAF/SEAM @ 10 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4 56 Gbps

DIFFERENTIAL SIGNAL ROUTING



The above signal routing configuration allows for the use of 25 to 125 differential pair counts. Contact sig@samtec.com for specific details.

SEAF	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	NO. OF ROWS	–	SOLDER TYPE	–	A	–	OPTION	–	K	–	TR

–10, –15, –20, –30, –40, –50
(–10 only available in 04 row)
(–15 only available in 04 or 10 row with –05.0 lead style)

Specify LEAD STYLE from chart

–L
= 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail

–S
= 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail

–04 =Four Rows
–05 =Five Rows
–06 =Six Rows
–08 =Eight Rows
–10 =Ten Rows

–1
= Tin/Lead Alloy Solder Charge

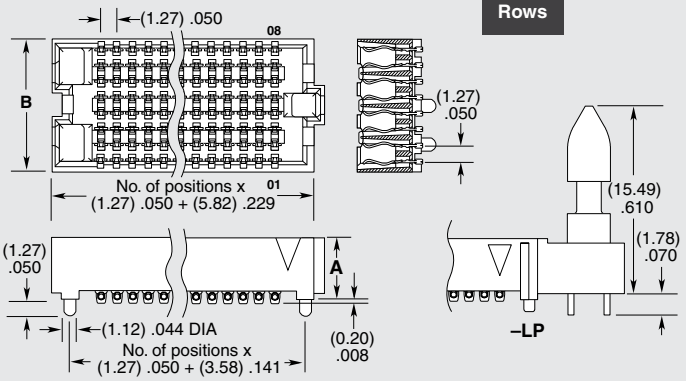
–2
= Lead-Free Solder Charge

–LP
= Latch Post (–LP required for SEAC mate only) (Available with –05.0 lead style and –04, –06, –08 & –10 rows only)

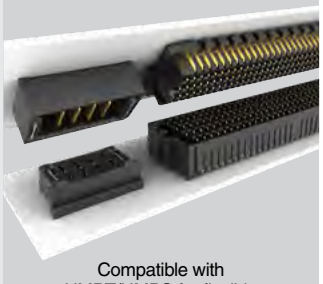
–K
= Polyimide film Pick & Place Pad (Not available with –10 and –15 pins with –LP Latch post)

NO. OF ROWS	B
–04	(5.66) .223
–05, –06	(8.20) .323
–08	(10.74) .423
–10	(13.28) .523

LEAD STYLE	A
–05.0	(5.05) .199
–06.0	(6.05) .238
–06.5	(6.55) .258
–07.5	(7.54) .297



POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

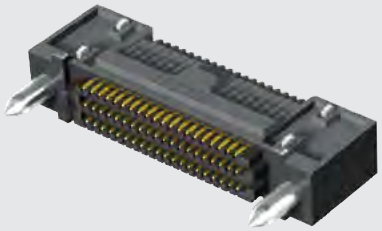
Notes:
Patented

IPC-A-610F and IPC J-STD-001F Class 3 solder joint.

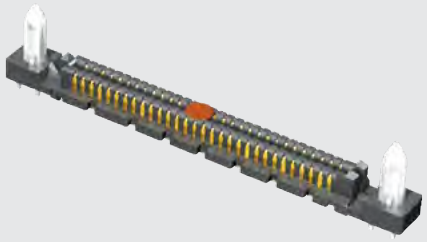
Some sizes, styles and options are non-standard, non-returnable.

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SEARAY™



SEAM–20–01–L–06–2–RA–GP–TR



SEAM–30–02.0–L–04–2–A–GP–K–TR

(1.27 mm) .050"

SEAM-RA, SEAM-GP SERIES

HI-DENSITY RIGHT-ANGLE OPEN-PIN-FIELD

SEAM-RA Mates with:
SEAF, SEAF-RA, SEAFP

SEAM-GP Mates with:
SEAF-RA-GP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAM-RA or www.samtec.com?SEAM

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Current Rating:
SEAM-RA = 1.9 A per pin (10 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Working Voltage:
SEAM-RA = 260 VAC
SEAM-GP = 240 VAC
Mated Cycles:
SEAM-GP = 100
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

SEAM – NO. PINS PER ROW – 01 – PLATING OPTION – NO. OF ROWS – SOLDER TYPE – RA – OPTION – TR

NO. PINS PER ROW: –20, –30, –40, –50

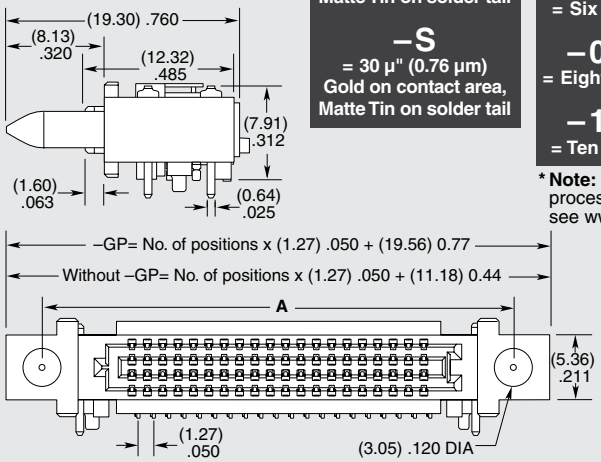
PLATING OPTION:
–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail
–S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail

NO. OF ROWS:
–04 = Four Rows
–06 = Six Rows
–08* = Eight Rows
–10* = Ten Rows

SOLDER TYPE:
–1 = Tin/Lead Alloy Solder Charge
–2 = Lead-Free Solder Charge

OPTION:
–GP = Guide Post
–K = Polyimide film Pick & Place Pad

TR:
–TR = Tape & Reel



NO. PINS PER ROW	A
–20	(38.94) 1.533
–30	(51.64) 2.033
–40	(64.34) 2.533
–50	(77.04) 3.03

* **Note:** Fixturing required to process eight and ten row options, see www.samtec.com/searayfixture

HIGH-SPEED CHANNEL PERFORMANCE

SEAM-RA/SEAF-RA

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

SEAM – NO. PINS PER ROW – 02.0 – PLATING OPTION – NO. OF ROWS – SOLDER TYPE – A – GP – K – TR

NO. PINS PER ROW: –20, –30, –40, –50

PLATING OPTION:
–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail
–S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail

NO. OF ROWS:
–04 = Four Rows
–06 = Six Rows
–08 = Eight Rows
–10 = Ten Rows

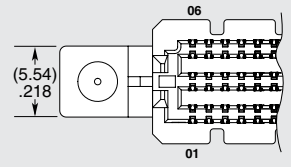
SOLDER TYPE:
–1 = Tin/Lead Alloy Solder Charge
–2 = Lead-Free Solder Charge

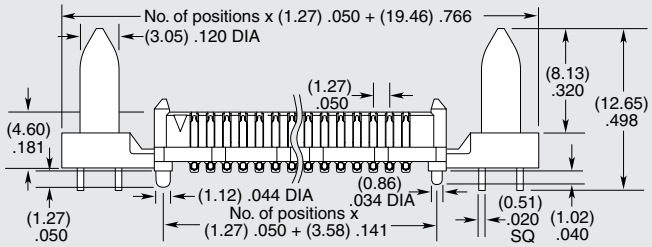
A:

GP:

K:
–K = Polyimide film Pick & Place Pad

TR:
–TR = Tape & Reel (Not available with 50 positions)





ALSO AVAILABLE
(MOQ Required)

- Extended Guide Post
- Guide post field termination kits
- Other platings

Contact Samtec.

Notes:
SEAM-GP Patented

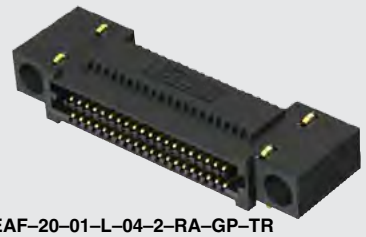
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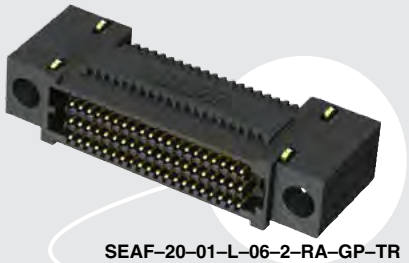
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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

SEARAY™



SEAF–20–01–L–04–2–RA–GP–TR



SEAF–20–01–L–06–2–RA–GP–TR

(1.27 mm) .050"

SEAF-RA SERIES

HI-DENSITY RIGHT-ANGLE OPEN-PIN-FIELD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAF-RA

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Current Rating:
1.9 A per pin
(10 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Working Voltage:
280 VAC
Mated Cycles:
100
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

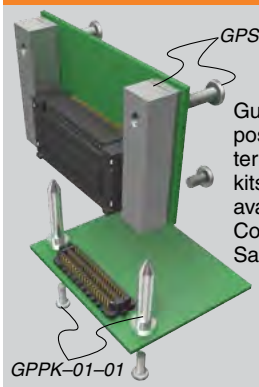
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Board Mates:
SEAM, SEAMP

Cable Mates:
SEAC

OTHER SOLUTIONS



Guide post field termination kits also available. Contact Samtec.



HIGH-SPEED CHANNEL PERFORMANCE

SEAF-RA/SEAM-RA
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

SEAF	–	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	NO. OF ROWS	–	SOLDER TYPE	–	RA	–	OPTION	–	TR

–20, –30, –40, –50

–L
= 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail

–S
= 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail

–04
= Four Rows

–06
= Six Rows

–08*
= Eight Rows

–10*
= Ten Rows

–1
= Tin/Lead Alloy Solder Charge

–2
= Lead-Free Solder Charge

–GP
= Guide Post Hole

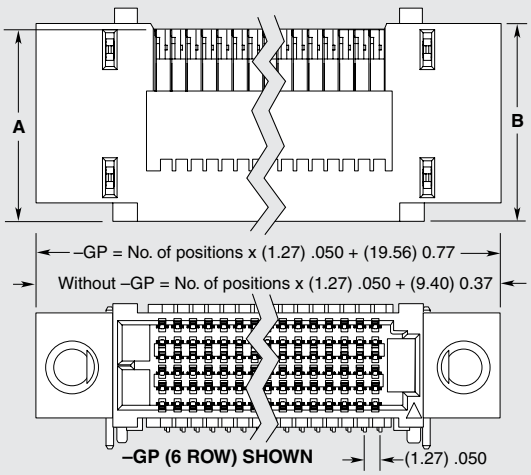
–LP
= Latch Post (06 row 30 positions only) (Mates to SEAC Series)

–K
= Polyimide film Pick & Place Pad

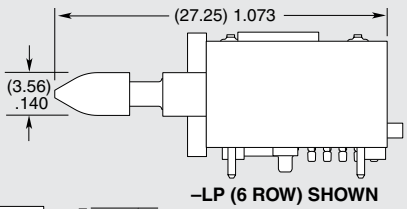
–TR
=Tape & Reel

NO. OF ROWS	A	B	C
–04	(13.26) .522	(13.77) .542	(7.91) .311
–06	(15.80) .622	(16.31) .642	(10.45) .411
–08	(18.34) .722	(18.85) .742	(12.99) .511
–10	(20.88) .822	(21.39) .842	(15.53) .611

***Note:** Fixturing required to process eight and ten row options, see www.samtec.com/searayfixture







–LP (6 ROW) SHOWN

ALSO AVAILABLE (MOQ Required)

- Other platings

Contact Samtec.

Note:
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samtec

SEARAY™



SEAR SERIES

85 Ω HIGH-SPEED/HIGH-DENSITY RISER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAR

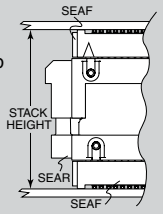
Insulator Material:
Black LCP
Clip Material:
Copper Alloy
PCB Material:
FR4, Copper
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
Signal:
1.4 A per pin
(20 adjacent signal pins powered)
Ground:
5.4 A per pin
(10 adjacent ground pins powered)
Contact Area:
Hard Gold plated
Working Voltage:
240 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

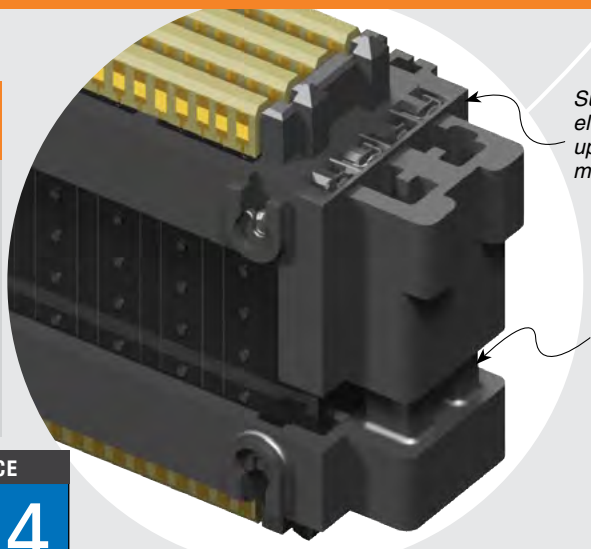
Side A Mates with:
SEAF
Side B Mates with:
SEAF

ALSO AVAILABLE
(MOQ Required)

- Custom stack heights up to 40 mm
- 50 Ω and 100 Ω systems
- Additional positions
- Additional row options

Contact Samtec.





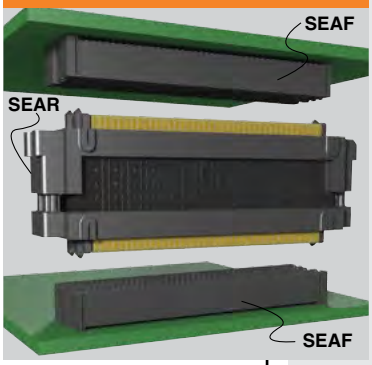
HIGH-SPEED CHANNEL PERFORMANCE

SEAR/SEAF @ 20 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

SEAR	–	NO. OF PINS PER ROW	–	LEAD STYLE	–	NO. OF ROWS	–	085
		–40, –50 (Call Samtec for other sizes)		Specify LEAD STYLE from chart		–06 = Six Rows –08 = Eight Rows –10 = Ten Rows		–085 = 85 Ω system

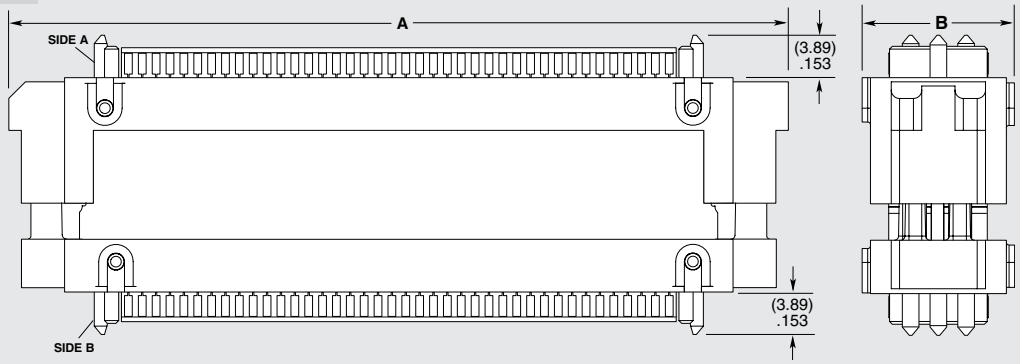
APPLICATION



NO. OF POSITIONS	A
–40	(71.42) 2.812
–50	(84.12) 3.312

NO. OF ROWS	B
–06	(11.43) .450
–08	(13.97) .550
–10	(16.51) .650

MATED HEIGHT*	
SEAR LEAD STYLE	SEAF LEAD STYLE –05.0 (SIDE A & B)
–10.0	20 mm
–20.0	30 mm
–30.0	40 mm
*Processing conditions will affect mated height.	



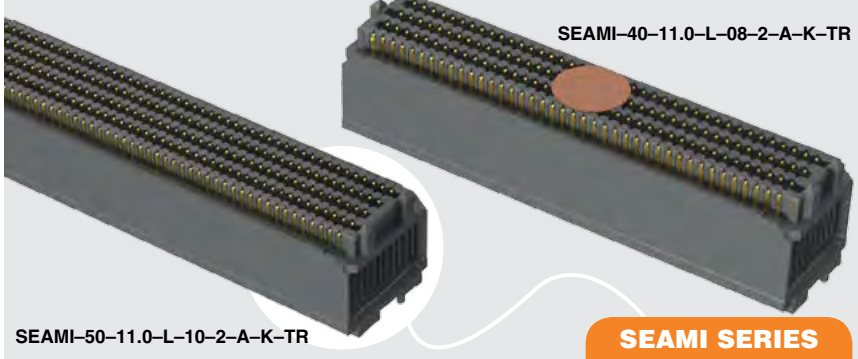
Note:
Some sizes, styles and options are non-standard, non-returnable.

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SEARAY™



(1.27 mm) .050"

SEAMI SERIES

85 Ω TUNED OPEN-PIN-FIELD ARRAY

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAMI

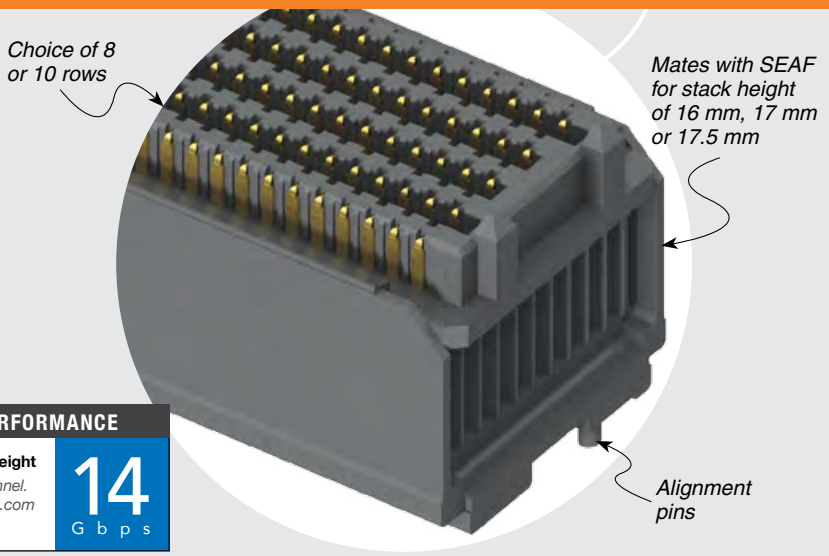
Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Operating Temp Range:
Testing Now!
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Working Voltage:
Testing Now!
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Mates with:
SEAF



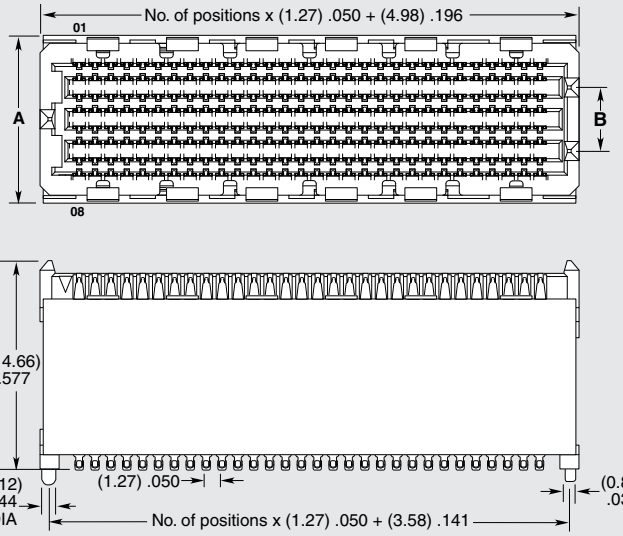
HIGH-SPEED CHANNEL PERFORMANCE

SEAMI/SEAF @ 16 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

SEAMI	–	NO. PINS PER ROW	–	11.0	–	PLATING OPTION	–	NO. OF ROWS	–	SOLDER TYPE	–	A	–	K	–	TR
SEAMI = 85 Ω tuned		–40, –50				**–L** = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail **–S** = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail		**–08** = Eight Rows **–10** = Ten Rows		**–1** = Tin/Lead Alloy Solder Charge **–2** = Lead-Free Solder Charge		**–A** = Alignment Pins **–K** = Polyimide film Pick & Place Pad **–TR** = Tape & Reel				

MATED HEIGHTS*			
SEAMI LEAD STYLE	SEAF LEAD STYLE		
	–05.0	–06.0	–06.5
–11.0	16 mm	17 mm	17.5 mm
*Processing conditions will affect mated height.			



NO. OF ROWS	A	B
–08	(13.41) .528	(5.08) .200
–10	(15.95) .628	(7.62) .300

ALSO AVAILABLE
(MOQ Required)

- Other plating options
- 20 & 30 pins per row
- 04 & 06 rows

Contact Samtec.

Notes:
Patented

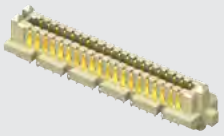
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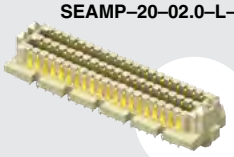
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SEARAY™



SEAMP–20–02.0–L–04



SEAMP–20–02.0–L–06

(1.27 mm) .050"

SEAMP SERIES

PRESS-FIT OPEN-PIN-FIELD ARRAY

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAMP

Insulator Material:
Natural LCP
Contact Material:
Copper Alloy
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
2.5 A per pin
(6 adjacent pins powered)
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Working Voltage:
215 VAC
RoHS Compliant:
Yes

PROCESSING

Application tooling and one ton minimum press required. Contact ATG@samtec.com for more information.

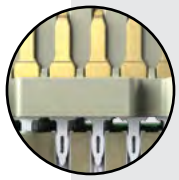
RECOGNITIONS

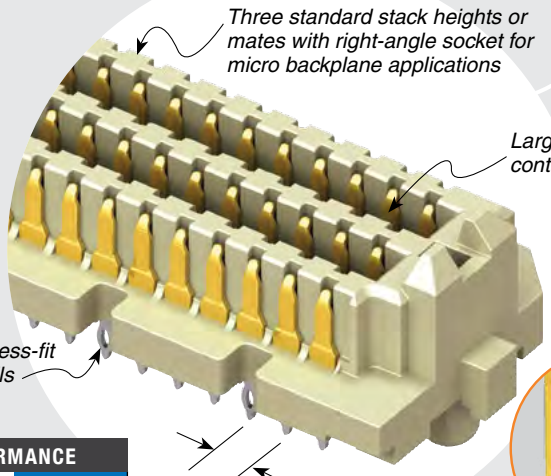
For complete scope of recognitions see www.samtec.com/quality

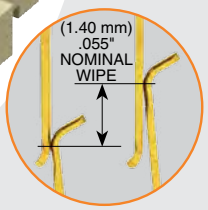
FILE NO. E111594

Mates with:
SEAF, SEAF-RA-GP

EDGE® RATE CONTACT







HIGH-SPEED CHANNEL PERFORMANCE

SEAMP/SEAF @ 7 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

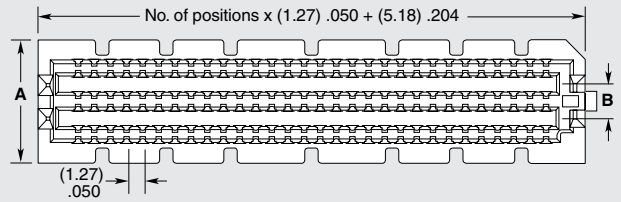
SEAMP	– NO. OF POSITIONS PER ROW	– 02.0	– PLATING OPTION	– NO. OF ROWS	– OPTION
SEAMP = Press-fit	–10, –20, –30, –40, –50		–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on tail	–04 = Four Rows –06 = Six Rows –08 = Eight Rows –10 = Ten Rows	–GP = Guide Post (Mates with SEAF-RA-GP only) –TR = Tape & Reel

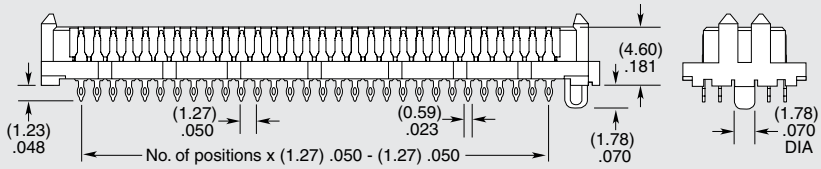
MATED HEIGHTS*			
SEAMP LEAD STYLE	SEAF LEAD STYLE		
	–05.0	–06.0	–06.5
–02.0	7 mm	8 mm	8.5 mm
*Processing conditions will affect mated height.			

ALSO AVAILABLE
(MOQ Required)

- Other plating options
- 20 & 30 pins per row
- 04 & 06 rows

Contact Samtec.





NO. OF ROWS	A	B
–04	(7.06) .278	(2.54) .100
–06	(9.60) .378	(2.54) .100
–08	(12.14) .478	(5.08) .200
–10	(14.68) .578	(7.62) .300

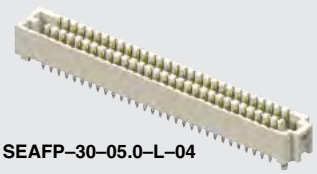
Note:
Compliant pin fixture CAT-SEAMP-XX-XX.
Patent Pending.

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SEARAY™


SEAFP–30–05.0–L–04


SEAFP–20–05.0–S–06

(1.27 mm) .050"

SEAFP SERIES

PRESS-FIT OPEN-PIN-FIELD ARRAY

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAFP

Insulator Material:
Natural High Temperature Nylon
Contact Material:
BeCu Alloy
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating (SEAFP/SEAM):
1.9 A per pin (6 adjacent pins powered)
Working Voltage:
250 VAC
RoHS Compliant:
Yes

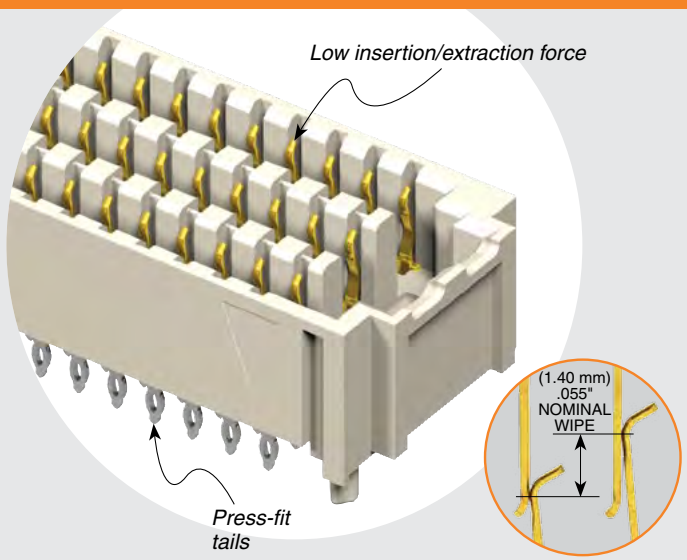
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

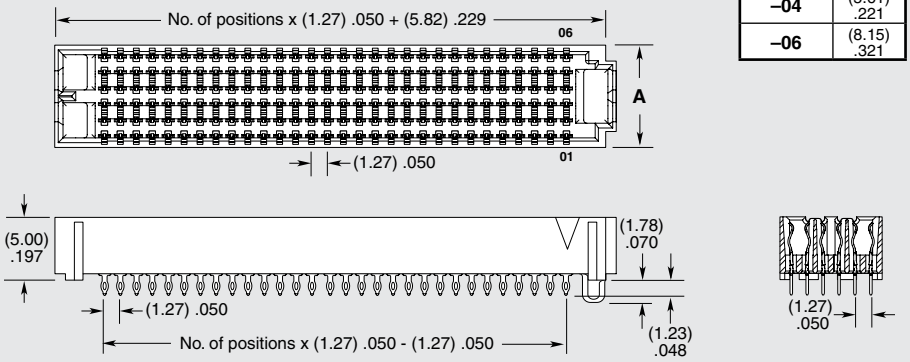
Board Mates:
SEAM, SEAM-RA, SEAMP

Cable Mates:
SEAC



SEAFP	–	NO. OF POSITIONS PER ROW	–	05.0	–	PLATING OPTION	–	NO. OF ROWS
		–10, –20, –30, –40, –50				–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail –S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail		–04 = Four Rows –06 = Six Rows

NO. OF ROWS	A
–04	(5.61) .221
–06	(8.15) .321



Notes:
Patented

Compliant pin fixture CAT-SEAFP-XX-XX.

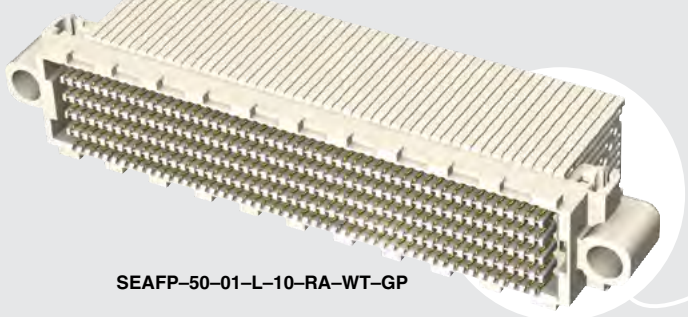
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SEARAY™



SEAFP–50–01–L–10–RA–WT–GP

(1.27 mm) .050"

SEAFP-RA SERIES

HIGH-DENSITY PRESS-FIT OPEN-PIN-FIELD

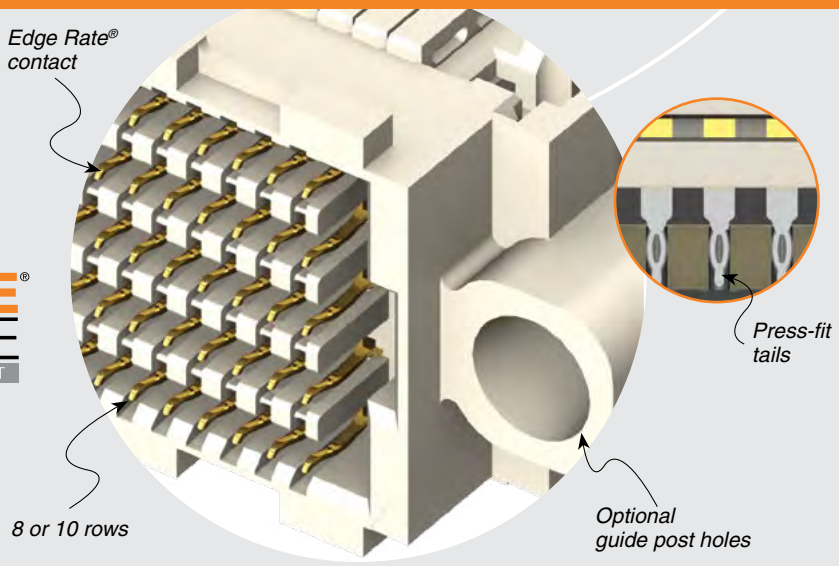
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAFP-RA

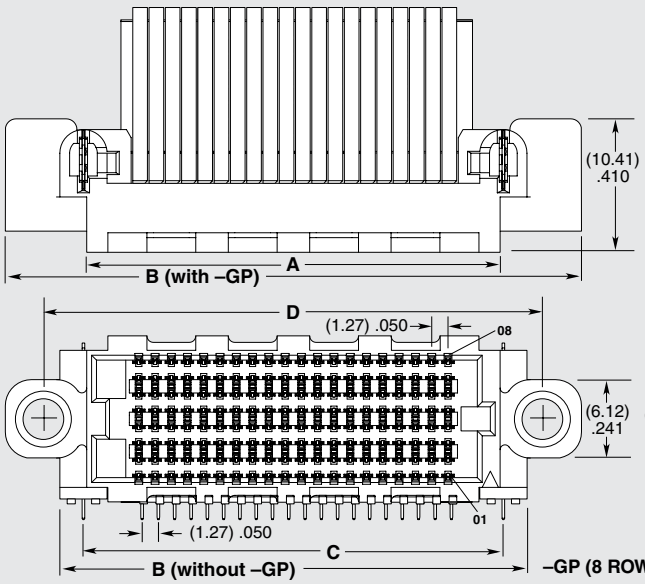
Insulator Material:
Natural LCP
Contact Material:
Copper Alloy
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.3 A per pin
(10 adjacent pins powered)
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Working Voltage:
195 VAC/ 275 VDC
RoHS Compliant:
Yes

Mates with:
SEAM, SEAM-RA, SEAMP

EDGE® RATE CONTACT



SEAFP	NO. OF POSITIONS	01	PLATING OPTION	NO. OF ROWS	RA	WT	OPTION
	–20, –30, –40, –50		–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on solder tail –S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail	–08 = Eight Rows –10 = Ten Rows		–WT = Weld Tab	–GP = Guide Post Hole



NO. OF POSITIONS	A	B (With -GP)	B (W/O -GP)	C	D
–20	(32.26) 1.270	(44.96) 1.770	(36.45) 1.435	(32.77) 1.290	(39.45) .1.553
–30	(44.96) 1.770	(57.66) 2.270	(49.15) 1.935	(45.47) 1.790	(52.15) 2.053
–40	(57.66) 2.270	(70.36) 2.770	(61.85) 2.435	(58.17) 2.290	(64.85) 2.553
–50	(70.36) 2.770	(83.06) 3.270	(74.55) .2.935	(70.87) 2.790	(77.55) 3.053

Notes:
Compliant pin fixture CAT-SEAFP-XX-XX-RA.

Applications with varying board thickness refer to Samtec compliant pin termination specifications.

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JSO–1115–03–L


JSO–0515–01


JSO–1615–03–L

JSO SERIES

JACK SCREW STANDOFF

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?JSO

Material:
Stainless Steel
Locking Compound:
Nylon

BOARD STACKER	A	B	BOARD STACK HEIGHT
–0415	(4.15) .163	(2.50) .098	4 mm
–0515	(5.15) .203	(3.50) .138	5 mm
–0715	(7.15) .281	(5.50) .217	7 mm
–0815	(8.15) .321	(6.50) .256	8 mm
–1015	(10.15) .400	(8.50) .335	10 mm
–1115	(11.15) .439	(9.50) .374	11 mm
–1615	(16.15) .636	(14.50) .571	16 mm

ALSO AVAILABLE
(MOQ Required)

- Other heights
- Locking compound removed

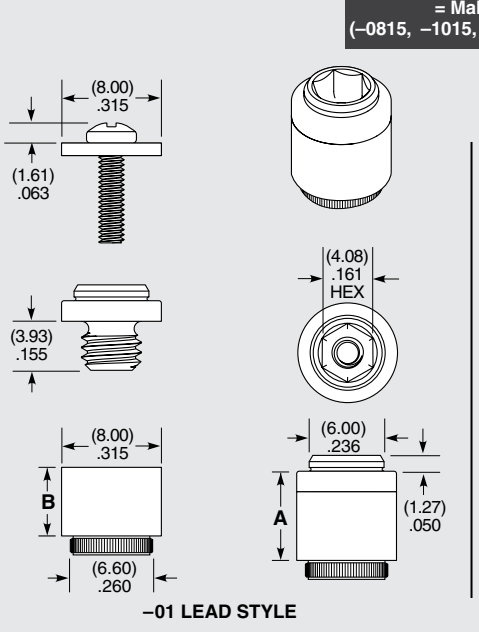
Contact Samtec.

Notes:
Patent Pending

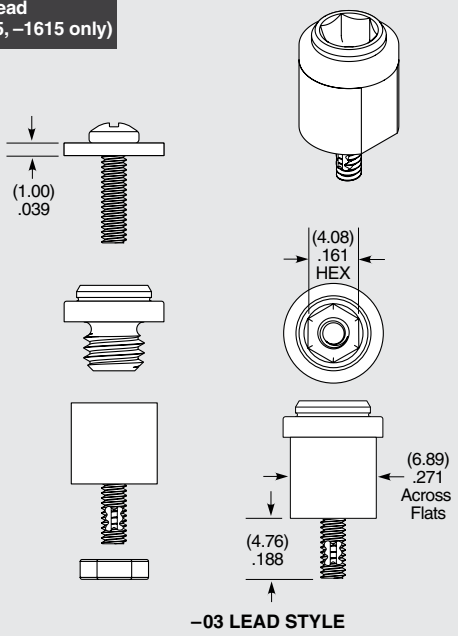
Standoffs are designed, 0.15 mm longer than connector stack heights to allow for processing variables.

Some sizes, styles and options are non-standard, non-returnable.

JSO	BOARD STACKER	LEAD STYLE	LOCKING OPTION
	Specify BOARD STACKER from chart	–01 = Press-In (–0415, –0515, –0715, –0815 only) –03 = Male Thread (–0815, –1015, –1115, –1615 only)	–L = Locking compound (Not available with –01 lead style, Required for –03 lead style)



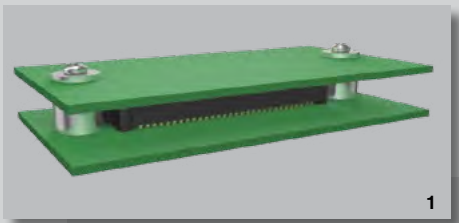
–01 LEAD STYLE

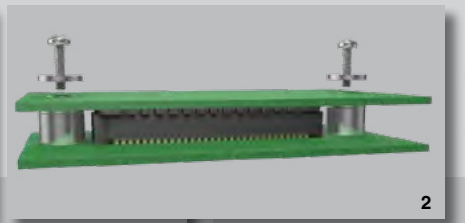


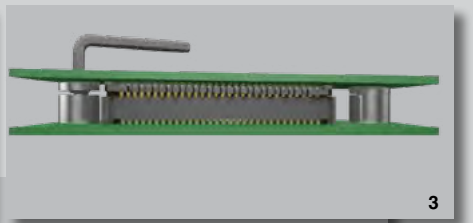
–03 LEAD STYLE

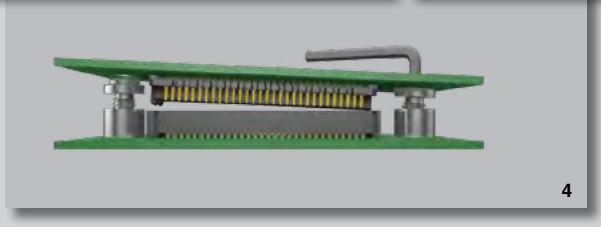
Components are to be packaged in separate bags unassembled.

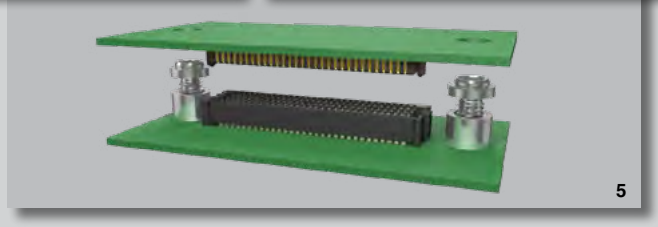
APPLICATION


1


2


3


4


5

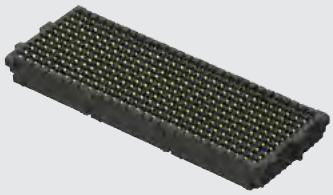
Due to technical progress, all designs, specifications and components are subject to change without notice.

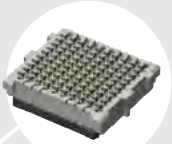
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samtec

SKYRAY™

TPAF–M–H–H–H–0–S–2





TPAF–D–H–0–S–2

(1.50 mm) .059" X (1.75 mm) .069"

TPAF SERIES

HIGH-SPEED ELEVATED ARRAY RECEPTACLE

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TPAF

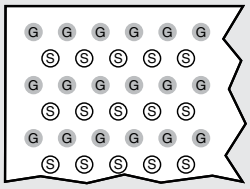
Insulator Material:
Black LCP (TPAF-M)
Gray LCP (TPAF-D)
Contact Material:
Copper Alloy
Ground Plane:
Copper Alloy
Operating Temp Range:
-55 °C to +125 °C
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Working Voltage:
165 VAC / 230 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

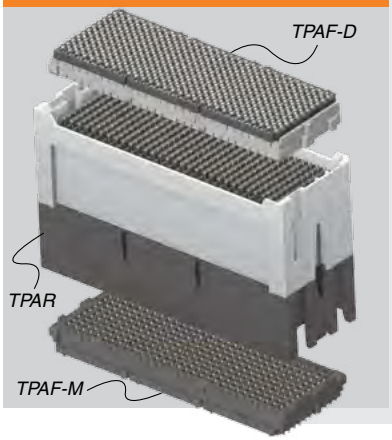
SIGNAL MAPPING

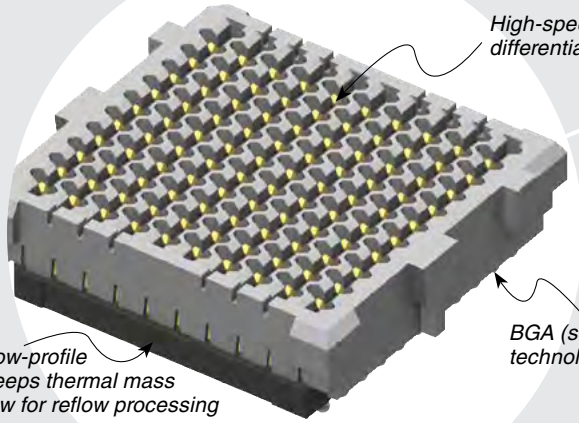


For complete signal mapping, see www.samtec.com?TPAF or contact Samtec.

Mates with:
TPAR

APPLICATION





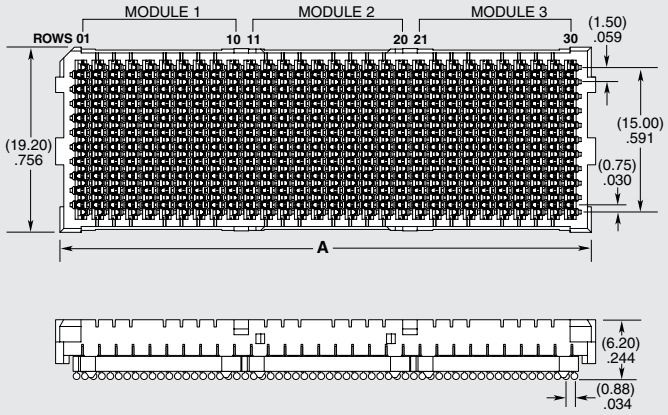
HIGH-SPEED CHANNEL PERFORMANCE

TPAF/TPAR @ 35 mm Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

TPAF	–	BODY KEY	–	MOD 1	–	MOD 2	–	MOD 3	–	0	–	PLATING OPTION	–	SOLDER TYPE	–	OPTION
		–D = Detachable –M = Mounting		–H = High-speed Differential Pair		–H = High-speed Differential Pair (Leave blank for module 1 only)		–H = High-speed Differential Pair (Leave blank for module 1 or 2 only)				–S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail		–2 = Lead-Free Tin Alloy		–TY = Tray



MODULES	PAIRS	A
1	50	(21.00) .827
2	100	(38.50) 1.516
3	150	(56.00) 2.205

Notes:
Entire system requires TPAF-D, TPAF-M and TPAR.

Tape & Reel packaging is standard.

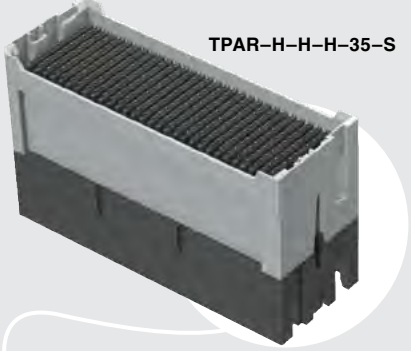
Dual source for Hirose IT5. Some sizes, styles and options are non-standard, non-returnable.

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samtec

SKYRAY™





(1.50 mm) .059" X (1.75 mm) .069"

TPAR SERIES

HIGH-SPEED ELEVATED ARRAY RISER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TPAR

Insulator Material:
LCP
Contact Material:
Copper Alloy
Operating Temp Range:
-55 °C to +125 °C
Plating:
Au over 50 µ" (1.27 µm) Ni
Working Voltage:
165 VAC / 230 VAC
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- 18 to 40 mm mated heights

Contact Samtec.

TOOLING

- Installation Cap: CAT-PT-TPAR-X





- Removal Tool: CAT-EX-TPAR-X

Notes:
Entire system requires TPAF-D, TPAF-M and TPAR.

Tray is standard packaging

Dual source for Hirose IT5.

Some sizes, styles and options are non-standard, non-returnable.

Mates with:
TPAF-D, TPAF-M

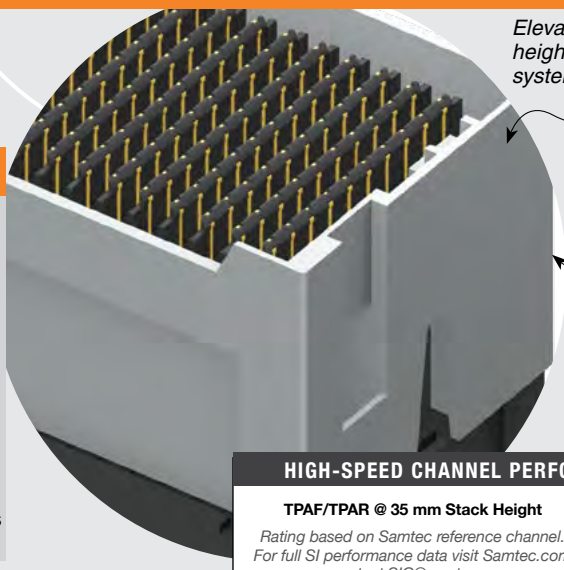
WAFER DESIGN



Cutaway shown for clarity



Polarity-swapping technology greatly reduces crosstalk in 100 Ω, differential applications.



Elevated stack heights allow better system air flow

35 mm standard mated height achieved when mated with TPAF-M and TPAF-D

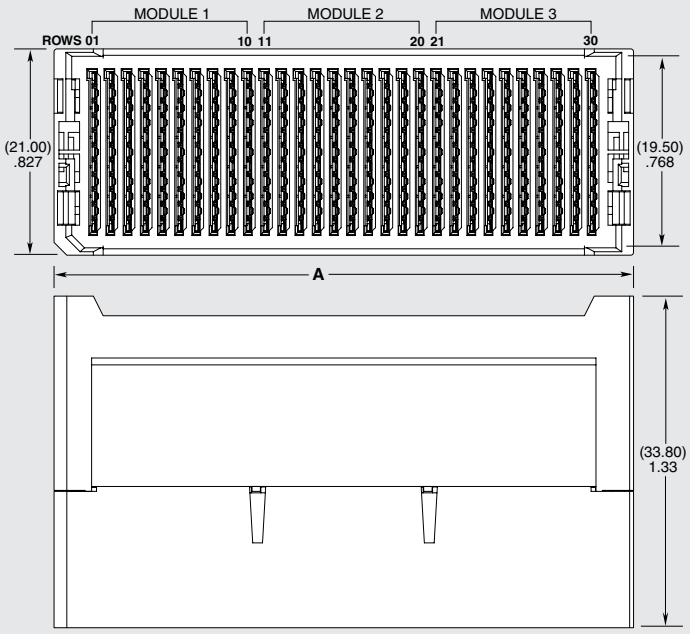
HIGH-SPEED CHANNEL PERFORMANCE

TPAF/TPAR @ 35 mm Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

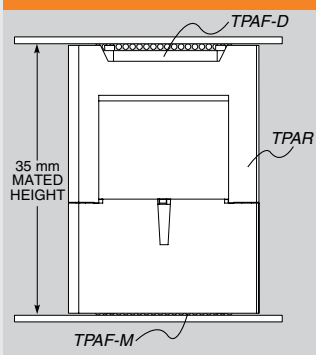
28 Gbps

TPAR	MODULE 1	MODULE 2	MODULE 3	LEAD STYLE	PLATING OPTION
	–H = Helical Crosstalk Cancellation	–H = Helical Crosstalk Cancellation (Leave blank for module 1 only)	–H = Helical Crosstalk Cancellation (Leave blank for module 1 or 2 only)	–35 = 35 mm	–S = 30 µ" (0.76 µm) Gold on contact area



MODULES	PAIRS	A
1	50	(24.00) .945
2	100	(41.50) 1.634
3	150	(59.00) 2.323

MATED HEIGHT



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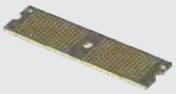
samtec

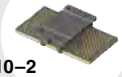
Z-RAY®

(0.80 mm) .0315"


ZA8–40–2–1.00–Z–10


ZA8–10–2–1.00–Z–10


ZA8–30–2–1.00–Z–10


ZA8–20–1–1.00–Z–10–2

ZA8 SERIES

ULTRA-LOW PROFILE MICRO ARRAYS

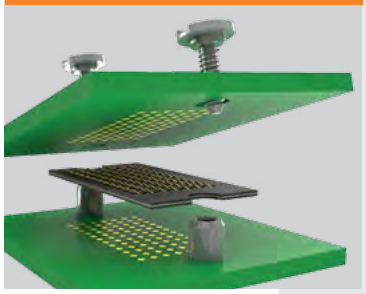
SPECIFICATIONS

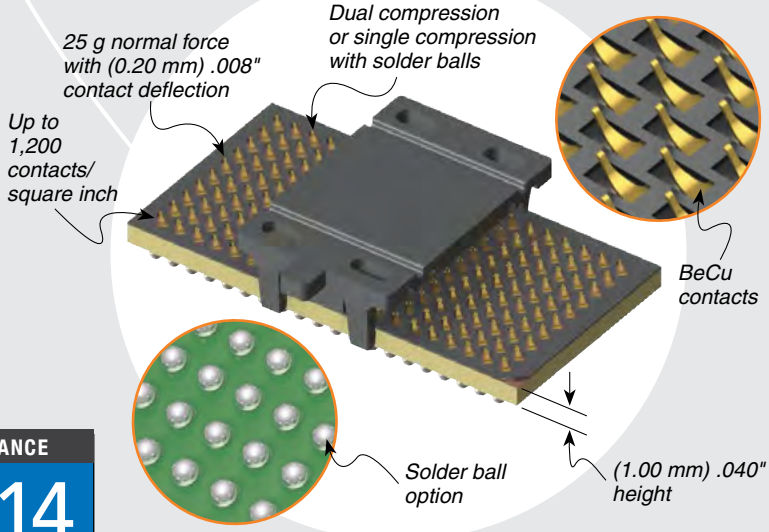
For complete specifications and recommended PCB layouts see www.samtec.com?ZA8

Insulator Material:
FR4
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
.8 A per pin
(10 pins powered)
Operating Temp Range:
-55 °C to +105 °C
RoHS Compliant:
Yes

Note:
Solder ball parts will come with a pick & place pad.

APPLICATION





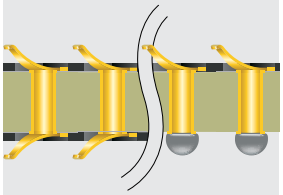
HIGH-SPEED CHANNEL PERFORMANCE

1 mm Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

APPLICATION



Dual compression or single compression with solder balls

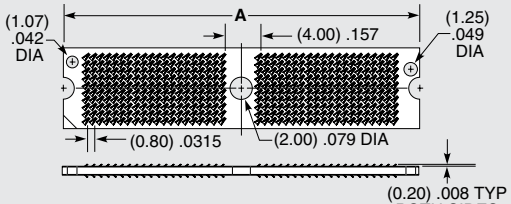
ZA8 –	POSITIONS PER ROW –	TERMINATION –	HEIGHT –	PLATING –	ROWS –	SOLDER TYPE
	–10, –20, –30, –40	–1 = Single Compression with Solder Balls (–10 & –20 positions only) –2 = Dual Compression (–10, –20, –30 & –40 positions only)	–1.00 = (1.00 mm) .040" Height	–Z = 6 µ" (0.15 µm) Gold in contact area	–10 = Ten Rows	(Termination –1 only) –1 = Lead –2 = Lead-Free

DESIGN FLEXIBILITY

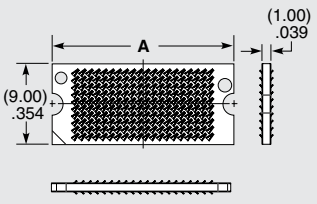
The Z-Ray® platform is highly-customizable:

PITCH	≥ 0.65 mm
STACK HEIGHT	0.50 mm to 4.00 mm
DENSITY	Up to 1,200 contacts/square inch
RUGGEDIZING	Latches, Thermal Spreaders, Quick-release Spring Constraints
CONSTRUCTION	Multi-layer FR4 (e.g., Pitch Spreaders)

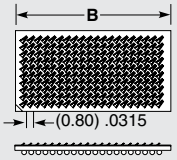
Contact Samtec.



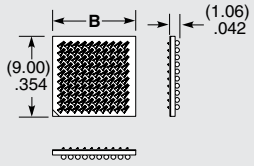
40 X 10 DUAL COMPRESSION



20 x 10 DUAL COMPRESSION



20 X 10 COMPRESSION WITH SOLDER BALLS



10 x 10 COMPRESSION WITH SOLDER BALLS

POSITIONS PER ROW	A	B
–10	(12.50) .492	(9.35) .368
–20	(20.50) .807	(17.35) .683
–30	(31.70) 1.248	N/A
–40	(39.70) 1.563	N/A

Note:
Some lengths, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

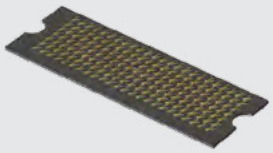
All parts within this catalog are built to Samtec's specifications.
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samtec

ZRAY

(0.80 mm) .0315"

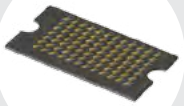
ZA8H–24–0.33–Z–07



ZA8H–06–0.33–Z–04



ZA8H–12–0.33–Z–07



ZA8H SERIES

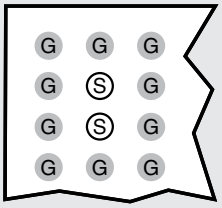
HIGH-SPEED DUAL COMPRESSION ARRAYS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ZA8H

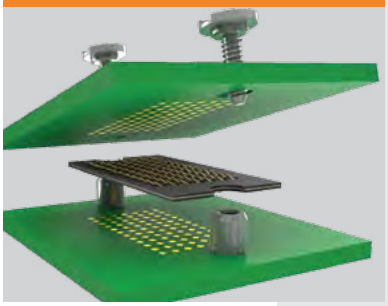
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Core:
Polyimide
Overlay:
Polyimide
Current Rating:
Testing Now!
Operating Temp Range:
Testing Now!
RoHS Compliant:
Yes

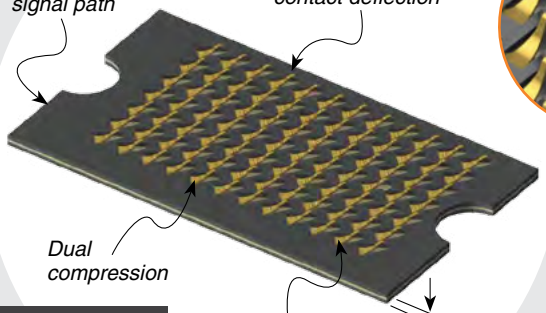
SIGNAL MAPPING



To meet 56 Gbps performance, footprint must meet specific signal/ground configurations. Contact the Signal Integrity Group at SIG@samtec.com for recommended signal routing.

APPLICATION





HIGH-SPEED CHANNEL PERFORMANCE

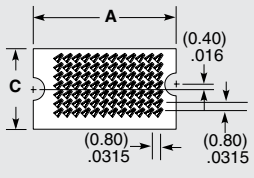
0.33 mm Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

NRZ 56 Gbps

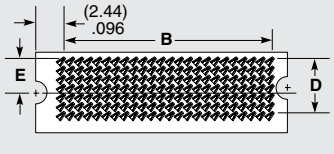
ZA8H	–	NO. OF POSITIONS	–	HEIGHT	–	PLATING	–	ROWS
		–06, –12, –24 (See Chart Below For Number Of Pairs)		–0.33 = (0.33 mm) .013" Height		–Z = 6 µ" (0.15 µm) Gold on contact over 40 µ" to 100 µ" (1.02 µm–2.54 µm) Nickel		–04 = Four Rows –07 = Seven Rows

ARRAY	PAIR COUNT
06 X 04	2
12 X 04	4
12 X 07	8
24 X 07	16



12 X 7 SHOWN

NO. OF POSITIONS	A	B
–06	(7.80) .307	(4.000) .1575
–12	(12.60) .496	(8.800) .3465
–24	(22.20) 874	(18.400) 7244



24 X 7 SHOWN

NO. OF ROWS	C	D	E
–04	(4.70) .185	(2.400) .0945	(1.75) .069
–07	(7.10) .280	(4.800) .1890	(2.95) .116

Note:
Some lengths, styles and options are non-standard, non-returnable.

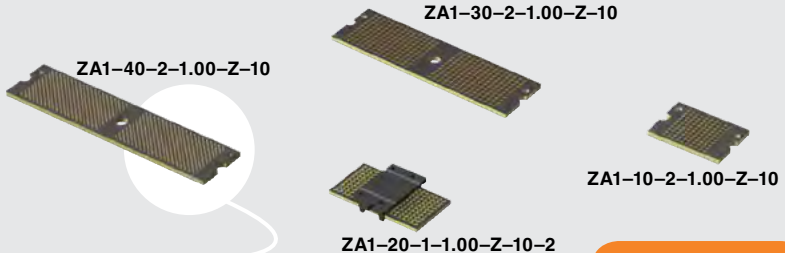
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samtec

Z-RAY®

(1.00 mm) .0394"



ZA1 SERIES

ULTRA-LOW PROFILE MICRO ARRAYS

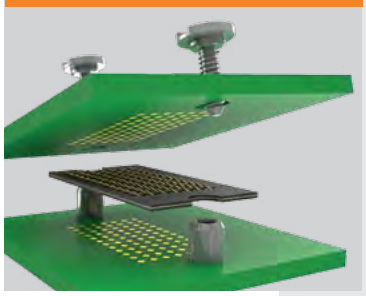
SPECIFICATIONS

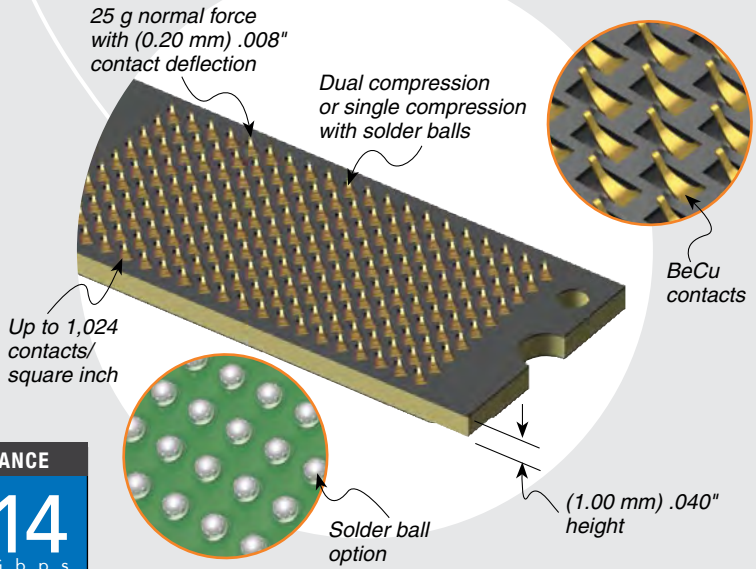
For complete specifications and recommended PCB layouts see www.samtec.com?ZA1

Insulator Material:
FR4
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
1 A per pin
(10 pins powered)
Operating Temp Range:
-55 °C to +105 °C
RoHS Compliant:
Yes

Note:
Solder ball parts will come with a pick & place pad.

APPLICATION





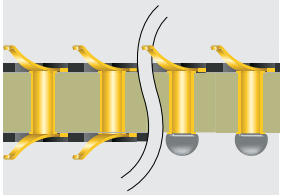
HIGH-SPEED CHANNEL PERFORMANCE

1 mm Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

APPLICATION



Dual compression or single compression with solder balls

ZA1 – POSITIONS PER ROW – TERMINATION – HEIGHT – PLATING – ROWS – SOLDER TYPE

POSITIONS PER ROW: –10, –20, –30, –40

TERMINATION:
–1 = Single Compression with Solder Balls (–10 & –20 positions only)
–2 = Dual Compression (–10, –20, –30 & –40 positions only)

HEIGHT: –1.00 = (1.00 mm) .040" Height

PLATING: –Z = 6 µ" (0.15 µm) Gold in contact area

ROWS: –10 = Ten Rows

SOLDER TYPE: (Termination –1 only)
–1 = Lead
–2 = Lead-Free

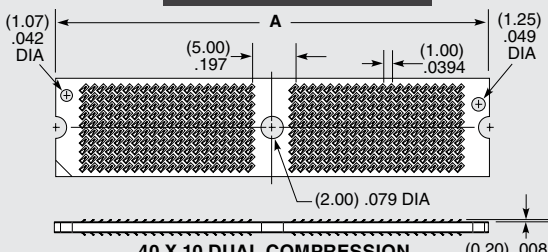
DESIGN FLEXIBILITY

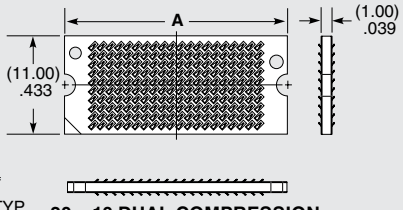
The Z-Ray® platform is highly-customizable:

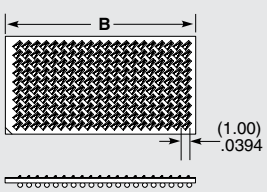
PITCH	≥ 0.65 mm
STACK HEIGHT	0.50 mm to 4.00 mm
DENSITY	Up to 1,024 contacts/square inch
RUGGEDIZING	Latches, Thermal Spreaders, Quick-release Spring Constraints
CONSTRUCTION	Multi-layer FR4 (e.g., Pitch Spreaders)

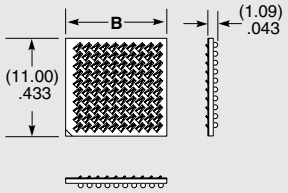
Contact Samtec.

Note:
Some lengths, styles and options are non-standard, non-returnable.









POSITIONS PER ROW	A	B
–10	(14.30) .563	(11.40) .449
–20	(24.30) .957	(21.40) .843
–30	(38.30) 1.508	N/A
–40	(48.30) 1.902	N/A

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samtec

ZRAY

(0.80 mm) .0315"

ZRDP–1–08–03.8–Z1–4–1



ZRDP SERIES

ULTRA-LOW PROFILE CABLE ASSEMBLY

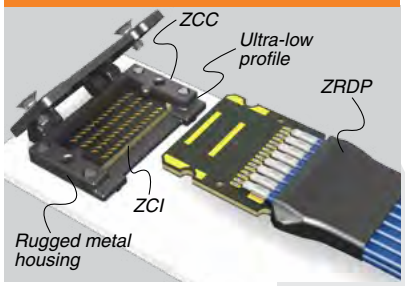
SPECIFICATIONS

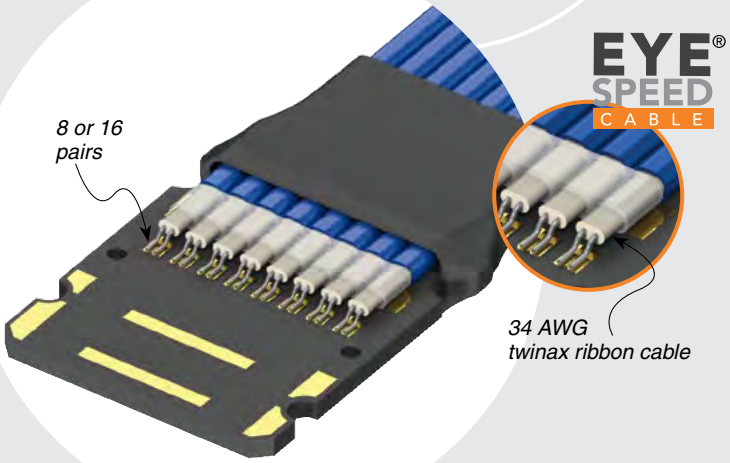
For complete specifications see www.samtec.com?ZRDP

Cable:
34 AWG twinax ribbon cable
Signal Routing:
100 Ω Differential
Cable Bending Radius:
(3.18 mm) .125" min
Plating:
Au over 100 µ" (2.54 µm) Ni
Operating Temp Range:
-25 °C to +105 °C
Pinout Map:
See web address above
RoHS Compliant:
Yes

Mates with:
ZCI, ZCC

APPLICATION

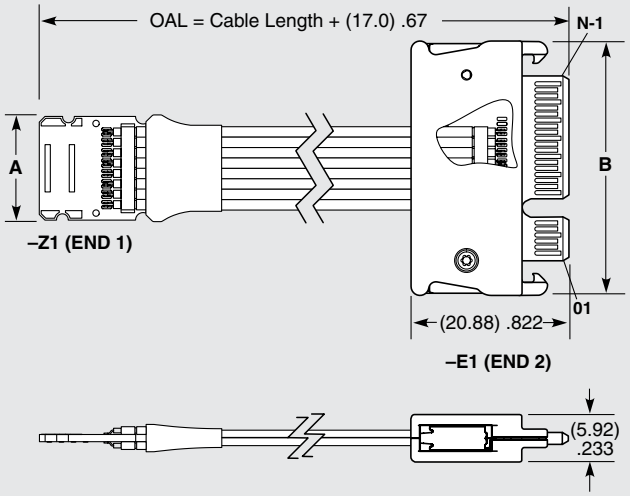




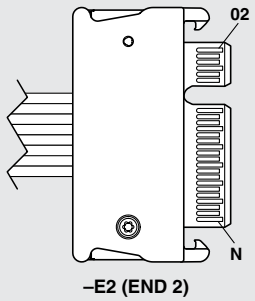
ZRDP	– SIZE	– NO. OF PAIRS	– CABLE LENGTH	– END 2	– WIRING OPTION	– IMPEDANCE
	–1 = Fits ZCC-1-XX –2 = Fits ZCC-2-XX	–08 = Use for –1 size –16 = Use for –2 size	–"XX.X" = Cable Length in Inches (97.0 mm) 03.8" minimum	–Z1 = ZRDP (Wiring option –4 only) –E1 = ECDP with latches (Wiring option –1 only) –E2 = ECDP with latches (Wiring option –3 only)	–1 = Pin A1 to Pin 1 –3 = Pin A1 to Pin N-1 –4 = Pin A1 to Pin AN	–1 = 100 Ω

ECDP MATES

NO. OF PAIRS	CONNECTOR
–08	HSEC8–13
–16	HSEC8–25



NO. OF PAIRS	A	B
–08	(8.10) .319	(24.05) .947
–16	(13.70) .539	(33.66) 1.325



Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

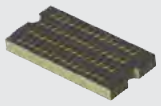
Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

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ZRAY



ZCI–2–16–Z



ZCC–2–TH

ZCI, ZCC SERIES

ZRDP INTERFACE & CAGE ASSEMBLY

Mates with:
ZRDP

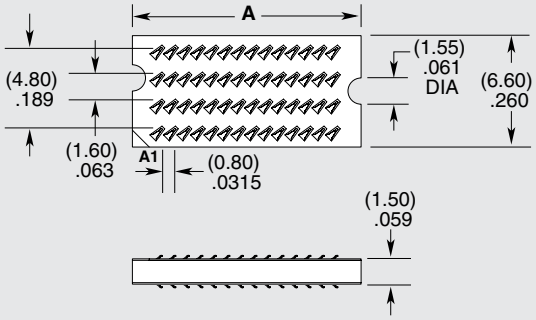
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ZCI

Contact Material:
BeCu
Plating:
Au over 40-100 µ" (1.016 -2.54 µm) Ni
Core:
FR4
Overlay:
Polyimide
RoHS Compliant:
Yes

Note:
Some sizes, styles and options are non-standard, non-returnable.

ZCI	–	SIZE	–	PAIRS	–	PLATING
		–1 = Fits ZCC-1-XX –2 = Fits ZCC-2-XX		–08 (Only available in size –1) –16 (Only available in size –2)		–Z = 6 µ" (0.15 µm) Gold on contact



SIZE	A
–1	(8.75) .344
–2	(13.55) .533

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ZCC

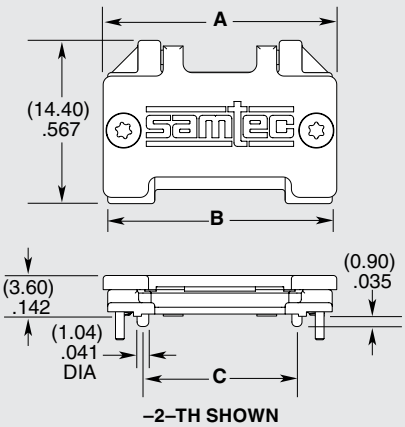
Base:
Zinc, Black nickel plated
Clamp:
Zinc, Black nickel plated
Weld Tab:
Brass
Screws:
Brass (T5 Torx®)
Screw Retainer:
Polyimide
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes

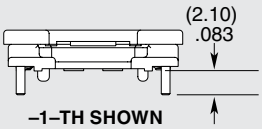
Note: Some sizes, styles and options are non-standard, non-returnable.

ZCC	–	SIZE	–	WELD TAB
		–1 = Fits ZCI–1–XX–Z –2 = Fits ZCI–2–XX–Z		–TH = Through-Hole



–2–TH SHOWN

SIZE	A	B	C
–1	(15.80) .622	(15.00) .591	(8.78) .346
–2	(20.60) .811	(19.80) .780	(13.58) .535



–1–TH SHOWN

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Z-RAY®



ZSO–0100–01





ZHSI–02–01



ZD–1.00–03.7

ZSO, ZD, ZHSI SERIES

Z-RAY® PRESS-FIT ALIGNMENT HARDWARE

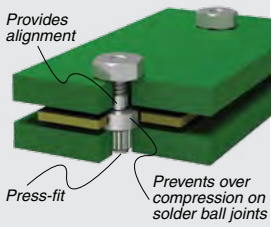
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ZSO, www.samtec.com?ZD or www.samtec.com?ZHSI

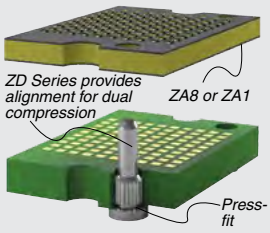
Material:
Brass
Plating:
100 µ" (2.54 µm) Ni

APPLICATIONS

ZSO APPLICATION

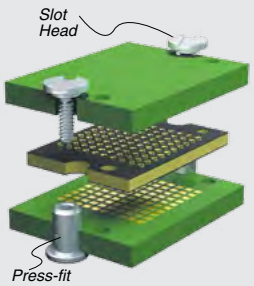


ZD APPLICATION



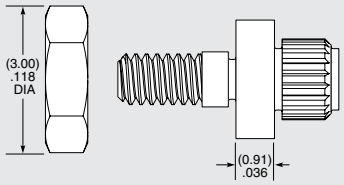
PCB cutaway for clarity

ZHSI APPLICATION



ZSO – STACK HEIGHT – 01

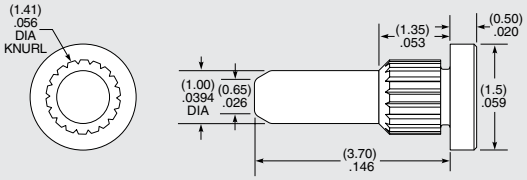
–0100
= 1.00 mm (.0394")



ZD – DIAMETER – LENGTH

–1.00
= 1.00 mm (.0394")

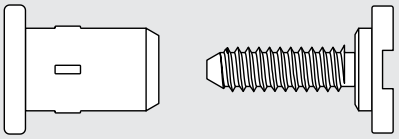
–03.7
= 03.7 mm (.146")



ZHSI – STACK HEIGHT – HEAD SPECIFICATION

Specify STACK HEIGHT from chart below.

–01
= Slot Head



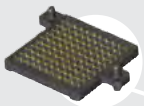
ºº STACK HEIGHT	PCB 1 THICKNeSS	PCB 2 THICKNeSS	INTERPOSER HEIGHT
–01	(1.57) 0.062	(1.57) 0.062	(1.00) 0.039
–02	(2.36) 0.093	(1.57) 0.062	(1.00) 0.039
–02	(2.36) 0.093	(2.36) 0.065	(1.00) 0.039
–02	(3.18) 0.125	(1.57) 0.062	(1.00) 0.039
–03	(3.18) 0.125	(2.36) 0.093	(1.00) 0.039

Note: Overtightening may cause screw damage. Contact Samtec for specific torque details.

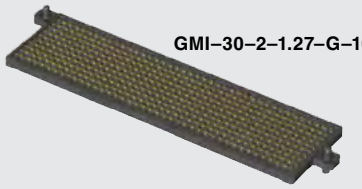
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GMI–10–2–1.27–G–10



GMI–30–2–1.27–G–10

(1.00 mm) .0394"

GMI SERIES

LOW-PROFILE ONE-PIECE ARRAY

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?GMI

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
.89 A per pin
(10 pins powered)
Operating Temp Range:
Testing Now!
RoHS Compliant:
Yes

PROCESSING

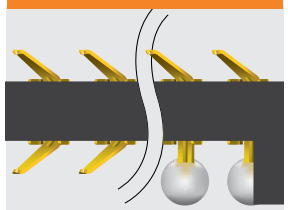
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.05 mm) .002" (10-20)
(0.08 mm) .003" (30)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

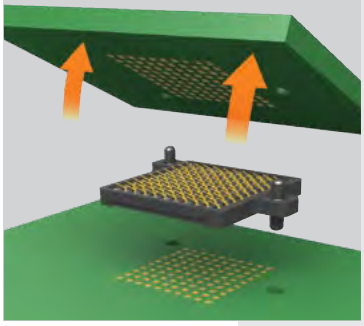
FILE NO. E111594

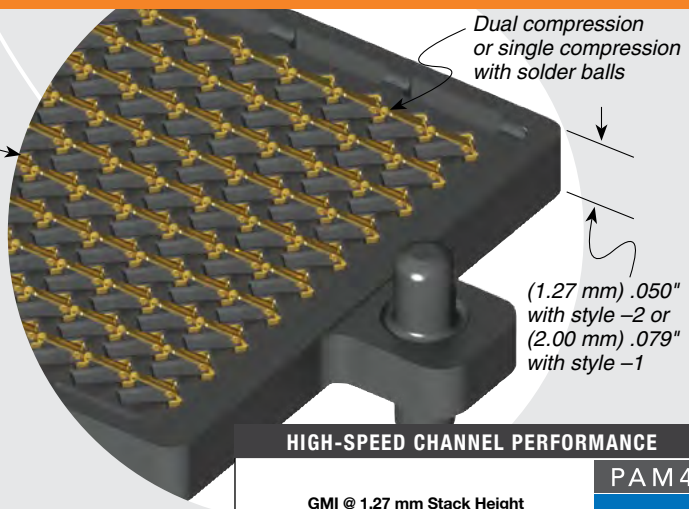
APPLICATION



Dual compression or single compression with solder balls

APPLICATION





HIGH-SPEED CHANNEL PERFORMANCE

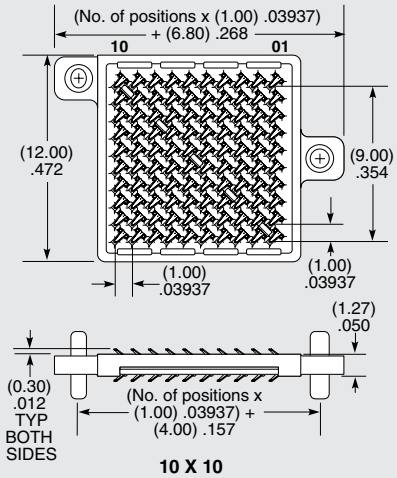
GMI @ 1.27 mm Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

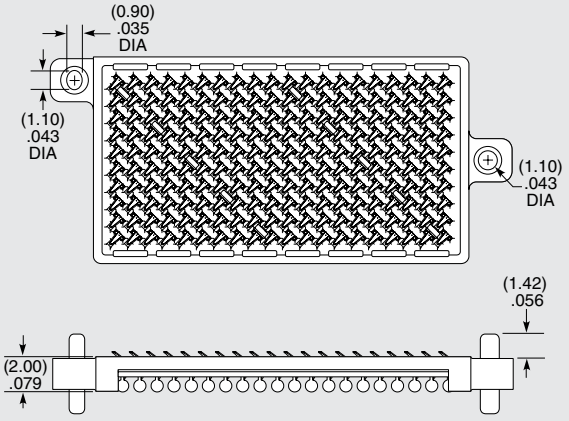
PAM4
56
Gbps

GMI	POSITIONS PER ROW	STYLE	BOARD SPACING	PLATING	ROWS	SOLDER TYPE	OTHER OPTION
	–10, –20, –30, –40	–1 = Single Compression with Solder Ball –2 = Dual Compression	–1.27 = (1.27 mm) .050" Board space (Style –2 only) –2.00 = (2.00 mm) .079" Board space (Style –1 only)	–G = 10 µ" (0.25 µm) Gold in contact area	–10 = Ten Rows	(Style –1 only) –2 = Lead-Free 96.5% Sn/ 3% Ag/.5% Cu	(Style –1 only) –P = Pick & Place Pad

–20, –30, –40 POSITIONS PRELIMINARY



10 X 10
DUAL COMPRESSION
(STYLE –2)



20 X 10
SINGLE COMPRESSION WITH SOLDER BALLS
(STYLE –1)

Note:
Some lengths, styles and options are non-standard, non-returnable.

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HIGH-SPEED MEZZANINE

Q STRIP® INTEGRAL GROUND PLANE INTERCONNECTS

0.50 mm (.0197") Pitch (QTH, QSH) 76-79

0.80 mm (.0315") Pitch (QTE, QSE) 80-81

0.635 mm (.025") Pitch (QTS, QSS) 82-85

Q RATE® SLIM BODY INTEGRAL GROUND PLANE INTERCONNECTS

0.635 mm (.025") Pitch (QRM8, QRF8) 86-89

Q2™ RUGGED INTEGRAL GROUND PLANE INTERCONNECTS

0.635 mm (.025") Pitch (QMS, QFS, QMSS, QFSS) 90-99

EDGE RATE® RUGGED HIGH-SPEED INTERCONNECTS

0.50 mm (.0197") Pitch (ERM5, ERF5) 100-101

0.80 mm (.0315") Pitch (ERM8, ERF8) 102-105

Standoffs (SO, JSOM) 106-107

APPLICATIONS

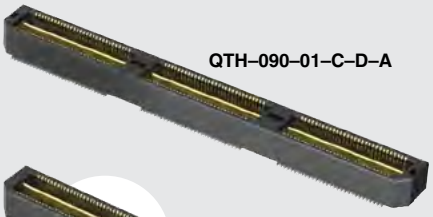
High-Speed Board-to-Board Systems 16-17

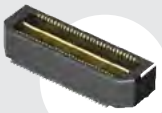
samtec

QSTRIP®

(0.50 mm) .0197"


QTH–060–07–F–D–A


QTH–090–01–C–D–A


QTH–030–01–L–D–A

QTH SERIES

HIGH-SPEED GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QTH

Insulator Material: Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: Contact: 2 A per pin (2 pins powered) Ground Plane: 25 A per ground plane (1 ground plane powered)
Operating Temp Range: -55 °C to +125 °C
Voltage Rating: 125 VAC (5 mm Stack Height)
Max Cycles: 100
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max (030-060) (0.15 mm) .006" max (090)
Board Stacking: For applications requiring more than two connectors per board contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594 FILE NO: 090871_0_000

PROTOCOLS

- 100 GbE
- Hypertransport™
- XAUI
- PCI Express®
- SATA
- InfiniBand™

ALSO AVAILABLE (MOQ Required)

- 15 mm, 22 mm and 30 mm stack height
- 30 µ" (0.76 µm) Gold (Specify -H plating for Data Rate cable mating applications.)
- Edge Mount & Guide Posts
- 80 (-DP), 120, 150 positions per row
- Retention Option

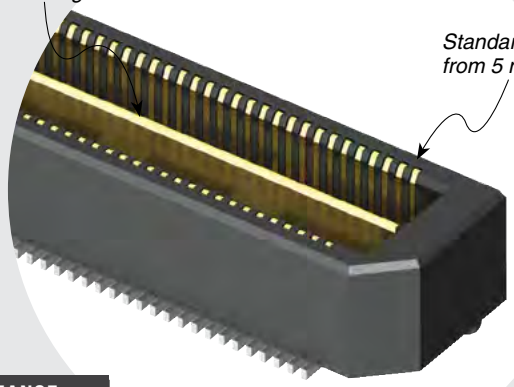
Contact Samtec.

Board Mates: QSH
Cable Mates: HQCD, HQDP (See Also Available Note)
Standoffs: SO

10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Integral metal plane for power or ground

Standard Stack Heights from 5 mm to 25 mm



HIGH-SPEED CHANNEL PERFORMANCE

QTH/QSH @ 5 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

QTH	-	PINS PER ROW NO. OF PAIRS	-	LEAD STYLE	-	PLATING OPTION	-	TYPE	-	A	-	OTHER OPTION

–030, –060, –090
(60 total pins per bank = –D)

–020, –040, –060
(20 pairs per bank = –D–DP)

Specify LEAD STYLE from chart

–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails

–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, 10 µ" (0.25 µm) min Au over 50 µ" (1.27 µm) Ni on Ground Plane in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

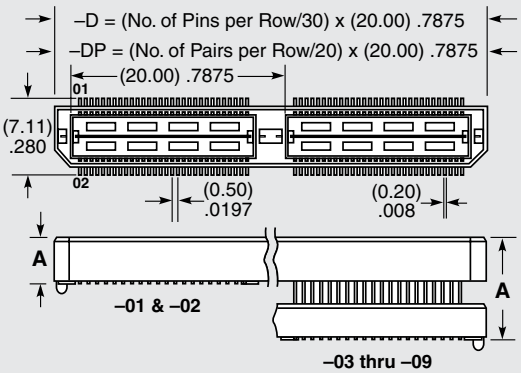
–D
= Single-Ended

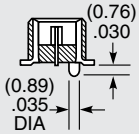
–D–DP
= Differential Pair (–01 only)

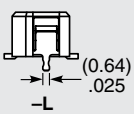
–K
= (7.00 mm) .275" DIA Polyimide film Pick & Place Pad (N/A with -05 & -07 lead style)

–TR
= Tape & Reel (–090 positions maximum)

–L
= Latching Option (–01 lead style only) (N/A on –060 (–D–DP) & –090)







QTH LEAD STYLE	A	HEIGHT WITH QSH*
–01	(4.27) .168	(5.00) .197
–02	(7.26) .286	(8.00) .315
–03	(10.27) .404	(11.00) .433
–04	(15.25) .600	(16.00) .630
–05	(18.26) .718	(19.00) .748
–07	(24.24) .954	(25.00) .984
–09	(13.26) .522	(14.00) .551

*Processing conditions will affect mated height. See SO Series for board space tolerances

***Note:** –C Plating passes 10 year MFG testing

Note: Some lengths, styles and options are non-standard, non-returnable.

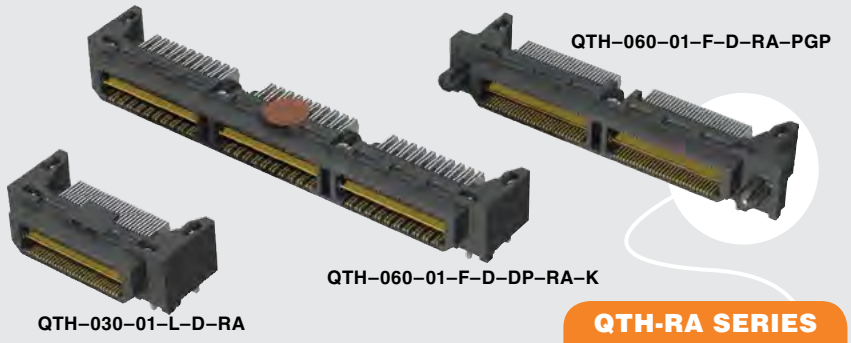
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QSTRIP®

(0.50 mm) .0197"



QTH-RA SERIES

RIGHT-ANGLE GROUND PLANE HEADER

SPECIFICATIONS

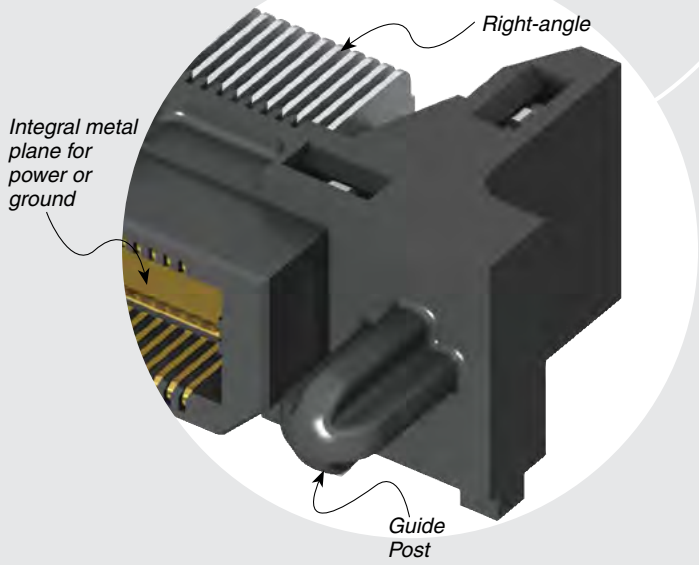
For complete specifications and recommended PCB layouts see www.samtec.com?QTH-RA or www.samtec.com?QTH-DP-RA

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Weld Tab:
Phosphor Bronze
Ground Plane:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact:
2.2 A per pin
(2 pins powered)
Ground Plane:
21.8 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
220 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (020-090)

Board Mates:
QSH



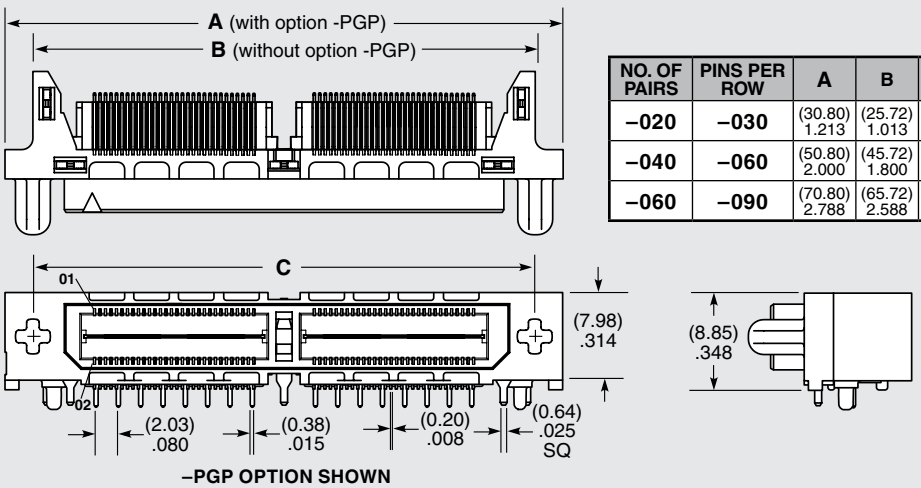
QTH	–	PINS PER ROW NO. OF PAIRS	–	01	–	PLATING OPTION	–	TYPE	–	RA	–	OTHER OPTION

PINS PER ROW NO. OF PAIRS
–030, –060, –090
–D = (60 total pins per bank)
–020, –040, –060
–D–DP = (20 pairs per bank)

PLATING OPTION
–F = Gold Flash on contact, Matte Tin on tails
–L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tails

TYPE
–D = Single-Ended
–D–DP = Differential Pair

OTHER OPTION
–PGP = Plastic Guide Post
–K = (7.00 mm) .275" DIA Polyimide film Pick & Place Pad



–PGP OPTION SHOWN

NO. OF PAIRS	PINS PER ROW	A	B	C
–020	–030	(30.80) 1.213	(25.72) 1.013	(25.72) 1.013
–040	–060	(50.80) 2.000	(45.72) 1.800	(45.72) 1.800
–060	–090	(70.80) 2.788	(65.72) 2.588	(65.72) 2.588

Note:
Some lengths, styles and options are non-standard, non-returnable.

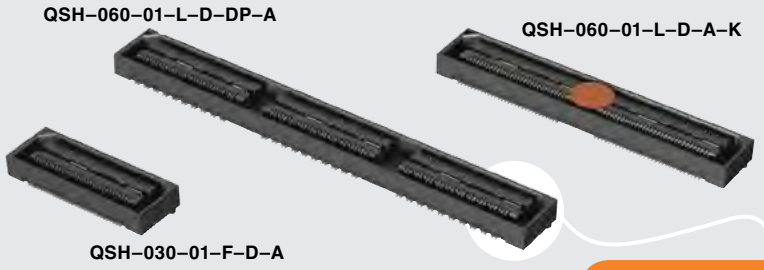
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samtec

QSTRIP®

(0.50 mm) .0197"



QSH SERIES

HIGH-SPEED GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QSH

Insulator Material: Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: Contact: 2 A per pin (2 pins powered) Ground Plane: 25 A per ground plane (1 ground plane powered)
Operating Temp Range: -55 °C to +125 °C
Voltage Rating: 175 VAC (5 mm Stack Height)
Max Cycles: 100
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max (020-060)
Board Stacking: For applications requiring more than two connectors per board contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

PROTOCOLS

- 100 GbE
- Hypertransport™
- XAUI
- PCI Express®
- InfiniBand™

ALSO AVAILABLE (MOQ Required)

- 15 mm, 22 mm and 30 mm stack height
- 30 µ" (0.76 µm) Gold (Specify -H plating for Data Rate cable mating applications.)
- Edge Mount & Guide Posts
- 80 (-DP), 120, 150 positions per row
- Retention Option

Contact Samtec.

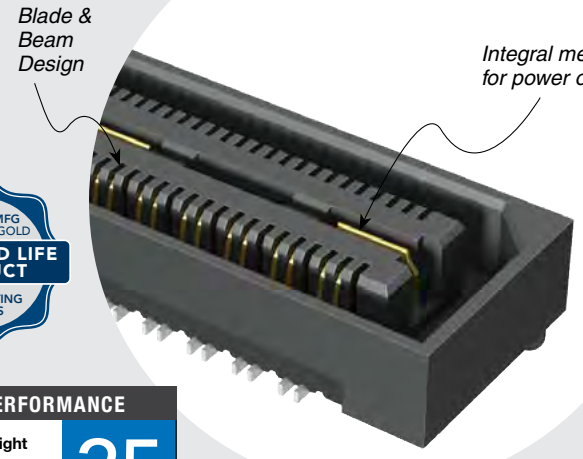
Note: Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QTH

Cable Mates:
HQCD, HQDP
(See Also Available Note)

Standoffs:
SO

10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



HIGH-SPEED CHANNEL PERFORMANCE

QTH/QSH @ 5 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

QSH	–	PINS PER ROW NO. OF PAIRS	–	01	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTION

–030, –060, –090
(60 total pins per bank = –D)

–020, –040, –060
(20 pairs per bank = –D–DP)

–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails

–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, 10 µ" (0.25 µm) min Au over 50 µ" (1.27 µm) Ni on Ground Plane in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

***Note:** –C Plating passes 10 year MFG testing

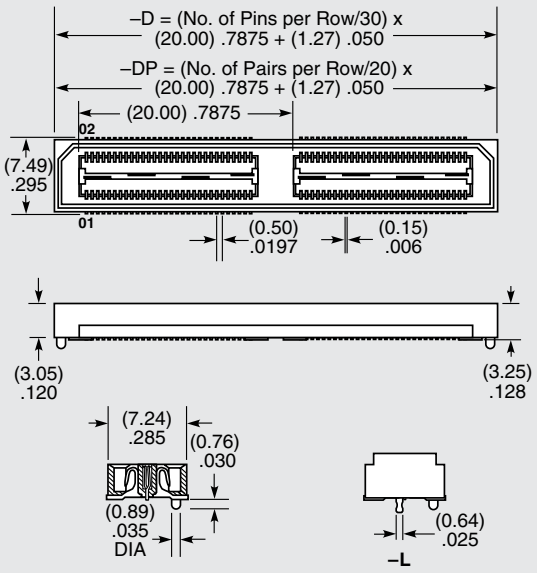
–D
= Single-Ended

–D–DP
= Differential Pair (–01 only)

–K
= (8.25 mm) .325" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel (–090 positions maximum)

–L
= Latching Option (Not available on –060 (–D–DP) & –090 positions)



QTH LEAD STYLE	MATED HEIGHT WITH QSH*
–01	(5.00) .197
–02	(8.00) .315
–03	(11.00) .433
–04	(16.00) .630
–05	(19.00) .748
–07	(25.00) .984
–09	(14.00) .551

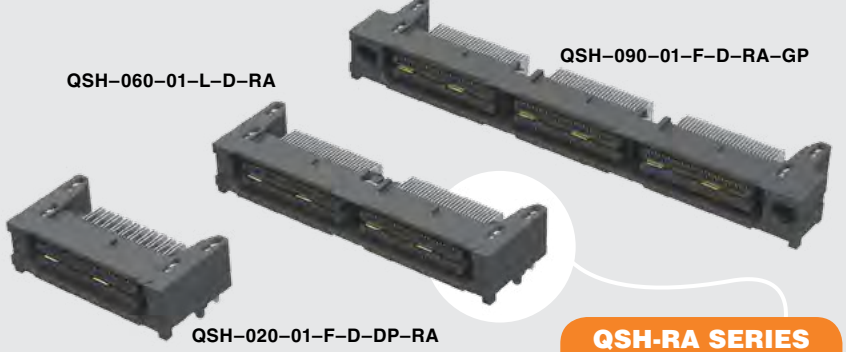
*Processing conditions will affect mated height. See SO Series for board space tolerances

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samtec

QSTRIP®



(0.50 mm) .0197"

QSH-RA SERIES

RIGHT-ANGLE GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QSH-RA or www.samtec.com?QSH-DP-RA

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Weld Tab:
Phosphor Bronze
Ground Plane:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating:
Contact:
2.2 A per pin
(2 pins powered)
Ground Plane:
21.8 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
220 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (020-090)

Board Mates:
QTH



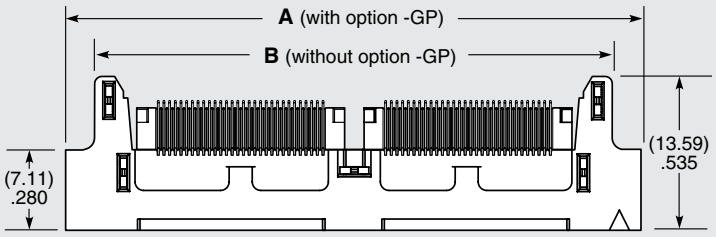
QSH	–	PINS PER ROW NO. OF PAIRS	–	01	–	PLATING OPTION	–	TYPE	–	RA	–	OTHER OPTION

PINS PER ROW NO. OF PAIRS
–030, –060, –090
–D = (60 total pins per bank)
–020, –040, –060
–D–DP = (20 pairs per bank)

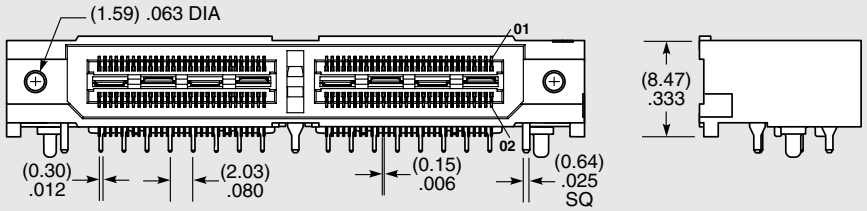
PLATING OPTION
–F
= Gold Flash on contact, Matte Tin on tails
–L
= 10 µ" (0.25 µm) Gold contact, Matte Tin on tails

TYPE
–D
= Single-Ended
–D–DP
= Differential Pair

OTHER OPTION
–GP
= Guide Post Holes
–K
= (6.50 mm) .256" DIA Polyimide film Pick & Place Pad



NO. OF PAIRS	PINS PER ROW	A	B
–020	–030	(30.80) 1.213	(25.72) 1.013
–040	–060	(50.80) 2.000	(45.72) 1.800
–060	–090	(70.80) 2.788	(65.72) 2.588



–GP OPTION SHOWN

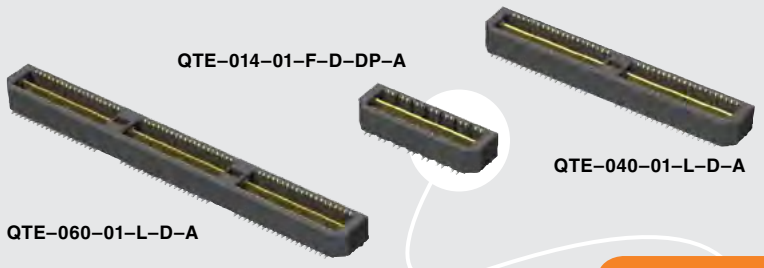
Note:
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QSTRIP®



(0.80 mm) .0315"

QTE SERIES

HIGH-SPEED GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QTE

Insulator Material: Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: Contact: 2 A per pin (2 pins powered) Ground Plane: 23 A per ground plane (1 ground plane powered)
Operating Temp Range: -55 °C to +125 °C
Voltage Rating: 225 VAC mated with QSE & 5 mm Stack Height
Max Cycles: 100
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max (020-060)
Board Stacking: For applications requiring more than two connectors per board contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

PROTOCOLS

- 100 GbE
- XAUI
- PCI Express®
- SATA
- MGT (Rocket I/O)
- InfiniBand™

ALSO AVAILABLE (MOQ Required)

- 15 mm, 22 mm and 30 mm stack height
- 30 µ" (0.76 µm) Gold (Specify -H plating for Data Rate cable mating applications.)
- Edge Mount, Guide Posts, Screw Down & Friction Lock
- 56 (-DP), 80, 100 positions per row
- Retention Option

Contact Samtec.

Board Mates: QSE

Cable Mates: EQCD, EQDP (See Also Available Note)

Standoffs: SO

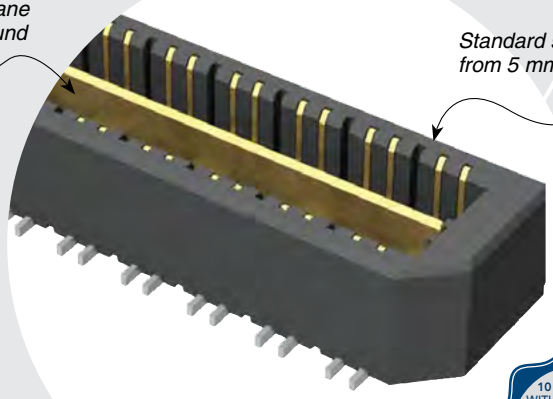
POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

Integral metal plane for power or ground

Standard stack heights from 5 mm to 25 mm



10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

HIGH-SPEED CHANNEL PERFORMANCE		
QTE-D/QSE-D or QTE-DP/QSE-DP @ 5 mm Mated Stack Height *Rating based on Samtec reference channel.For full SI performance data visit Samtec.comor contact SIG@samtec.com*	QTE-D/QSE-D	QTE-DP/QSF-DP
	14 Gbps	28 Gbps

QTE	–	PINS PER ROW NO. OF PAIRS	–	LEAD STYLE	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTION

PINS PER ROW NO. OF PAIRS
–020, –040, –060
(40 total pins per bank = –D)
–014, –028, –042
(14 pairs per bank = –D–DP)

LEAD STYLE
Specify LEAD STYLE from chart

PLATING OPTION

–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails

–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150µ" (3.81 µm) Ni on Signal Pins in contact area, 10 µ" (0.25 µm) min Au over 50 µ" (1.27 µm) Ni on Ground Plane in contact area, Matte Tin over 50µ" (1.27 µm) min Ni on all solder tails

TYPE

–D
= Single-Ended

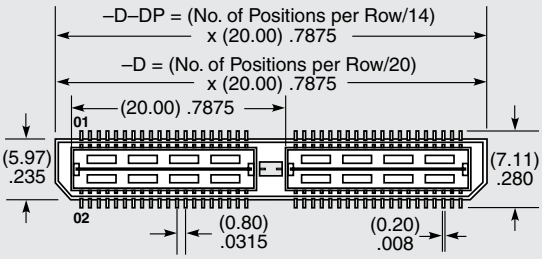
–D–DP
= Differential Pair (–01 only)

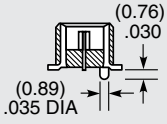
OTHER OPTION

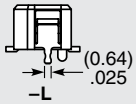
–K
= (7.00 mm) .275" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel Packaging (N/A –05 & –07 lead style)

–L
= Latching Option (N/A on –042 & –060 positions)







***Note:** –C Plating passes 10 year MFG testing

Note: Some lengths, styles and options are non-standard, non-returnable.

QTE LEAD STYLE	A	HEIGHT WITH QSE*
–01	(4.27) .168	(5.00) .197
–02	(7.26) .286	(8.00) .315
–03	(10.27) .404	(11.00) .433
–04	(15.25) .600	(16.00) .630
–05	(18.26) .718	(19.00) .748
–07	(24.24) .954	(25.00) .984
–09	(13.26) .522	(14.00) .551

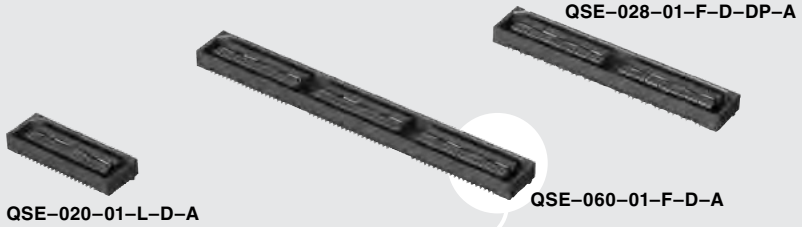
*Processing conditions will affect mated height. See SO Series for board space tolerances

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QSTRIP®



(0.80 mm) .0315"

QSE SERIES

HIGH-SPEED GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QSE

Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating:
Contacts:
2 A per pin
(2 pins powered)
Ground Plane:
23 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
225 VAC (5 mm Stack Height)
Max Cycles: 100
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (020-060)
Board Stacking:
For applications requiring more than two connectors per board contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594 FILE NO: 090871_0_000

PROTOCOLS

- 100 GbE
- XAUI
- PCI Express®
- SATA
- MGT (Rocket I/O)
- InfiniBand™

ALSO AVAILABLE (MOQ Required)

- 15 mm, 22 mm and 30 mm stack height
- 30 µ" (0.76 µm) Gold (Specify -H plating for Data Rate cable mating applications.)
- Edge Mount
- 56 (-DP), 80, 100 positions per row
- Retention, Guide Posts and Friction Lock options.

Contact Samtec.

Board Mates:
QTE

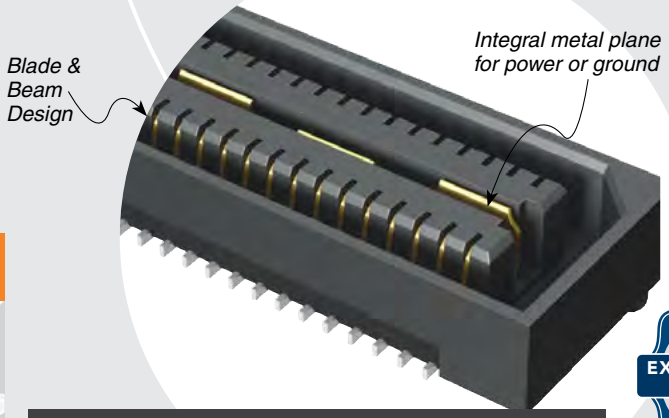
Cable Mates:
EQCD, EQDP
(See Also Available Note)

Standoffs:
SO

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

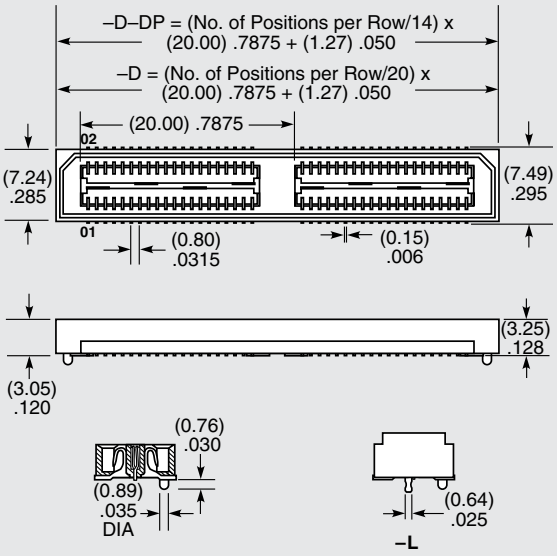
HIGH-SPEED CHANNEL PERFORMANCE

QTE-D/QSE-D or QTE-DP/QSE-DP @ 5 mm Mated Stack Height	QSE-DP/QTE-DP	QSE-DP/QSF-DP
Rating based on Samtec reference channel.For full SI performance data visit Samtec.comor contact SIG@samtec.com	14 Gbps	28 Gbps

QSE – PINS PER ROW NO. OF PAIRS – 01 – PLATING OPTION – TYPE – A – OTHER OPTION

–020, –040, –060
(40 total pins per bank = –D)

–014, –028, –042
(14 pairs per bank = –D–DP)



–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails

–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, 10 µ" (0.25 µm) min Au over 50 µ" (1.27 µm) Ni on Ground Plane in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

***Note:** –C Plating passes 10 year MFG testing

Note: Some lengths, styles and options are non-standard, non-returnable.

–D
= Single-Ended

–D–DP
= Differential Pair (–01 only)

–GP
= Guide Post (–020 only)

–K
= (8.25 mm) .325" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel Packaging

–L
= Latching Option (N/A on –042 & –060 positions)

QTE LEAD STYLE	MATED HEIGHT WITH QSE*
–01	(5.00) .197
–02	(8.00) .315
–03	(11.00) .433
–04	(16.00) .630
–05	(19.00) .748
–07	(25.00) .984
–09	(14.00) .551

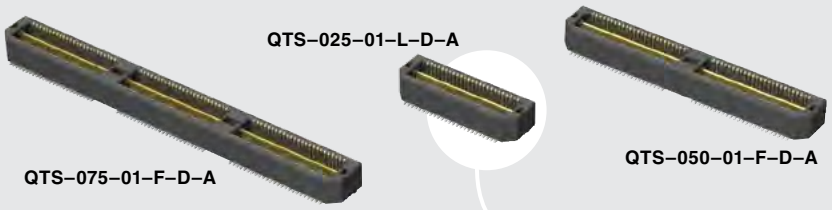
*Processing conditions will affect mated height. See SO Series for board space tolerances

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samtec

QSTRIP®



(0.635 mm) .025"

QTS SERIES

HIGH-SPEED GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QTS

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact:
1.8 A per pin
(2 pins powered)
Ground Plane:
23.1 A per ground plane
(1 ground plane powered)
Operating Temp:
-55 °C to +125 °C
Voltage Rating:
285 VAC
Max Cycles:
100
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (025-075)
Board Stacking:
For applications requiring more than two connectors per board contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE
(MOQ Required)

- 11 mm & 16 mm stack height
- 30 µ" (0.76 µm) Gold
- Differential Pair and "Partitionable" (combine differential & single-ended banks in same connector) available.
- 100 & 125 positions per row
- Edge Mount

Contact Samtec.

Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QSS

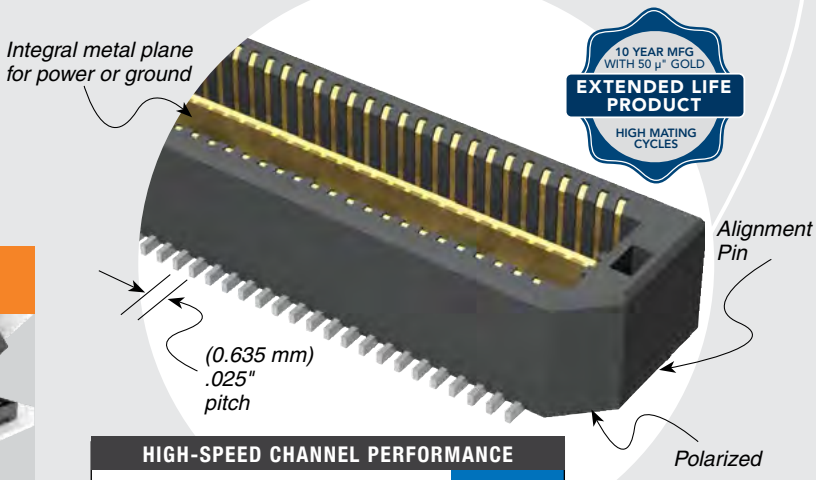
Cable Mates:
SQCD

Standoffs:
SO

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



HIGH-SPEED CHANNEL PERFORMANCE

QTS/QSS @ 5 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

QTS	–	NO. OF POSITIONS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	A	–	OTHER OPTION

–025, –050, –075
(50 total positions per bank)

Specify LEAD STYLE from chart.

–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails

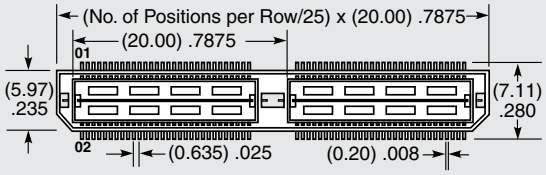
–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

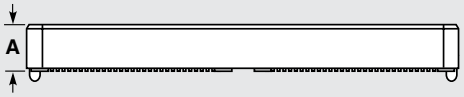
–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, 10 µ" (0.25 µm) min Au over 50 µ" (1.27 µm) Ni on Ground Plane in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

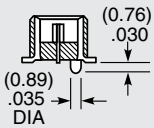
***Note:** –C Plating passes 10 year MFG testing

–K
= (7.00 mm) .275" DIA Polyimide film Pick & Place Pad

–TR
= Tape & Reel







LEAD STYLE	A	MATED HEIGHT
–01	(4.27) .168	(5.00) .197
–02	(7.26) .286	(8.00) .315

Processing conditions will affect mated height. See SO Series for board space tolerances

Due to technical progress, all designs, specifications and components are subject to change without notice.

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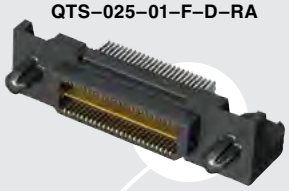
samtec

QSTRIP®

(0.635 mm) .025"



QTS–050–01–F–D–RA–WT



QTS–025–01–F–D–RA

QTS-RA SERIES

RIGHT-ANGLE GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QTS-RA

Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact:
2 A per pin
(2 pins powered)
Ground Plane:
15.7 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
275 VAC mated with QSS-RA
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (025-075)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- 30 µ" (0.76 µm) Gold
- Differential Pair
- "Partitionable" (combine differential & single-ended banks in same connector)
- Lead Style for (2.36 mm) .093" thick board
- –LS1 Locking Screw (Mates with QSS-RA-LS1)
- –LS2 Locking Screw (Mates with QSS-LS2)
- 100 positions per row

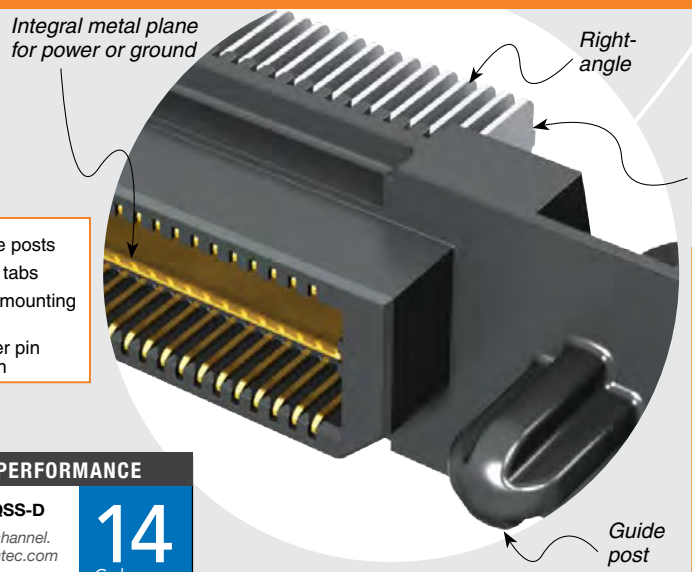
Contact Samtec.

Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QSS

RUGGEDIZED BY SAMTEC

- Guide posts
- Weld tabs
- PCB mounting holes
- Solder pin option



APPLICATIONS



HIGH-SPEED CHANNEL PERFORMANCE

QTS-RA/QSS-RA or QTS-RA/QSS-D

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

QTS	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	RA	–	WT	–	OTHER OPTION

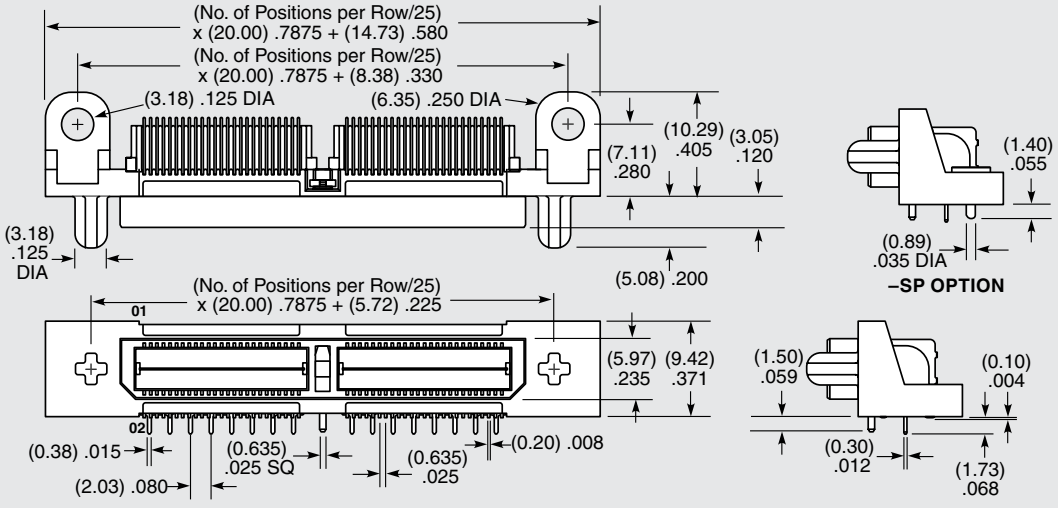
–025, –050, –075
(50 total positions per bank)

–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails

–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

–WT
= Weld Tab (Not available on 25 positions)

–SP
= Solder Pin

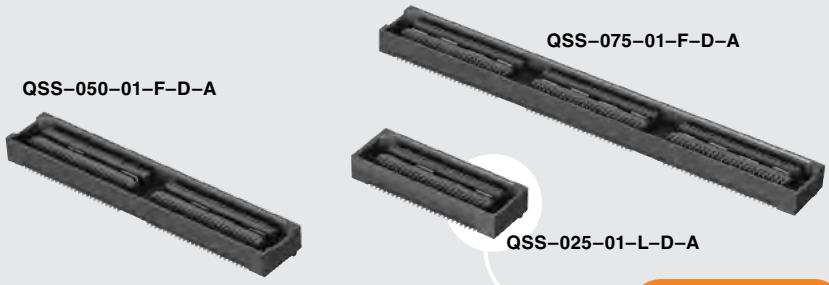


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samtec

QSTRIP®



(0.635 mm) .025"

QSS SERIES

HIGH-SPEED GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QSS

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact: 1.8 A per pin
(2 pins powered)
Ground Plane:
23.1 A per ground plane
(1 ground plane powered)
Operating Temp:
-55 °C to +125 °C
Voltage Rating:
285 VAC
Max Cycles:
100
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (025-050)
(0.15 mm) .006" max (075)
Board Stacking:
For applications requiring more than two connectors per board contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- 11 mm & 16 mm stack height
- 30 µ" (0.76 µm) Gold
- Differential Pair and "Partitionable" (combine differential & single-ended banks in same connector) available.
- 100 & 125 positions per row
- Edge Mount
- –LS2 Locking screw hole for QTS–RA–LS2

Contact Samtec.

Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QTS

Cable Mates:
SQCD

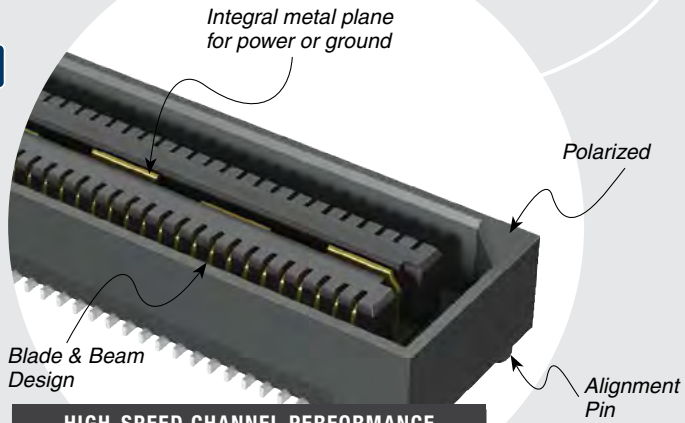
Standoffs:
SO

10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



HIGH-SPEED CHANNEL PERFORMANCE

QSS/QTS @ 5 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

ORDERING INFORMATION

QSS	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	A	–	OTHER OPTION

–025, –050, –075
(50 total positions per bank)

–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails

–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

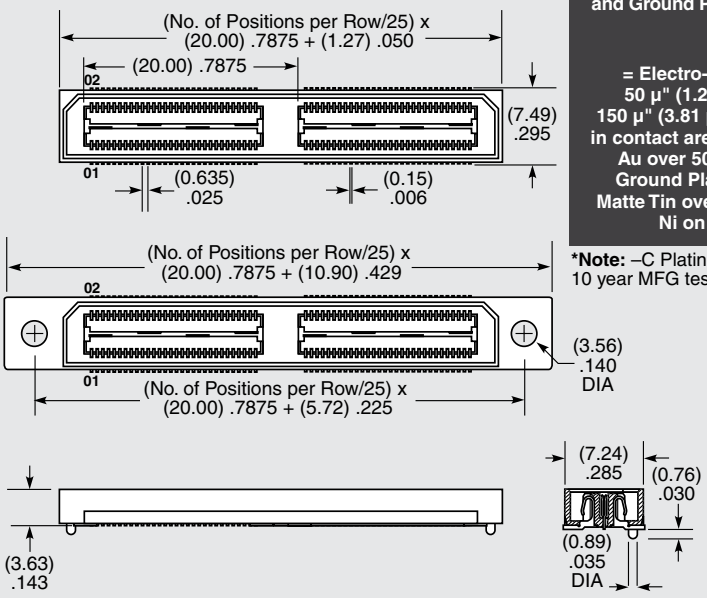
–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, 10 µ" (0.25 µm) min Au over 50 µ" (1.27 µm) Ni on Ground Plane in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

***Note:** –C Plating passes 10 year MFG testing

–GP
= Guide Holes for mating with QTS-RA

–K
= (8.25 mm) .325" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel



QTS LEAD STYLE	MATED HEIGHT WITH QSS
–01	(5.00) .197
–02	(8.00) .315

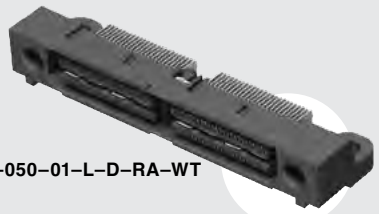
Processing conditions will affect mated height. See SO Series for board space tolerances

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QSTRIP®



QSS–050–01–L–D–RA–WT



QSS–025–01–L–D–RA

(0.635 mm) .025"

QSS-RA SERIES

RIGHT-ANGLE GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QSS-RA

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact:
2 A per pin
(2 pins powered)
Ground Plane:
15.7 A per ground plane
(1 ground plane powered)
Operating Temp:
-55 °C to +125 °C
Voltage Rating:
275 VAC mated with QTS-RA
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (025-075)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- 30 µ" (0.76 µm) Gold
- Tray Packaging
- Lead style for (2.36 mm) .093" thick board
- Threaded insert (-MTI) for mating with SQCD with captive screws
- –LS1 Locking Screw Hole for mating with QTS-RA-LS1
- 100 positions per row

Contact Samtec.

Board Mates:
QTS

Cable Mates:
SQCD

APPLICATIONS
HORIZONTAL

RUGGEDIZED BY SAMTEC

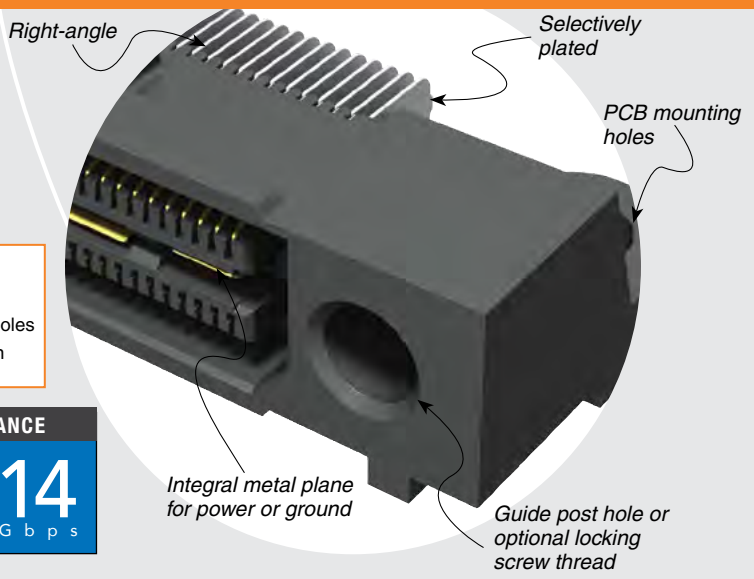
- Guide posts
- Weld tabs
- PCB mounting holes
- Solder pin option

HIGH-SPEED CHANNEL PERFORMANCE

QSS-RA/QTS-RA

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps



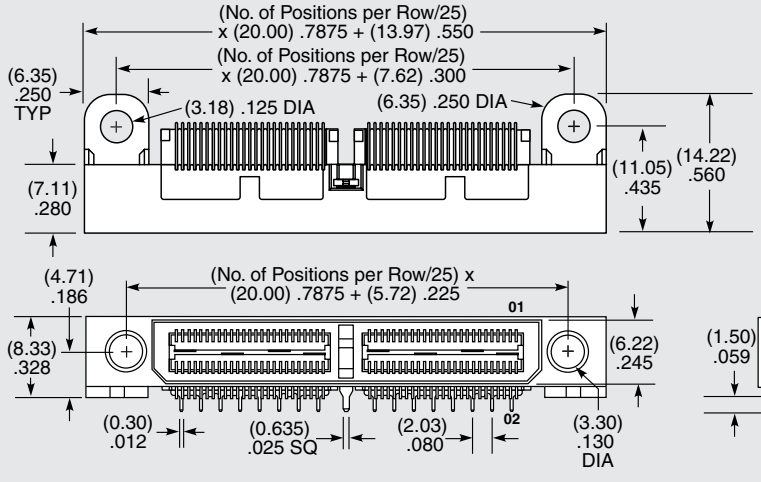
QSS	–	NO. OF POSITIONS PER ROW	–	01	–	PLATING OPTION	–	D	–	RA	–	WT

–025, –050, –075
(50 total positions per bank)

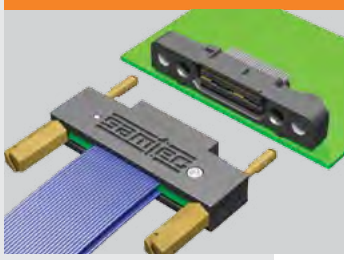
–F
= Gold Flash on Signal Pins and Ground Plane, Matte Tin on tails

–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

–WT
= Weld Tab (Not available on 25 position)



APPLICATION



Note:
Some sizes, styles and options are non-standard, non-returnable.

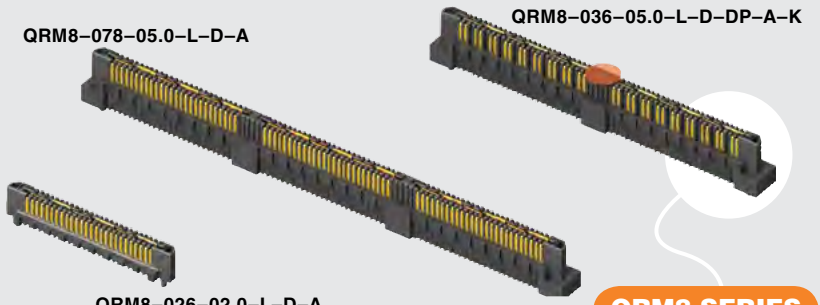
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samtec

QRATE®

(0.80 mm) .0315"



QRM8 SERIES

SLIM BODY GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QRM8

Insulator Material:
Black LCP
Terminal & Ground
Plane Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact:
2.2 A per pin
(2 pins powered)
Ground:
8.5 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
215 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (018-026)
(0.15 mm) .006" max (036-078)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

PROTOCOLS

- 100 GbE

ALSO AVAILABLE (MOQ Required)

- Other platings

Contact Samtec.

MATED HEIGHT*		
QRM8 LEAD STYLE	QRF8 LEAD STYLE	
	–05.0	–07.0
–02.0	(7.00) .276	(9.00) .354
–05.0	(10.00) .394	(12.00) .472
–07.0	(12.00) .472	(14.00) .551

*Processing conditions will affect mated height. See SO Series for board space tolerances.

Notes: Patented

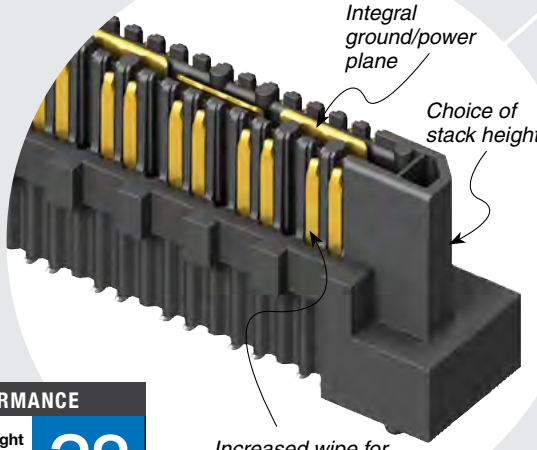
Some lengths, styles and options are non-standard, non-returnable.

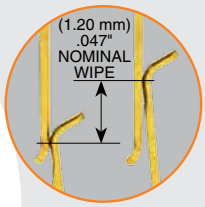
Board Mates:
QRF8

Cable Mates:
EQRD

EDGE® RATE CONTACT

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES





HIGH-SPEED CHANNEL PERFORMANCE

QRM8-DP/QRF8-DP @ 10 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

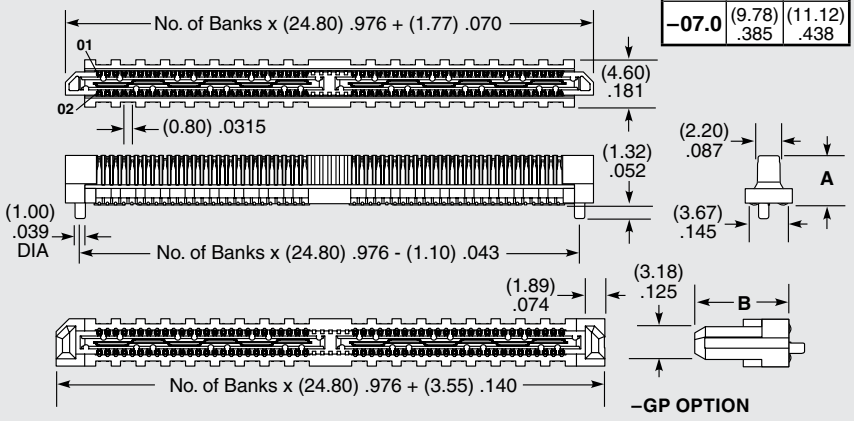
28 Gbps

RUGGEDIZED BY SAMTEC

- Edge Rate® contacts
- Increased contact wipe
- 10 year MFG
- Guide post option

QRM8	–	PINS PER ROW NO. OF PAIRS	–	LEAD STYLE	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTION
		–026, –052, –078 (52 total pins per bank = –D) –018, –036, –054 (18 pairs per bank = –D–DP)		–02.0 = 2 mm Body Height (Not available with –054 & –078 positions) –05.0 = 5 mm Body Height –07.0 = 7 mm Body Height		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–D = Single-Ended –D–DP = Differential Pair				–GP = Guide Post (Requires –GP on mating connector) –K = (5.00 mm) .197" DIA Polyimide Film Pick & Place Pad –TR = Tape & Reel (–018, –026, –036, –052 only)

LEAD STYLE	A	B
–02.0	(4.81) .189	(6.12) .241
–05.0	(7.81) .307	(9.12) .359
–07.0	(9.78) .385	(11.12) .438



POWER/SIGNAL APPLICATION

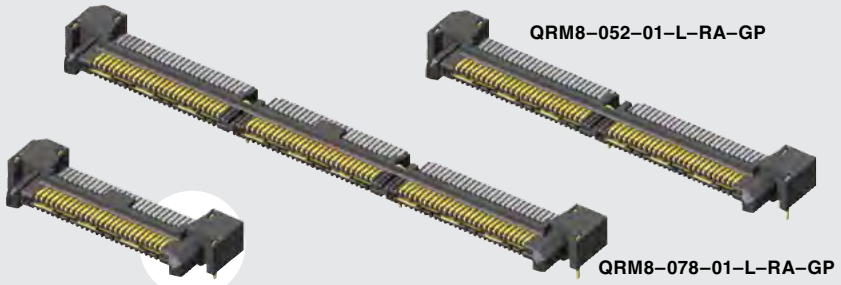


Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

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samtec

QRATE®



(0.80 mm) .0315"

QRM8-RA SERIES

RIGHT-ANGLE GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QRM8-RA

Insulator Material:
Black LCP
Terminal & Ground
Plane Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
230 VAC/325 VDC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-052)
(0.15 mm) .006" max (078)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

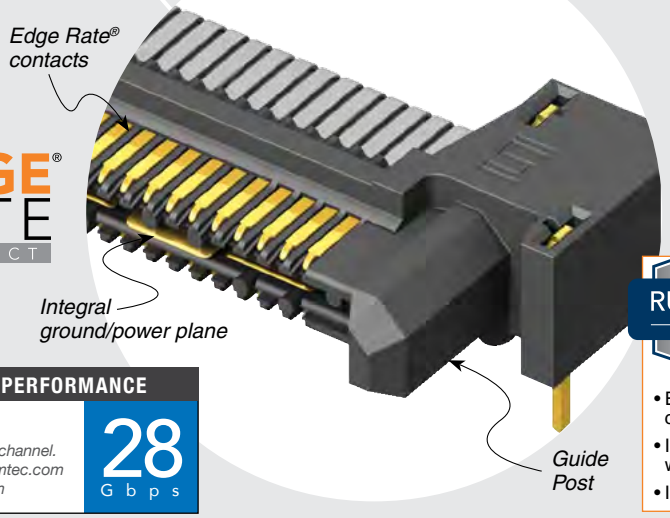
FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other platings

Contact Samtec.

Board Mates:
QRF8 (–GP required)



EDGE® RATE CONTACT

HIGH-SPEED CHANNEL PERFORMANCE

QRM8-RA/QRF8-RA

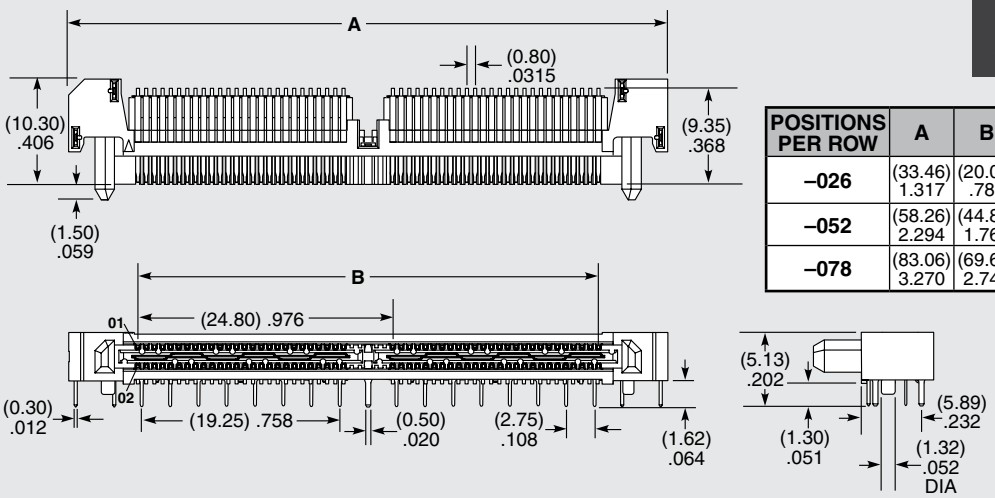
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

RUGGEDIZED BY SAMTEC

- Edge Rate® contacts
- Increased contact wipe
- Integral guide post

QRM8	–	POSITIONS PER ROW	–	01	–	PLATING OPTION	–	RA	–	GP	–	OPTION
		–026, –052, –078 (52 total positions per bank)				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–GP = Guide Post (Requires –GP on mating connector)		–K = (7.00 mm) .275" DIA Polyimide film Pick & Place Pad (–052 only) –TR = Tape & Reel (–026 & –052 only)



POSITIONS PER ROW	A	B
–026	(33.46) 1.317	(20.00) .787
–052	(58.26) 2.294	(44.80) 1.764
–078	(83.06) 3.270	(69.60) 2.740

Notes:
Patented

For –GP (Guide Post option) to –GP (Guide Post option) mating.

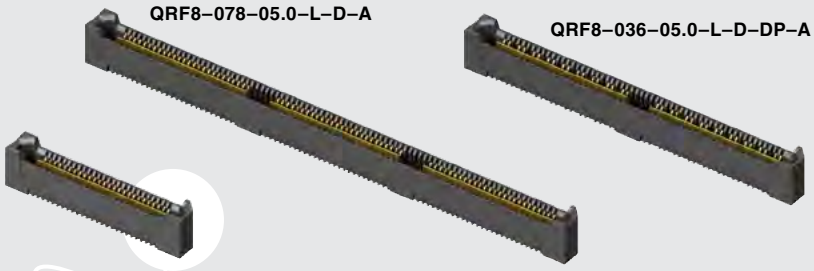
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samtec

QRATE®



(0.80 mm) .0315"

QRF8 SERIES

SLIM BODY GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QRF8

Insulator Material:
Black LCP
Contact Material:
BeCu
Ground Plane Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Contact:
2.2 A per pin
(2 pins powered)
Ground Plane:
8.5 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
215 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (018-026)
(0.15 mm) .006" max (036-078)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

PROTOCOLS

- 100 GbE

ALSO AVAILABLE (MOQ Required)

- Other platings

Contact Samtec.

MATED HEIGHT*			
QRF8 LEAD STYLE	QRM8 LEAD STYLE		
	–02.0	–05.0	–07.0
–05.0	(7.00) .276	(10.00) .394	(12.00) .472
–07.0	(9.00) .354	(12.00) .472	(14.00) .551

*Processing conditions will affect mated height. See SO Series for board space tolerances.

Notes:
Patented

Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QRM8

Cable Mates:
EQRD

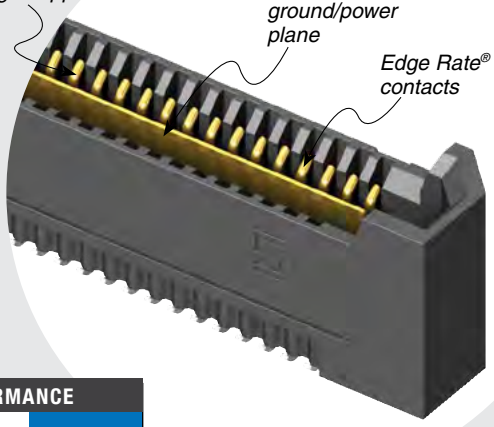
EDGE® RATE CONTACT

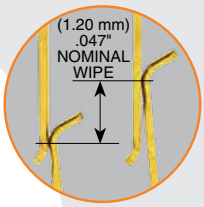
10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Increased wipe for rugged applications

Integral ground/power plane

Edge Rate® contacts





HIGH-SPEED CHANNEL PERFORMANCE

QRM8-DP/QRF8-DP @ 10 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

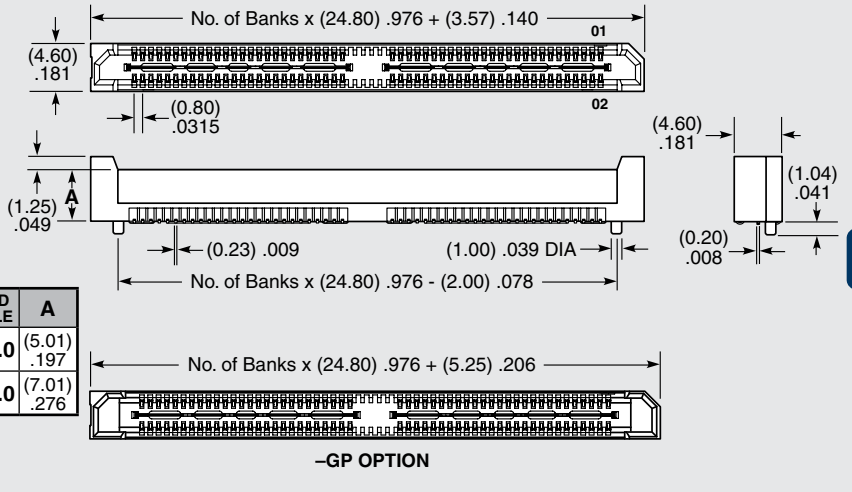
28 Gbps

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

QRF8	–	PINS PER ROW NO. OF PAIRS	–	LEAD STYLE	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTION
		–026, –052, –078 (52 total pins per bank = –D) –018, –036, –054 (18 pairs per bank = –D–DP)		–05.0 = 5 mm Body Height –07.0 = 7 mm Body Height		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–D = Single-Ended –D–DP = Differential Pair				–GP = Guide Post (Requires –GP on mating connector) –K = (5.00 mm) .197" DIA Polyimide Film Pick & Place Pad –TR = Tape & Reel (–018, –026, –036, –052 only)



LEAD STYLE	A
–05.0	(5.01) .197
–07.0	(7.01) .276

–GP OPTION

RUGGEDIZED BY SAMTEC

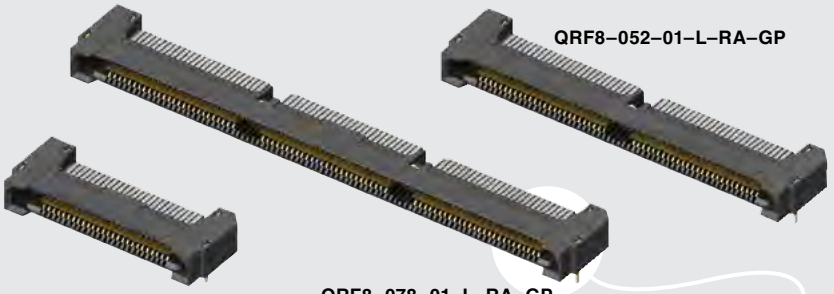
- Edge Rate® contacts
- Increased contact wipe
- 10 year MFG
- Guide post option

Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

QRATE®



(0.80 mm) .0315"

QRF8-RA SERIES

RIGHT-ANGLE GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QRF8-RA

Insulator Material:
Black LCP
Contact Material:
BeCu
Ground Plane Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (QRF8-RA/QRM8):
Contact:
2.2 A per pin
(2 pins powered)
Ground Plane:
8.6 A per ground plane
(1 ground plane powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
230 VAC / 325 VDC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-052)
(0.15 mm) .006" max (078)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

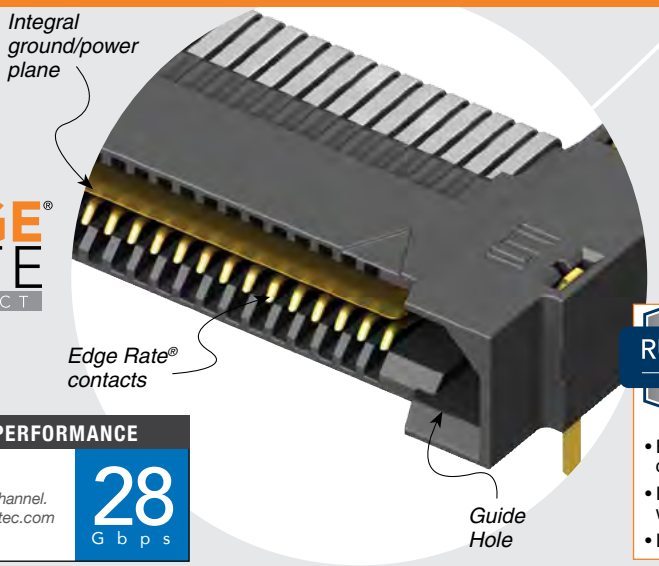
ALSO AVAILABLE
(MOQ Required)

- Other platings

Contact Samtec.

Board Mates:
QRM8 (–GP required)

EDGE® RATE CONTACT



RUGGEDIZED BY SAMTEC

- Edge Rate® contacts
- Increased contact wipe
- Integral guide post

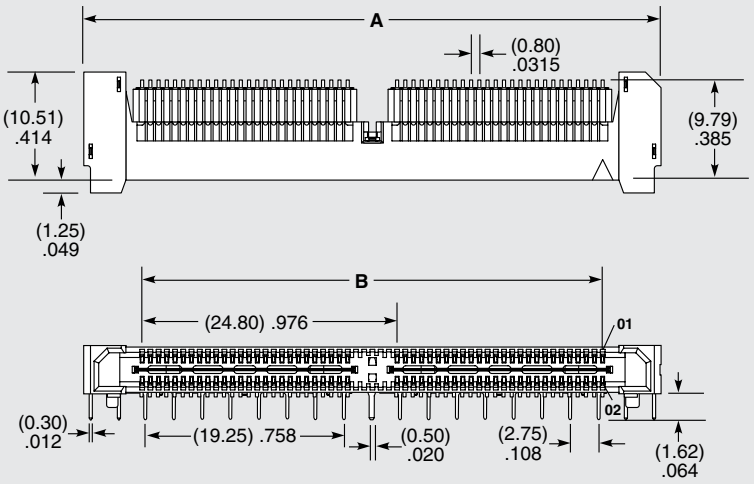
HIGH-SPEED CHANNEL PERFORMANCE

QRM8-RA/QRF8-RA

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

QRF8	–	POSITIONS PER ROW	–	01	–	PLATING OPTION	–	RA	–	GP	–	OPTION
		–026, –052, –078 (52 total positions per bank)				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–GP = Guide Post (Requires –GP on mating connector)		–K = (7.00 mm) .275" DIA Polyimide film Pick & Place Pad (–052 only) –TR = Tape & Reel (–026, –052 only)



POSITIONS PER ROW	A	B
–026	(31.35) 1.234	(20.00) .787
–052	(56.15) 2.211	(44.80) 1.764
–078	(80.95) 3.187	(69.60) 2.740

Notes:
Patented

For –GP (Guide Post option) to –GP (Guide Post option) mating.

Some lengths, styles and options are non-standard, non-returnable.

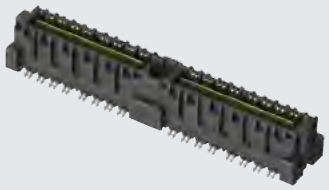
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Q2™

QMS–032–06.75–L–D–DP–A





QMS–026–06.75–L–D–A

(0.635 mm) .025"

QMS SERIES

RUGGED GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QMS

Insulator Material:
Liquid Crystal Polymer
Terminal & Ground
Plane Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Current Rating:
Contact:
2.6 A per pin
(2 pins powered)
Ground Plane:
15.7 A per ground plane
(1 ground plane powered)
Operating Temp:
-55 °C to +125 °C
Voltage Rating:
300 VAC mated with QFS
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-052)
(0.15 mm) .006" max (078)
Board Stacking:
For applications requiring more than two connectors per board, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

STANDARDS

- SUMIT™
- PCI/104-Express™

PROTOCOLS

- 100 GbE
- Fibre Channel
- XAUI
- PCI Express®
- SATA

Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QFS
Cable Mates:
6QCD
Standoffs:
SO, JSOM

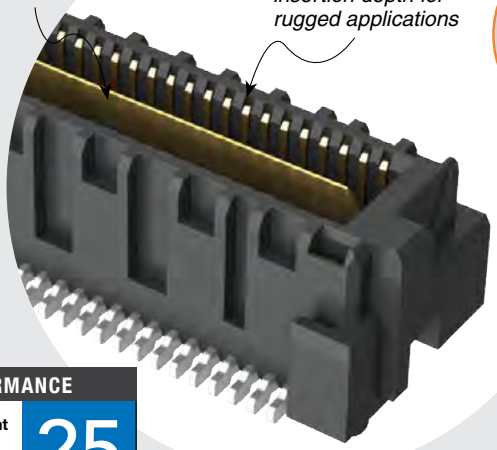
ALSO AVAILABLE (MOQ Required)

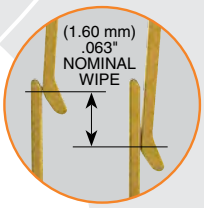
- Other platings
- Guide Posts
- Without PCB Alignment Pins (05.75 and 06.75 only)
- Hot Pluggable
- 64 (-DP) and 104 positions per row

Contact Samtec.

Integral metal plane for power or ground

Increased insertion depth for rugged applications





POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

HIGH-SPEED CHANNEL PERFORMANCE

QMS-DP/QFS-DP @ 10 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

QMS	–	PINS PER ROW NO. OF PAIRS	–	LEAD STYLE	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTION

–026, –052, –078
(52 total pins per bank = –D)

–016, –032, –048
(16 pairs per bank = –D–DP)

(–078 & –048 Not available with –09.75 lead style)

Specify LEAD STYLE from chart

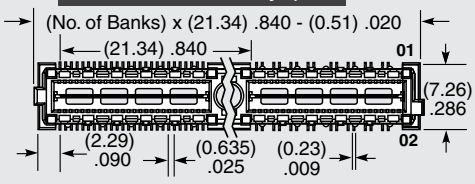
–L
(–05.75 and –06.75 lead style only)
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane
(Tin on Signal Pin tails, and Ground Plane tails)

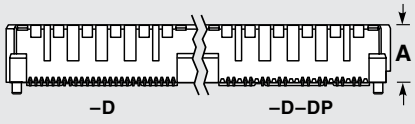
–SL
(–09.75 lead style only)
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane
(Tin on Signal Pin tails, and Ground Plane tails)

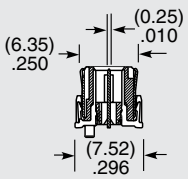
–D
= Single-Ended

–D–DP
= Differential Pair

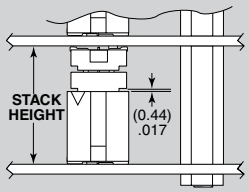
–K
= (5.50 mm) .217" DIA Polyimide film Pick & Place Pad







APPLICATION



Requires Standoff SO-1524-03-01-01-L or JSOM-1524-02 for 15.24 mm or SO-2215-02-01-01-L for 22 mm board spacing. Connectors designed to not fully seat when mated.

MATED HEIGHT*

LEAD STYLE	A	QFS LEAD STYLE –04.25	QFS LEAD STYLE –06.25
–05.75	(5.38) .212	10 mm	12 mm
–06.75	(6.35) .250	11 mm	13 mm
–09.75	(9.35) .368	14 mm	16 mm

*Processing conditions will affect mated height. See SO Series for board space tolerances.

INDUSTRY STANDARD	INTERCONNECTS TERMINAL	SOCKET	BANKS	STACK HEIGHT
SUMIT™	ASP-129637-01	ASP-129646-01	1	15.24 mm
PCI/104-Express™	ASP-129637-03	ASP-129646-03	3	15.24 mm
PCI/104-Express™	ASP-129637-13	ASP-129646-22	1	15.24 mm
PCI/104-Express™	ASP-142781-02	ASP-129646-02	2	22 mm
PCI/104-Express™	ASP-142781-03	ASP-129646-03	3	22 mm

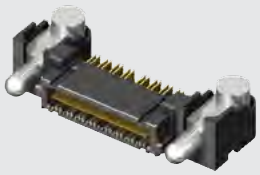
Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

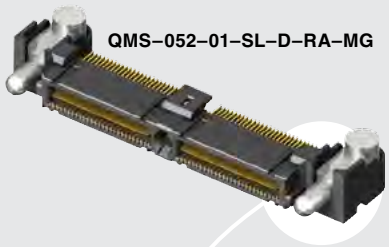
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samtec

Q2™



QMS–016–01–SL–D–DP–RA–MG



QMS–052–01–SL–D–RA–MG

(0.635 mm) .025"

QMS-RA SERIES

RIGHT-ANGLE GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QMS-RA

Insulator Material:
Liquid Crystal Polymer
Terminal & Ground
Plane Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Voltage Rating:
300 VAC
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-052)
(0.15 mm) .006" max (078)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

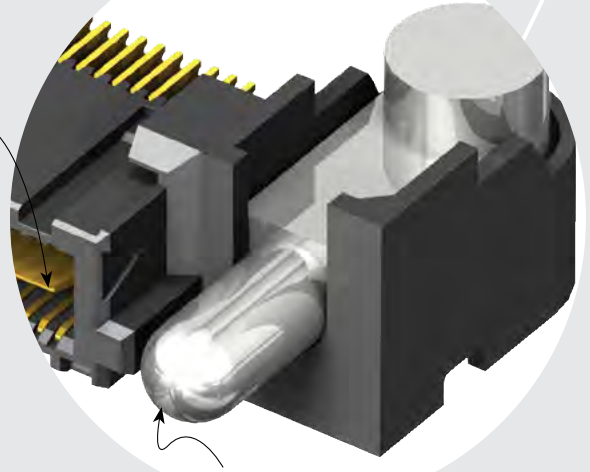
FILE NO. E111594

Board Mates:
QFS

RUGGEDIZED BY SAMTEC

- Increased insertion depth
- Integral guide post
- PCB mounting pins

Integral metal plane for power or ground



Metal guide post option

HIGH-SPEED CHANNEL PERFORMANCE

QMS-RA/QFS-RA

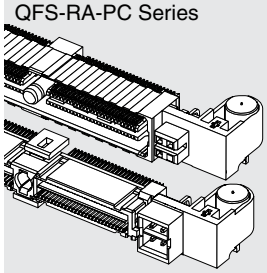
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

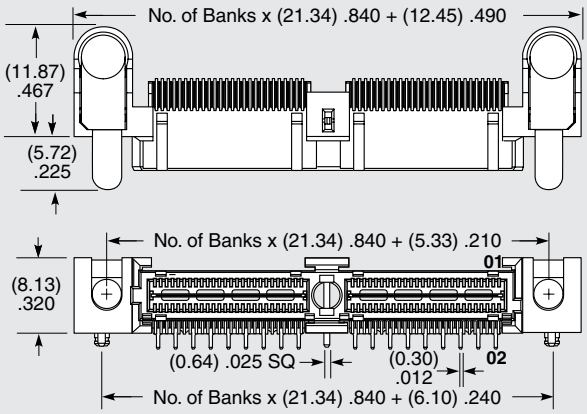
14 Gbps

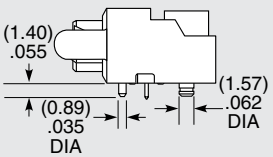
QMS	–	PINS PER ROW NO. OF PAIRS	–	01	–	PLATING OPTION	–	TYPE	–	RA	–	MG	–	OTHER OPTION
		–026, –052, –078 (52 total pins per bank = –D) –016, –032, –048 (16 pairs per bank = –D–DP)				–SL = 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails		–D = Single-Ended –D–DP = Differential Pair				–MG = Metal Guide Post		–K = Polyimide film Pick & Place Pad –TR = Tape & Reel (–016, –026, –032 & –052 positions only)

OTHER SOLUTIONS

Combination Signal/Power
See QMS-RA-PC Series or QFS-RA-PC Series







ALSO AVAILABLE
(MOQ Required)

- Other platings
- Plastic Guide Post option
- –02 lead style for (2.36 mm) .093" thick board
- 64 (-DP) and 104 positions per row

Contact Samtec.

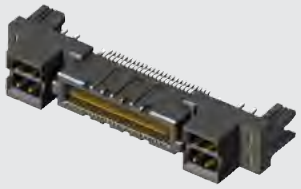
Note:
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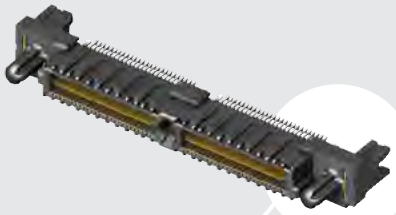
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Q2™



QMS–026–01–SL–D–EM2–PC4



QMS–052–01–SL–D–EM2

(0.635 mm) .025"

QMS-EM SERIES

EDGE MOUNT GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QMS-EM

Insulator Material:
Liquid Crystal Polymer
Terminal & Ground
Plane Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Voltage Rating:
300 VAC
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

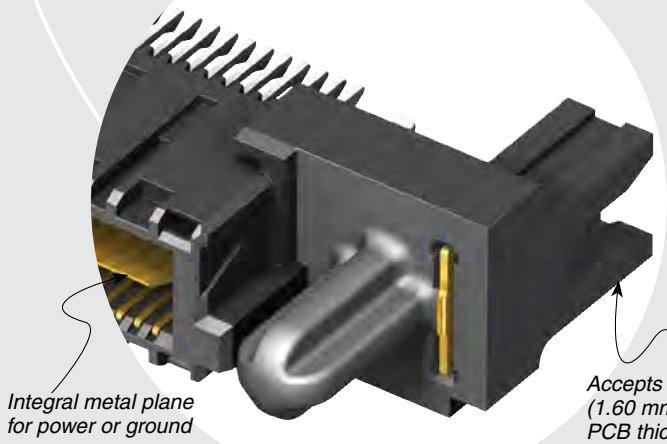
- Other platings
- 8 Power pins per end
- Differential Pairs
- 104 positions per row

Contact Samtec.

Board Mates:
QFS

RUGGEDIZED BY SAMTEC

- Increased insertion depth
- Integral guide post



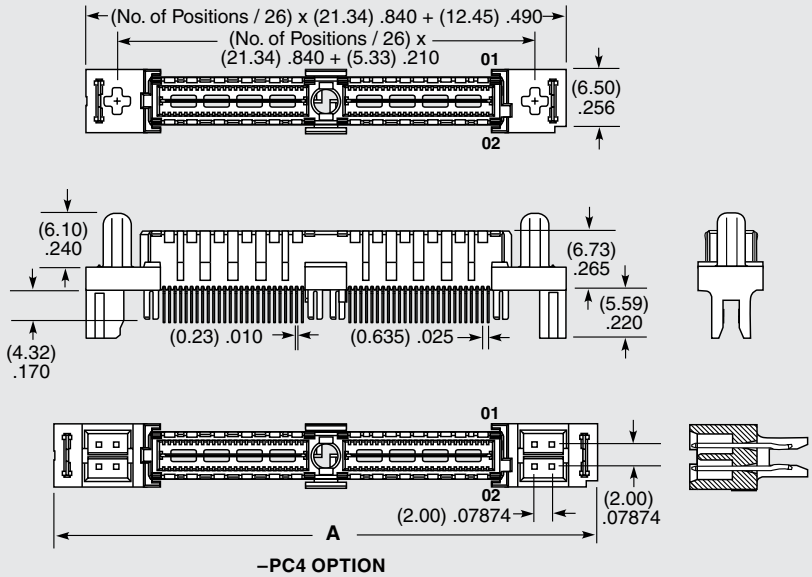
QMS	–	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	D	–	EM2	–	END OPTION	–	OTHER OPTION

–026, –052, –078
(Per Row)

–SL
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails

–PC4
= 4 Power Pins per End

–TR
= Tape & Reel Packaging (–026 & –052 positions only)



–PC4 OPTION

NO. OF POSITION	A
–026	(41.05) 1.616
–052	(62.38) 2.456
–078	(83.72) 3.296

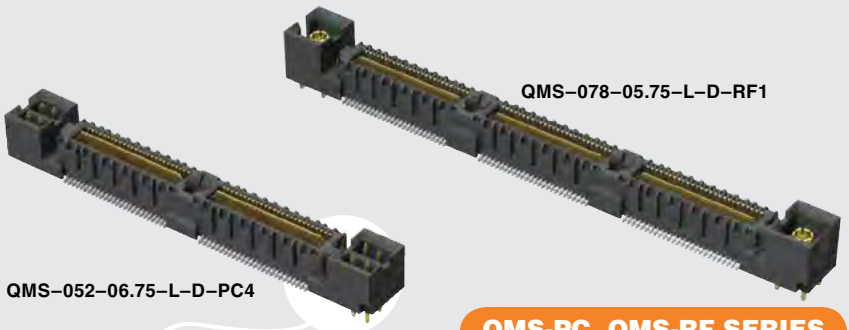
Note:
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Q2™



(0.635 mm) .025"

QMS-PC, QMS-RF SERIES

HIGH-SPEED COMBO RF & POWER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QMS

Insulator Material:
Liquid Crystal Polymer
Terminal & Ground Plane Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Current Rating:
Signal Contact:
2.6 A per pin
(2 pins powered)
Power Contact:
4.0 A per pin
(4 pins powered per end)
Ground Plane:
15.7 A per ground plane
(1 ground plane powered)
Voltage Rating:
300 VAC mated with QFS
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-078)
Board Stacking:
For applications requiring more than two connectors per board, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other platings
- Differential Pairs
- Retention Pins
- 8 Power Pins/End for (1.60 mm) 0.62" thick board
- 4 or 8 Power Pins/End for (2.36 mm) .093" thick board
- 2 RF Connectors/End
- Hot Pluggable

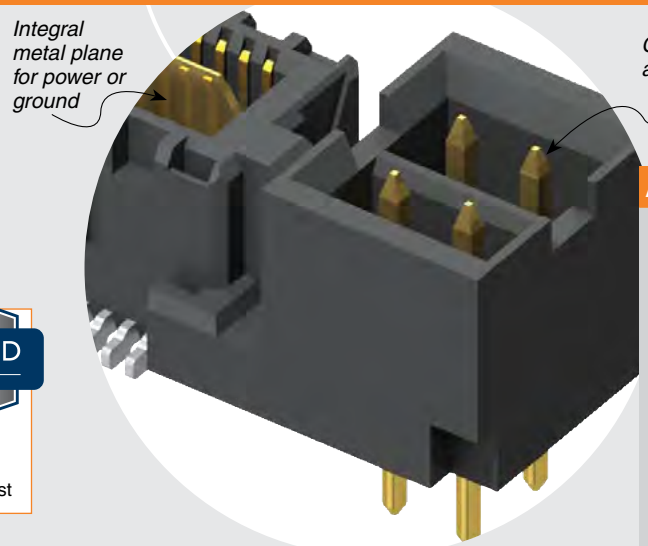
Contact Samtec.

Note:
Some lengths, styles and options are non-standard, non-returnable.

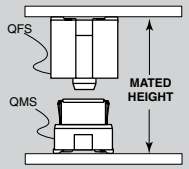
Board Mates:
QFS-PC, QFS-RA-PC, QFS-RF

RUGGEDIZED BY SAMTEC

- Increased insertion depth
- Integral guide post



APPLICATION



QMS LEAD STYLE	MATED HEIGHT*
–05.75	(10.00) .394
–06.75	(11.00) .433

*Processing conditions will affect mated height. See SO Series for board space tolerances.

QMS	–	NO. OF PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	END OPTION

–026, –052, –078
(52 total pins per bank)

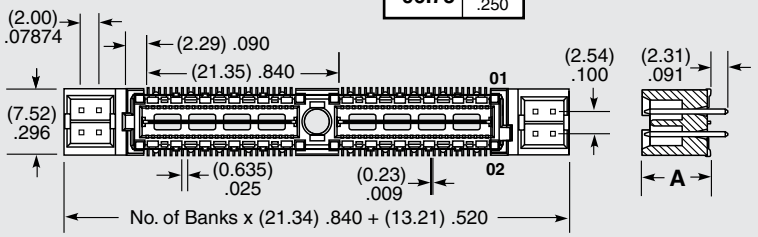
Specify LEAD STYLE from chart

–L
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane
(Tin on Signal Pin tails, and Ground Plane tails)

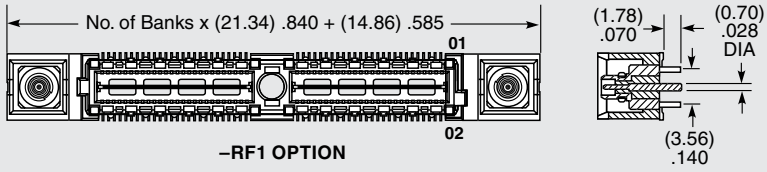
–PC4
= 4 Power Pins per End for (1.60 mm) .062" thick Board (N/A with –RF1)

–RF1
= One RF Plug per End (–05.75 only, not available with –PC4)

LEAD STYLE	A
–05.75	(5.38) .212
–06.75	(6.35) .250



–PC4 OPTION



–RF1 OPTION

OTHER SOLUTIONS

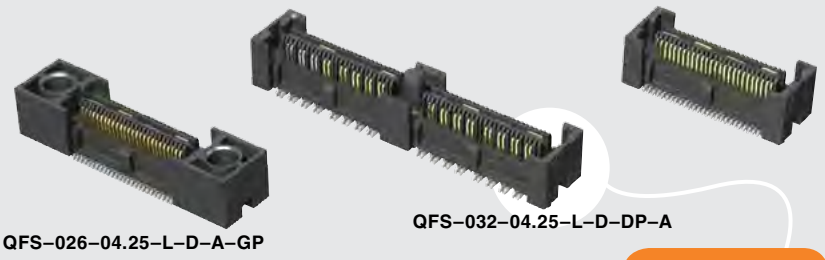


See SO Series for precision machined standoffs.

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Q2™



(0.635 mm) .025"

QFS SERIES

RUGGED GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QFS

Insulator Material:
Liquid Crystal Polymer
Contact & Ground
Plane Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Current Rating:
Contact:
2.6 A per pin
(2 pins powered)
Ground Plane:
15.7 A per ground plane
(1 ground plane powered)
Voltage Rating:
300 VAC mated with QMS
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-078)
Board Stacking:
For applications requiring more than two connectors per board contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

STANDARDS

- SUMIT™
- PCI/104-Express™

PROTOCOLS

- 100 GbE
- FIbre Channel
- XAUI
- PCI Express®
- SATA

Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QMS

Cable Mates:
6QCD

Standoffs:
SO, JSOM

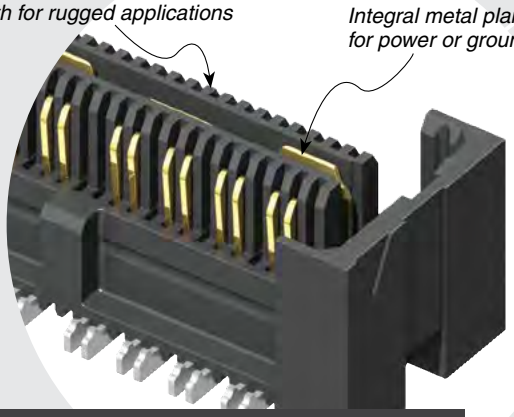
POWER/SIGNAL APPLICATION

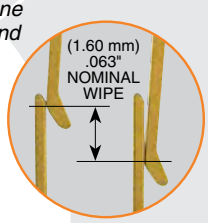


Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

Increased insertion depth for rugged applications

Integral metal plane for power or ground





HIGH-SPEED CHANNEL PERFORMANCE

QMS-DP/QFS-DP @ 10 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

ALSO AVAILABLE (MOQ Required)

- Other platings
- Without PCB Alignment Pins
- Hot Pluggable
- 4 banks (104 -SE, 64 -DP)

Contact Samtec.

QFS	–	PINS PER ROW NO. OF PAIRS	–	LEAD STYLE	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTION

–026, –052, –078
(52 total pins per bank = –D)

–016, –032, –048
(16 pairs per bank = –D–DP)

Specify LEAD STYLE from chart

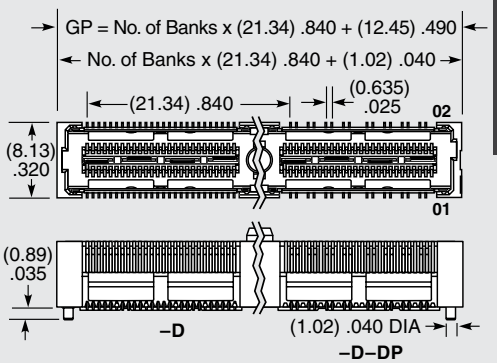
–L
(–04.25 lead style only)
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane (Tin on Signal Pin tails, and Ground Plane tails)

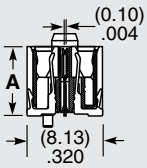
–SL
(–06.25 lead style only)
= 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane (Tin on Signal Pin tails, and Ground Plane tails)

–D
= Single-Ended

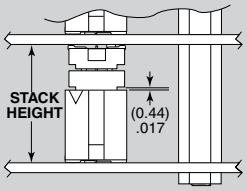
–D–DP
= Differential Pair
(–04.25 lead style only)

–GP
= Guide Holes (–04.25 lead style only)





APPLICATION



Requires Standoff SO-1524-03-01-01-L or JSOM-1524-02 for 15.24 mm or SO-2215-02-01-01-L for 22 mm board spacing. Connectors designed to not fully seat when mated.

MATED HEIGHT*				
LEAD STYLE	A	QMS LEAD STYLE		
		–05.75	–06.75	–09.75
–04.25	(7.44) .293	10 mm	11 mm	14 mm
–06.25	(9.42) .371	12 mm	13 mm	16 mm

*Processing conditions will affect mated height. See SO Series for board space tolerances.

INDUSTRY STANDARD	INTERCONNECTS			
	TERMINAL	SOCKET	BANKS	STACK HEIGHT
SUMIT™	ASP-129637-01	ASP-129646-01	1	15.24 mm
PCI/104-Express™	ASP-129637-03	ASP-129646-03	3	15.24 mm
PCI/104-Express™	ASP-129637-13	ASP-129646-22	1	15.24 mm
PCI/104-Express™	ASP-142781-02	ASP-129646-02	2	22 mm
PCI/104-Express™	ASP-142781-03	ASP-129646-03	3	22 mm

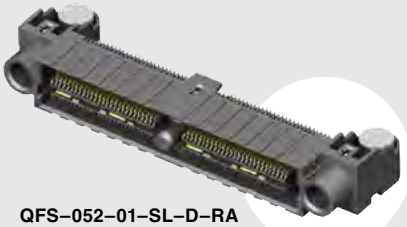
Due to technical progress, all designs, specifications and components are subject to change without notice.

WWW.SAMTEC.COM

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Q2™



QFS–052–01–SL–D–RA

QFS–016–01–SL–D–DP–RA



(0.635 mm) .025"

QFS-RA SERIES

RIGHT-ANGLE GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QFS-RA

Insulator Material:
Liquid Crystal Polymer
Terminal & Ground Plane Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Voltage Rating:
300 VAC
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

Board Mates:
QMS

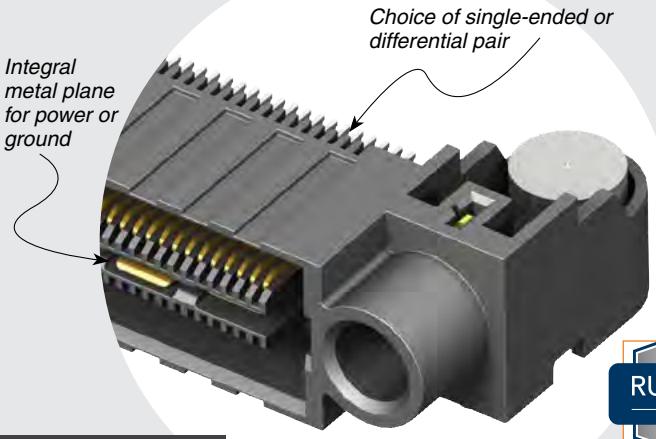
PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-052)
(0.15 mm) .006" max (078)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594



RUGGEDIZED BY SAMTEC

- Increased insertion depth
- Integral guide post
- PCB mounting pins

HIGH-SPEED CHANNEL PERFORMANCE

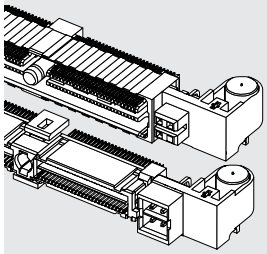
QFS-RA/QMS or QFS-RA/QMS-RA
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

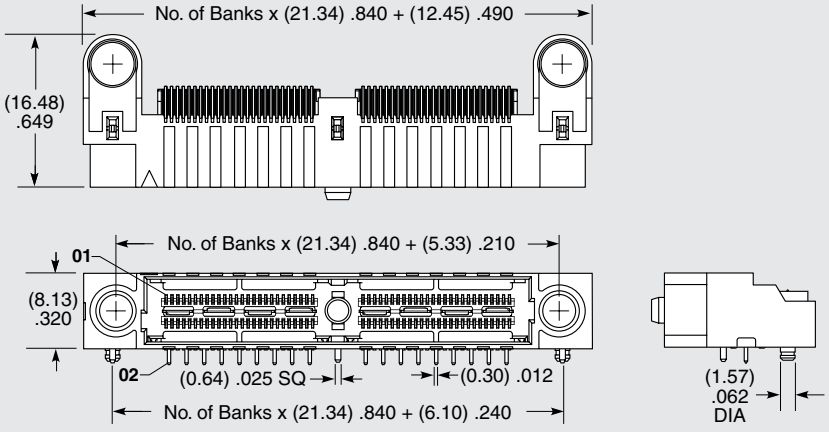
14 Gbps

QFS	–	PINS PER ROW NO. OF PAIRS	–	01	–	PLATING OPTION	–	TYPE	–	RA	–	OTHER OPTION
		–026, –052, –078 (52 total pins per bank = –D) –016, –032, –048 (16 pairs per bank = –D–DP)				–SL = 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails		–D = Single-Ended –D–DP = Differential Pair				–K = Polyimide film Pick & Place Pad –TR = Tape & Reel (–016, –026, –032 & –052 positions only)

OTHER SOLUTIONS

Combination Signal/Power
See QMS-RA-PC Series or QFS-RA-PC Series





ALSO AVAILABLE (MOQ Required)

- Other platings
- Plastic Guide Post option
- –02 lead style for (2.36 mm) .093" thick board
- 64 (-DP) and 104 positions per row

Contact Samtec.

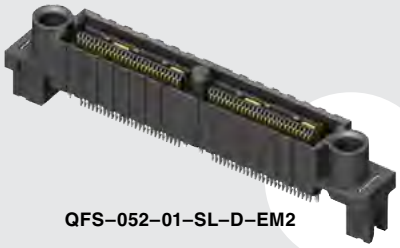
Note:
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Q2™



QFS–052–01–SL–D–EM2



QFS–026–01–SL–D–EM2

(0.635 mm) .025"

QFS-EM SERIES

EDGE MOUNT GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QFS-EM

Insulator Material:
Liquid Crystal Polymer
Terminal & Ground
Plane Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Voltage Rating:
300 VAC
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

Mates with:
QMS

RECOGNITIONS

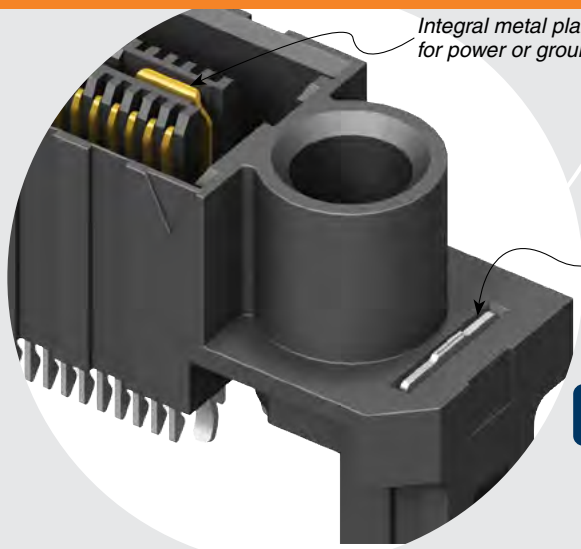
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other platings
- Differential Pairs
- 104 positions per row

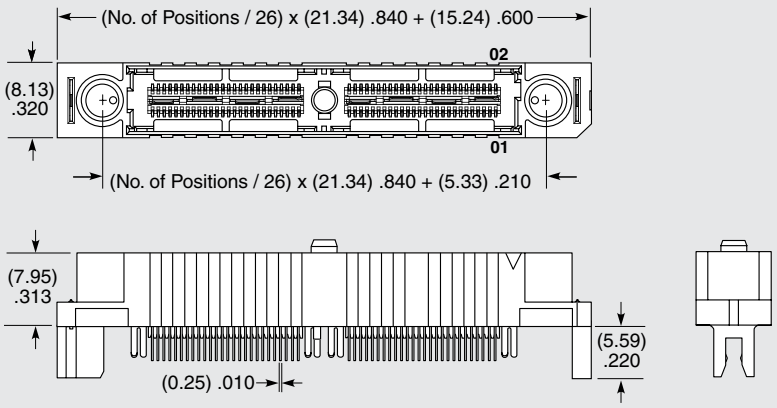
Contact Samtec.



RUGGEDIZED BY SAMTEC

- Increased insertion depth
- Integral guide post

QFS	–	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	D	–	EM2	–	OTHER OPTION
		–026, –052, –078 (Per Row)				–SL = 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane, Matte Tin on tails				–TR = Tape & Reel Packaging (–026 & –052 positions only)		



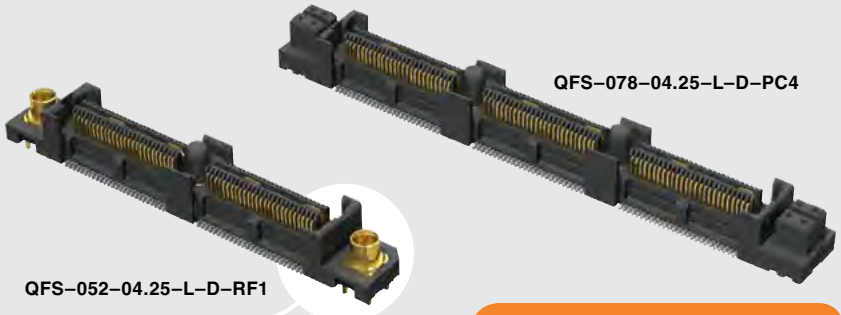
Note:
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Q2™



(0.635 mm) .025"

QFS-PC, QFS-RF SERIES

HIGH-SPEED COMBO RF & POWER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QFS

Insulator Material:
Liquid Crystal Polymer
Contact & Ground Plane Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Current Rating:
Signal Contact:
2.6 A per pin
(2 pins powered)
Power Contact:
4.0 A per pin
(4 pins powered per end)
Ground Plane:
15.7 A per ground plane
(1 ground plane powered)
Voltage Rating:
300 VAC mated with QMS
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-078)
Board Stacking:
For applications requiring more than two connectors per board, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other platings
- Differential Pairs
- Retention Pins
- 8 Power Pins/End for (1.60 mm) .062" thick board
- 4 or 8 Power Pins/End for (2.36 mm) .093" thick board
- 2 RF Connectors/End
- Hot Pluggable

Contact Samtec.

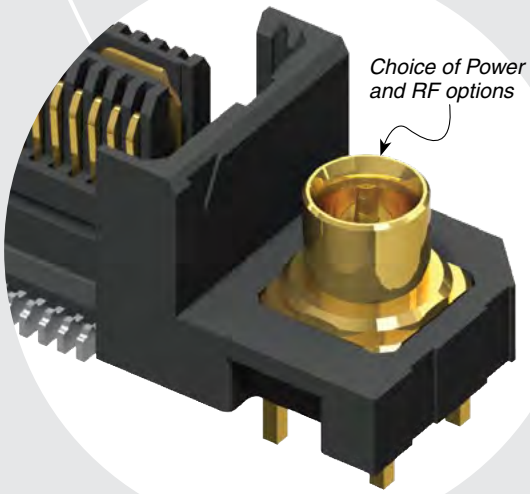
Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QMS-PC, QMS-RA-PC, QMS-RF

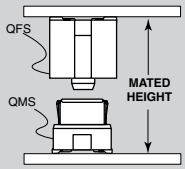
Standoffs:
SO

RUGGEDIZED BY SAMTEC

- Increased insertion depth
- Integral guide post



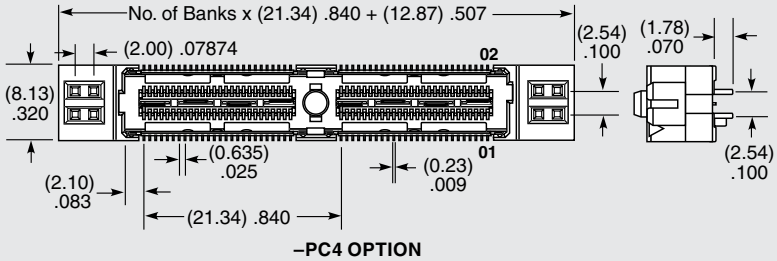
APPLICATION



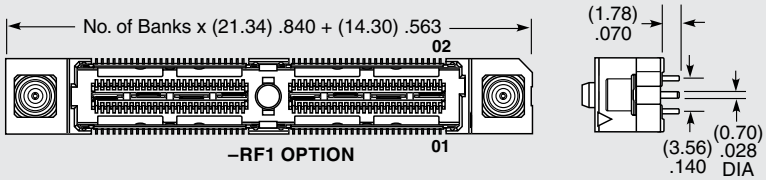
QMS LEAD STYLE	MATED HEIGHT*
–05.75	(10.00) .394
–06.75	(11.00) .433

*Processing conditions will affect mated height. See SO Series for board space tolerances.

QFS	–	NO. OF PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	END OPTION
		–026, –052, –078 (52 total pins per bank)		–04.25 = 04.25 mm		–L = 10 µ" (0.25 µm) Gold on Signal Pins and Ground Plane (Tin on Signal Pin tails, and Ground Plane tails)				–PC4 = 4 Power Pins per End for (1.60 mm) .062" thick Board (N/A with –RF1) –RF1 = One RF Jack per End (N/A with –PC4)

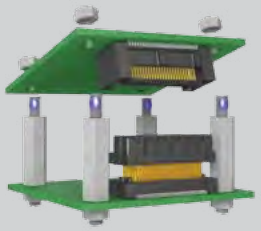


–PC4 OPTION



–RF1 OPTION

OTHER SOLUTIONS



See SO Series for precision machined standoffs.

Due to technical progress, all designs, specifications and components are subject to change without notice.

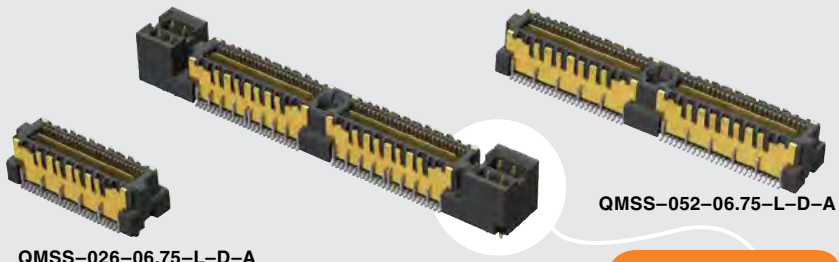
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Q2™

(0.635 mm) .025"

QMSS–032–06.75–L–D–DP–PC4



QMSS–026–06.75–L–D–A

QMSS–052–06.75–L–D–A

QMSS SERIES

SHIELDED GROUND PLANE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QMSS

Insulator Material:
Liquid Crystal Polymer
Terminal, Ground Plane & Shield Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane Tail)
Voltage Rating:
300 VAC mated with QFSS
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-078)
Board Stacking:
For applications requiring more than two connectors per board, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

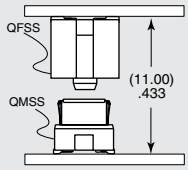
FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Headers without Alignment Pins
- 8 Power Pins/End
- 4 or 8 Power Pins/End for (2.36 mm) .093" thick board
- Guide Post
- Edge Mount
- 64 (-DP) and 104 pins per row

Contact Samtec.

APPLICATION



Notes:
Patented

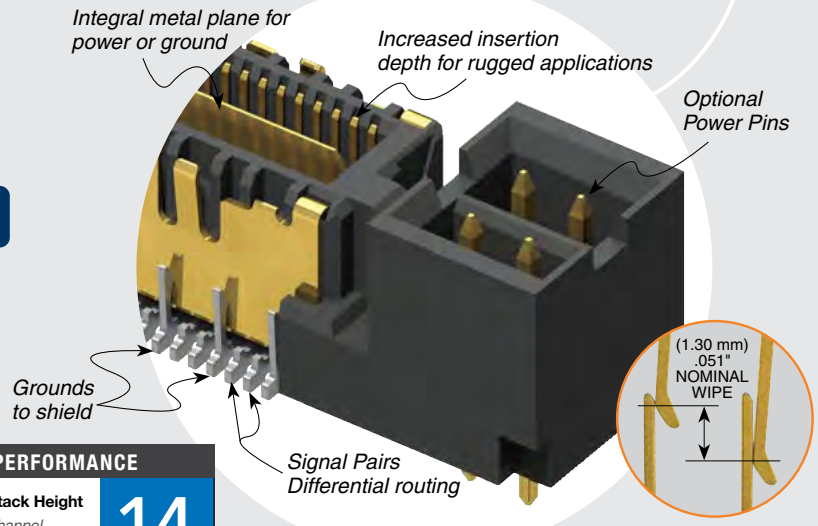
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QFSS

Standoffs:
SO

RUGGEDIZED BY SAMTEC

- Increased insertion depth
- Integral guide post



HIGH-SPEED CHANNEL PERFORMANCE

QMSS-DP/QFSS-DP @ 11 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

QMSS	–	PINS PER ROW NO. OF PAIRS	–	06.75	–	PLATING OPTION	–	TYPE	–	A	–	OTHER OPTION

–026, –052, –078
(52 total pins per bank
40 signals + 12 grounds to shield = –D)

–016, –032, –048
(16 pairs per bank = –D–DP)

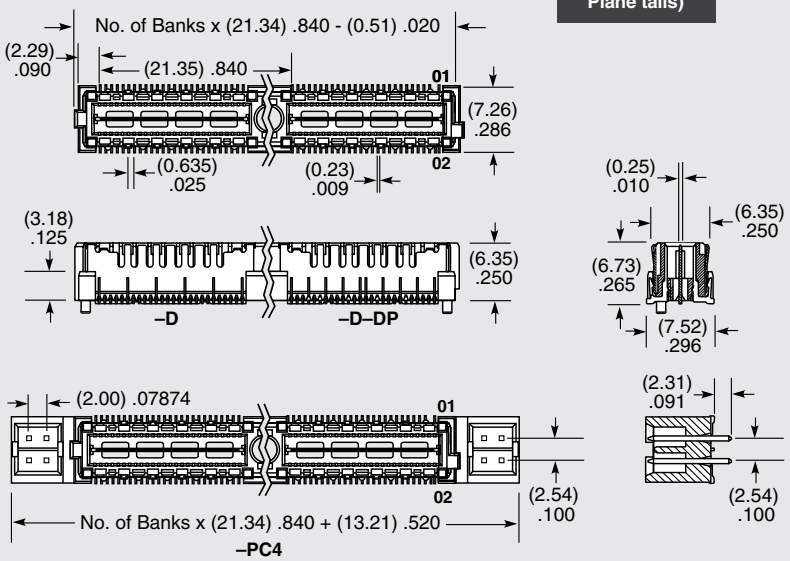
–L
= 10 µ" (0.25 µm) Gold on Signal Pins, Shield and Ground Plane
(Tin on Signal Pin tails, and Ground Plane tails)

–D
= Single-Ended

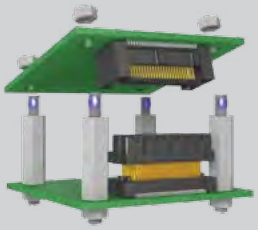
–D–DP
= Differential Pair

–K
= (5.50 mm) .217" DIA Polyimide film Pick & Place Pad
(N/A with –PC4)

–PC4
= 4 Power Pins/End
(N/A with –A)



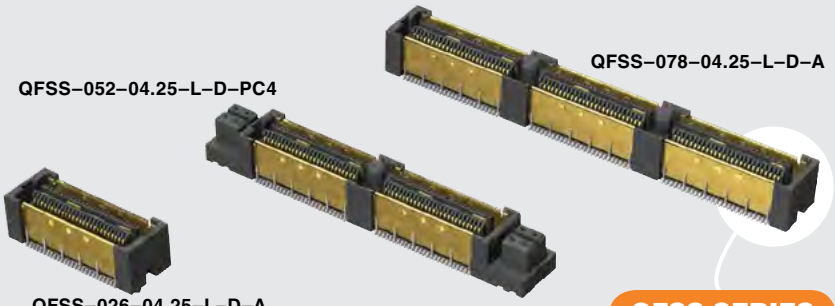
OTHER SOLUTIONS



See SO Series for precision machined standoffs.

samtec

Q2™



(0.635 mm) .025"

QFSS SERIES

SHIELDED GROUND PLANE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QFSS

Insulator Material:
Liquid Crystal Polymer
Contact, Ground
Plane & Shield Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
(Tin on Ground Plane tails)
Voltage Rating:
300 VAC mated with QMSS
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (026-078)
Board Stacking:
For applications requiring more than two connectors per board, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

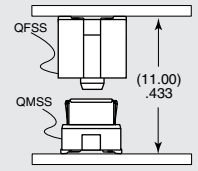
FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Headers without Alignment Pins
- 8 Power Pins/End
- 4 or 8 Power Pins/End for (2.36 mm) .093" thick board
- Guide Holes
- 64 (-DP) and 104 pins per row

Contact Samtec.

APPLICATION



Notes:
Patented

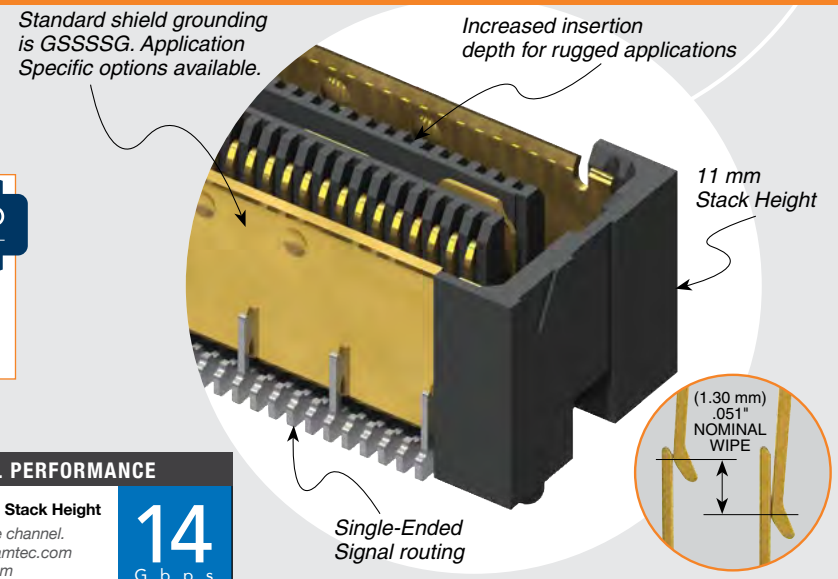
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
QMSS

Standoffs:
SO

RUGGEDIZED BY SAMTEC

- Increased insertion depth
- Integral guide post



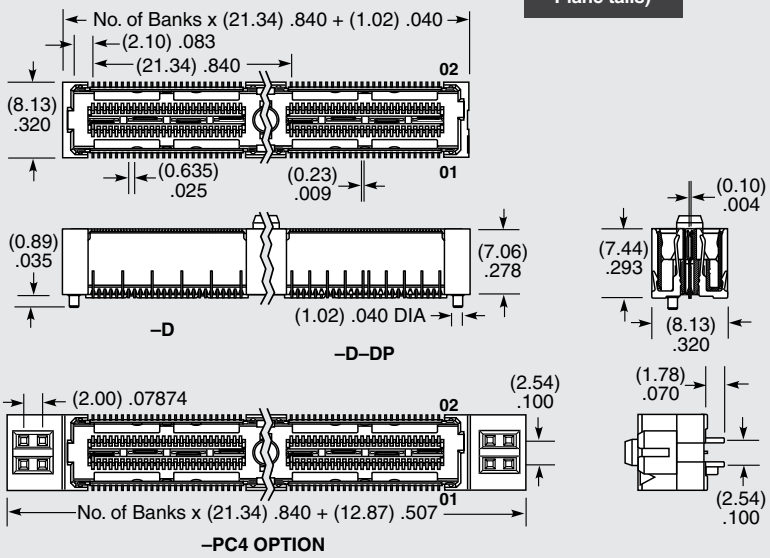
HIGH-SPEED CHANNEL PERFORMANCE

QMSS-DP/QFSS-DP @ 11 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

QFSS	PINS PER ROW NO. OF PAIRS	04.25	PLATING OPTION	TYPE	A	OTHER OPTION
	–026, –052, –078 (52 total pins per bank 40 signals + 12 grounds to shield = –D) **–016, –032, –048** (16 pairs per bank = –D–DP)		**–L** = 10 µ" (0.25 µm) Gold on Signal Pins, Shield and Ground Plane (Tin on Signal Pin tails, and Ground Plane tails)	**–D** = Single-Ended **–D–DP** = Differential Pair		**–PC4** = 4 Power Pins/End (N/A with –A)



OTHER SOLUTIONS



See SO Series for precision machined standoffs.

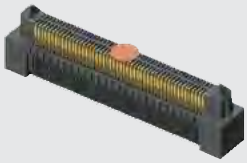
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EDGE® RATE CONTACT

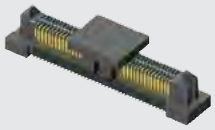
(0.50 mm) .0197"

ERM5–050–05.0–L–DV–K–TR





ERM5–020–05.0–L–DV–K–TR



ERM5–040–02.0–L–DV–P–TR

ERM5 SERIES

RUGGED HIGH-SPEED HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERM5

Insulator Material:
Black LCP
Terminal Material:
Phosphor Bronze or BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (-DV to -DV):
1.5 A per pin
(2 pins powered)
Current Rating (-DV to -RA):
1.6 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
194 VAC mated with ERF5
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (010-040)
(0.13 mm) .005" max (050-075)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Friction Lock
- Weld Tab
- Other platings

Contact Samtec.

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

Notes:
Patented

Some lengths, styles and options are non-standard, non-returnable.

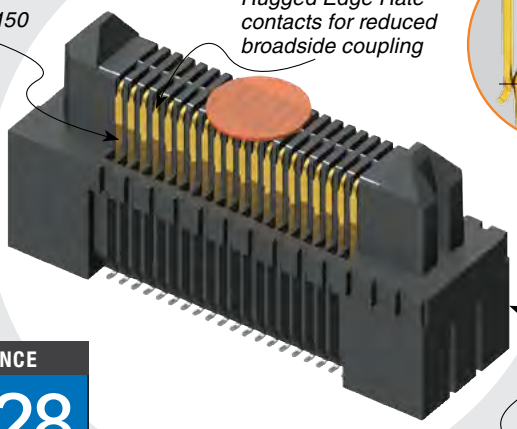
Mates with:
ERF5

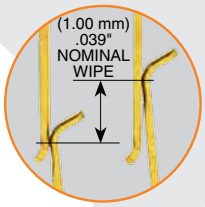
RUGGEDIZED BY SAMTEC

- Edge Rate® contacts
- High contact wipe

20 to 150 I/Os

Rugged Edge Rate® contacts for reduced broadside coupling





7 mm, 9 mm, 10 mm, 11 mm or 12 mm stack height

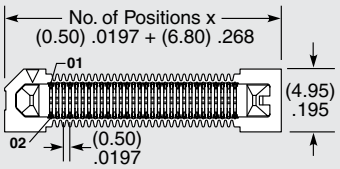
HIGH-SPEED CHANNEL PERFORMANCE

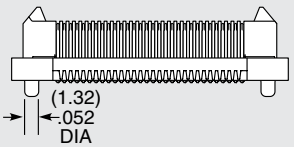
ERM5/ERF5 @ 7 mm Mated Stack Height

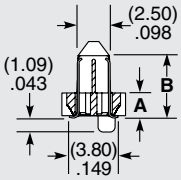
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

ERM5	NO. OF POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	DV	PICK & PLACE PAD	TR
	–010, –020, –030, –040, –050, –060, –070, –075	–02.0 = 2 mm Body Height –04.0 = 4 mm Body Height –05.0 = 5 mm Body Height	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		(Required in callout) –K = (3.50 mm) .138" DIA Polyimide Film Pick & Place Pad (–04.0 & –05.0 lead style only) –P = Plastic Pick & Place Pad (–02.0 lead style only) (–010 postions not available)	







LEAD STYLE	A	B
–02.0	(1.94) .076	(4.84) .191
–04.0	(3.94) .155	(6.84) .269
–05.0	(4.94) .194	(7.84) .309

ERM5 LEAD STYLE	MATED HEIGHT* ERF5 LEAD STYLE –05.0	–07.0
–02.0	(7.00) .276	(9.00) .354
–04.0	(9.00) .354	(11.00) .433
–05.0	(10.00) .394	(12.00) .472

*Processing conditions will affect mated height.

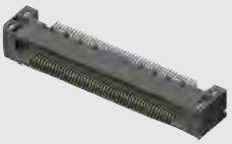
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EDGE® RATE CONTACT

ERF5–050–01–L–D–RA–TR





ERF5–010–01–L–D–RA–TR



ERF5–010–05.0–L–DV–K–TR

(0.50 mm) .0197"

ERF5, ERF5-RA SERIES

RUGGED HIGH-SPEED SOCKET

Mates with:
ERM5

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERF5 or www.samtec.com?ERF5-RA

Insulator Material:
Black LCP
Terminal Material:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (-DV to -DV):
1.5 A per pin
(2 pins powered)
Current Rating (-DV to -RA):
1.6 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
194 VAC mated with ERM5
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (010-040)
(0.13 mm) .005" max (050-075)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Friction Lock (–DV only)
- Weld Tab (–DV only)
- Other platings

Contact Samtec.

MATED HEIGHT*			
ERF5 LEAD STYLE	ERM5 LEAD STYLE		
	–02.0	–04.0	–05.0
–05.0	(7.00) .276	(9.00) .354	(10.00) .394
–07.0	(9.00) .354	(11.00) .433	(12.00) .472

*Processing conditions will affect mated height.

Notes:
Patented

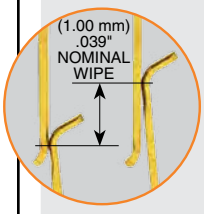
Some lengths, styles and options are non-standard, non-returnable.

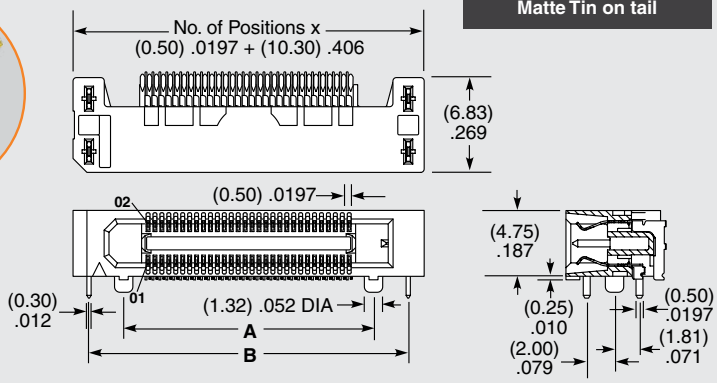
ERF5 – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – RA – TR

–010, –020, –030, –040, –050

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–TR
= Tape & Reel Packaging





NO. OF POSITIONS	A	B
–010	(8.00) .315	(13.00) .512
–020	(13.00) .512	(18.00) .709
–030	(18.00) .709	(23.00) .906
–040	(23.00) .906	(28.00) 1.102
–050	(28.00) 1.102	(33.00) 1.299

HIGH-SPEED CHANNEL PERFORMANCE

ERM5/ERF5 @ 7 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

ERF5 – NO. OF POSITIONS PER ROW – LEAD STYLE – PLATING OPTION – DV – K – TR

–010, –020, –030, –040, –050, –060, –070, –075

–05.0
= 5 mm Body Height

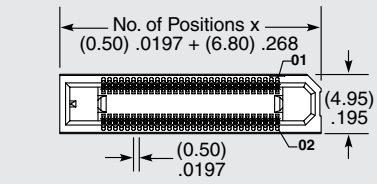
–07.0
= 7 mm Body Height

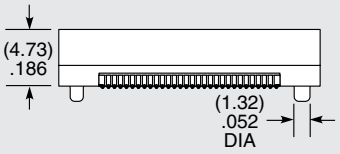
(Available up to 50 positions only)

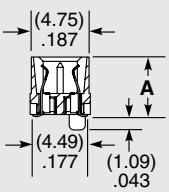
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–K
= (6.00 mm) .236" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel Packaging







LEAD STYLE	A
–05.0	(4.91) .193
–07.0	(6.91) .272

POWER/SIGNAL APPLICATION



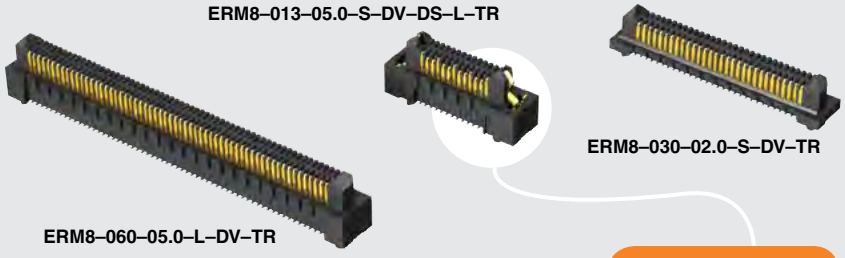
Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

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EDGE® RATE CONTACT



(0.80 mm) .0315"

ERM8 SERIES

RUGGED HIGH-SPEED HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERM8

Insulator Material:
Black LCP
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.2 A per per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
225 VAC / 318 VDC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (005-030)
(0.12 mm) .005" max (040-060)
(0.15 mm) .006" max (070-100)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

PROTOCOLS

- 100 GbE
- PCI Express®

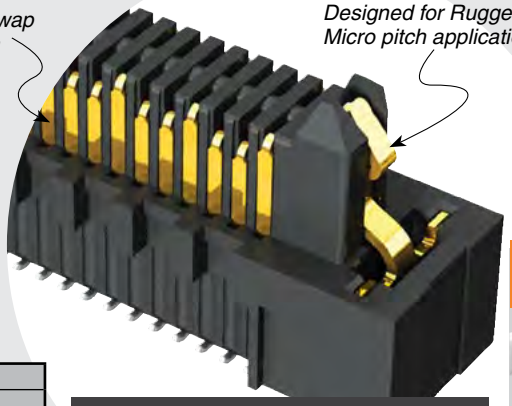
Board Mates:
ERF8

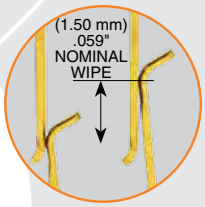
Cable Mates:
ERCD, ERDP

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Hot Swap option

Designed for Rugged Micro pitch applications





POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

MATED HEIGHT*			
ERM8 LEAD STYLE	ERF8 LEAD STYLE		
	–05.0	–07.0	–09.0
–02.0	(7.00) .276	(9.00) .354	(11.00) .453
–05.0	(10.00) .394	(12.00) .472	(14.00) .551
–08.0	(13.00) .512	(15.00) .591	(17.00) .669
–09.0	(14.00) .551	(16.00) .629	(18.00) .709

*Processing conditions will affect mated height.

HIGH-SPEED CHANNEL PERFORMANCE

ERM8/ERF8 @ 7 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4 56 Gbps

ERM8	POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	DV	OTHER OPTION	TR

–005, –010, –011, –013, –020, –025, –030, –035, –040, –049, –050, –060, –070, –075, –100
(Available with –09.0 lead style only)

Specify LEAD STYLE from chart

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–S
= 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail

–DS
= Differential Pair
(–05.0 lead style only)
(–010, –013, –025, –049 Positions only)

–K
= (4.00 mm) .157" DIA
Polyimide Film Pick & Place Pad

–L
= Latching
(–05.0 & –09.0 lead styles only)
(Not available with –EGP & –EGPS options)

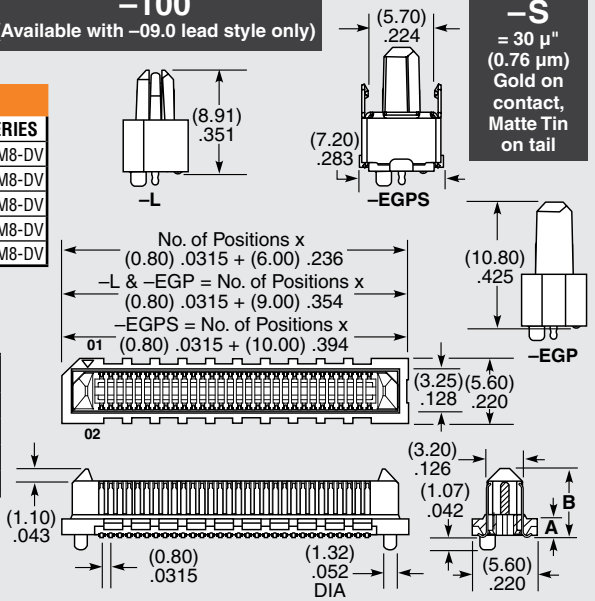
–EGP
= Extended Guide Post
(–05.0 lead style only)
(Not available with –L option)

–EGPS
= Extended Guide Post Shield
(–02.0 & –05.0 lead style only)
(–010, –020, –025, –030 Positions only)
(Not available with –L option)

–DSP
= Differential Pair + Extended Guide Post
(–05.0 lead styles only)
(–013 & –025 Positions only)

–DSS
= Differential Pair + Extended Guide Post Shield
(–05.0 lead styles only)
(–025 positions only)

–TR
= Tape & Reel Packaging



APPLICATIONS

STANDARD	POS.	PART NOs.	SERIES
NEXUS5001™.org POWER.org™	11	ASP-137968-01	ERM8-DV
	17	ASP-137972-01	ERM8-DV
ARM/HSSTP	20	ASP-130365-01	ERM8-DV
NEXUS5001™.org POWER.org™	23	ASP-130366-01	ERM8-DV
	35	ASP-135020-01	ERM8-DV

LEAD STYLE	A	B
–02.0	(1.61) .063	(5.97) .235
–05.0	(4.61) .181	(8.91) .351
–08.0	(7.61) .300	(11.91) .469
–09.0	(8.61) .339	(12.91) .508

Notes:
Patented

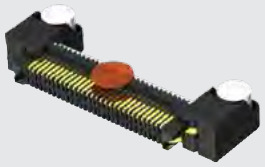
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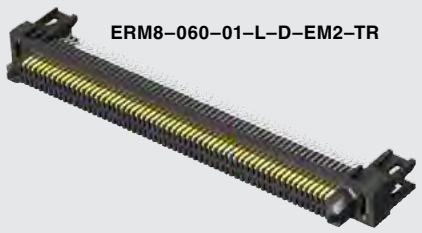
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EDGE® RATE CONTACT



ERM8–030–01–L–D–RA–L–K–TR



ERM8–060–01–L–D–EM2–TR

(0.80 mm) .0315"

ERM8-RA, ERM8-EM SERIES

RUGGED EDGE RATE® STRIPS

ERM8-RA / ERM8-EM Board Mates:
ERF8

ERM8-RA Cable Mates:
ERCD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERM8-RA or www.samtec.com?ERM8-EM

Insulator Material: Black LCP
Terminal Material: Phosphor Bronze
Latch Material: BeCu
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 2.2 A per pin (2 pins powered)
Operating Temp Range: -55 °C to +125 °C
Voltage Rating: 235 VAC / 318 VDC
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity **(ERM8-RA):**
(0.10 mm) .004" max (010-050)
(0.15 mm) .006" max (060-075)
SMT Lead Coplanarity **(ERM8-EM):**
(0.10 mm) .004" max (005-030)
(0.12 mm) .005" max (040-075)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other Positions
- Solder leads & weld tab for (2.36 mm) .093" thick board
- Other platings

Contact Samtec.

APPLICATIONS

STANDARD	POS.	PART NOs.	SERIES
NEXUS5001™.org POWER.org™	11	ASP-137971-01	ERM8-EM
	17	ASP-137974-01	ERM8-EM
ARM/HSSTP	20	ASP-133811-01	ERM8-EM
NEXUS5001™.org POWER.org™	23	ASP-133811-02	ERM8-EM
	35	ASP-135040-01	ERM8-EM

Notes:
Patented

Some lengths, styles and options are non-standard, non-returnable.

ERM8 – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – RA – OTHER OPTION – TR

–010, –013, –020, –025, –030, –040, –049, –050, –060, –070, –075

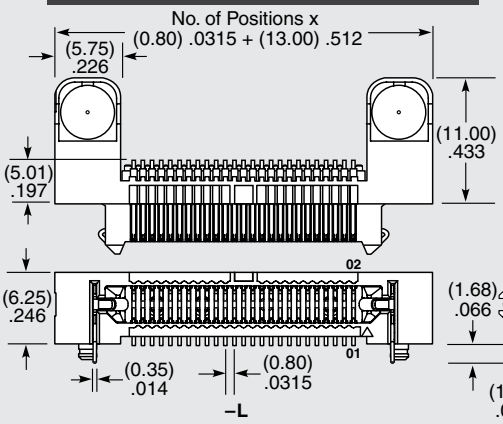
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

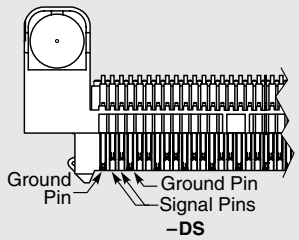
–K = (6.00 mm) .236" DIA Polyimide Film Pick & Place Pad

–L = Latching

–DS = Differential Pair (–013, –025 positions only) (Hot swap)

–TR = Tape & Reel





HIGH-SPEED CHANNEL PERFORMANCE

ERM8-RA/ERF8-RA

Rating based on Samtec reference channel.For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

ERM8 – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – EM2 – OTHER OPTION – TR

–005, –010, –013, –020, –025, –030, –040, –049, –050, –060, –070, –075

–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–EM2 = (1.60 mm) .062" Thick PCB

–L = Latching (Mates to ERF8 Lead Style –05.0 or –RA only)

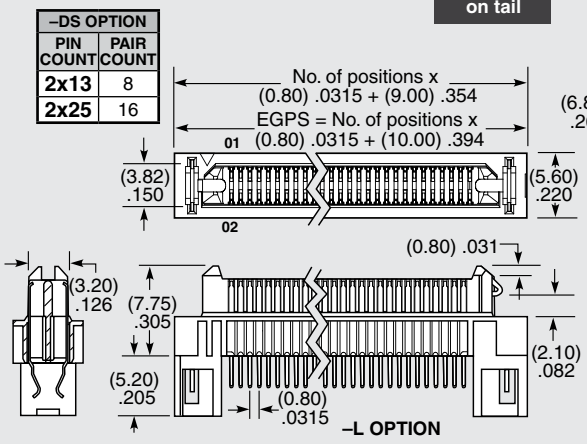
–DS = Differential Pair (–013, –025 pos.only) (Hot Swap)

–EGPS = Extended Guide Post Shield (–010, –020, –025, –030 pos.only)

–DSS = Differential Pair + Extended Guide Post Shield (–025 pos. only) (Hot Swap)

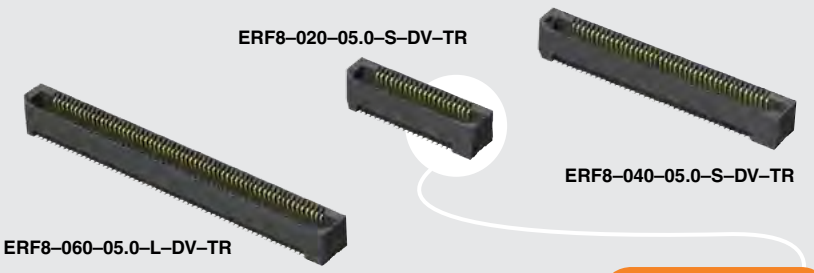
–TR = Tape & Reel

–DS OPTION	
PIN COUNT	PAIR COUNT
2x13	8
2x25	16



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EDGE® RATE CONTACT



(0.80 mm) .0315"

ERF8 SERIES

RUGGED HIGH-SPEED SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERF8

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating:
2.2 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to + 125 °C
Voltage Rating:
225 VAC / 318 VDC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (005-030)
(0.12 mm) .005" max (040-060)
(0.15 mm) .006" max (070-100)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

PROTOCOLS

- 100 GbE
- PCI Express®

ALSO AVAILABLE (MOQ Required)

- Mezzanine stack heights

Contact Samtec.

APPLICATIONS

STANDARD	POS.	PART NOs.	SERIES
NEXUS5001™.org POWER.org™	10	ASP-148421-01	ERF8-DV
	11	ASP-137969-01	ERF8-DV
	17	ASP-137973-01	ERF8-DV
ARM/HSSTP	20	ASP-130367-01	ERF8-DV
NEXUS5001™.org POWER.org™	23	ASP-130368-01	ERF8-DV
	25	ASP-148422-01	ERF8-DV
	35	ASP-135029-01	ERF8-DV
	40	ASP-148424-01	ERF8-DV

Notes:
Patented

Some lengths, styles and options are non-standard, non-returnable.

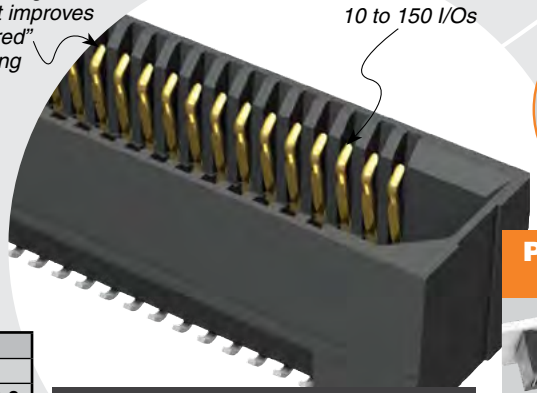
Board Mates:
ERM8

Cable Mates:
ERCD, ERDP

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Robust Edge Rate® contact improves "Zippered" unmating

10 to 150 I/Os





MATED HEIGHT*				
ERF8 LEAD STYLE	ERM8 LEAD STYLE			
	–02.0	–05.0	–08.0	–09.0
–05.0	(7.00) .276	(10.00) .394	(13.00) .512	(14.00) .551
–07.0	(9.00) .354	(12.00) .472	(15.00) .591	(16.00) .629
–09.0	(11.00) .453	(14.00) .551	(17.00) .669	(18.00) .709

*Processing conditions will affect mated height.

HIGH-SPEED CHANNEL PERFORMANCE

ERM8/ERF8 @ 7 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4
56 Gbps

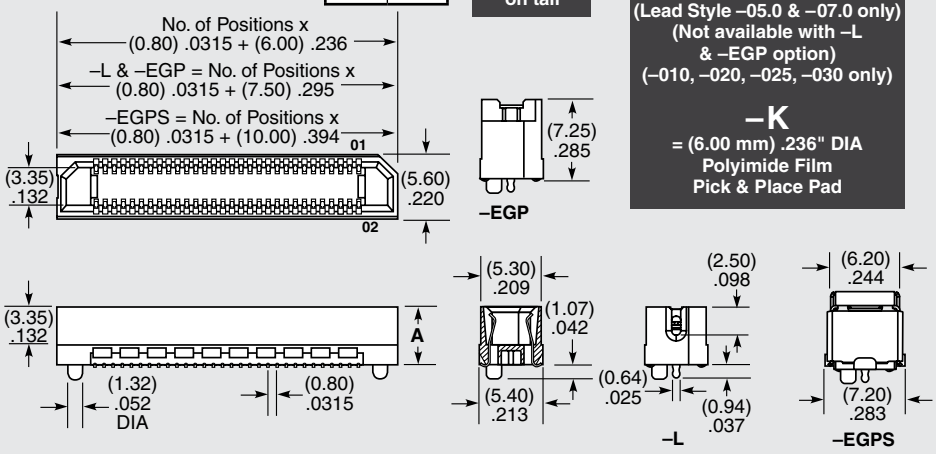
POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

ERF8	NO. OF POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	DV	OTHER OPTION	TR
	–005, –010, –011, –013, –020, –025, –030, –035 –040, –049, –050, –060, –070, –075 –100 (Available with –05.0 lead style only)	Specify LEAD STYLE from chart	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail		–L = Latching (Not available with –EGP or –EGPS option) –EGP = Extended Guide Post (Lead Style –07.0 only) (Not available with –L & –EGPS option) –EGPS = Extended Guide Post Shield (Lead Style –05.0 & –07.0 only) (Not available with –L & –EGP option) (–010, –020, –025, –030 only) –K = (6.00 mm) .236" DIA Polyimide Film Pick & Place Pad	–TR = Tape & Reel Packaging

LEAD STYLE	A
–05.0	(5.10) .200
07.0	(7.00) .276
–09.0	(9.00) .354



All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

EDGE® RATE CONTACT

ERF8–030–01–L–D–RA–L–TR





ERF8–020–01–L–D–EM2–TR

(0.80 mm) .0315"

ERF8-RA, ERF8-EM SERIES

RUGGED EDGE RATE® STRIPS

ERF8-RA / ERF8-EM Board Mates:
ERM8

ERF8-RA Cable Mates:
ERCD, ERDP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERF8-RA or www.samtec.com?ERF8-EM

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.2 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
225 VAC / 318 VDC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity (ERF8-RA):
(0.10 mm) .004" max
SMT Lead Coplanarity (ERF8-EM):
(0.10 mm) .004" max (005-030)
(0.12 mm) .005" max (040-075)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

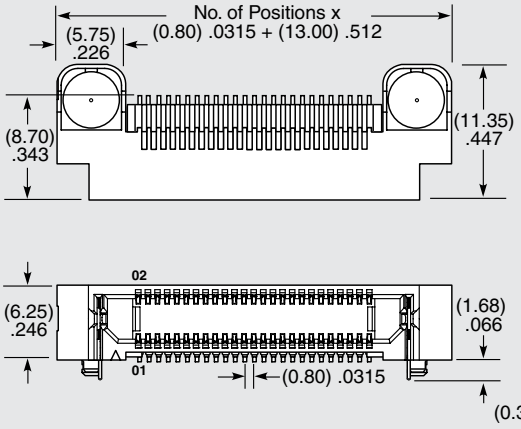
- Other Positions
- Solder leads & weld tab for (2.36 mm) .093" thick board
- Solder leads & weld tab for (2.36 mm) .093" thick PCB (ERF8-RA only
- Other platings

Contact Samtec.

Notes:
Patented

Some lengths, styles and options are non-standard, non-returnable.

ERF8	NO. OF POSITIONS PER ROW	01	PLATING OPTION	D	RA	OTHER OPTION	TR
	–010, –013, –020, –025, –030, –040, –049, –050, –060, –070, –075		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–L = Latching (N/A with –EGP option) –EGP = Extended Guide Post (N/A with –L option)		–TR = Tape & Reel



HIGH-SPEED CHANNEL PERFORMANCE

ERF8-RA/ERM8-RA

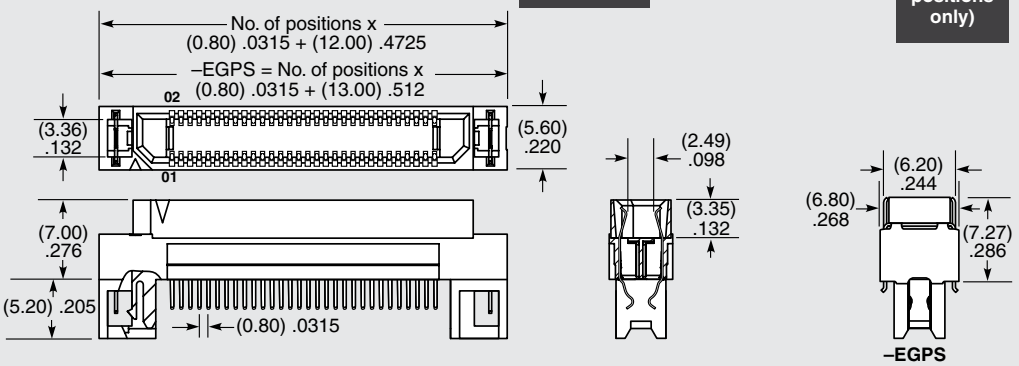
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

RUGGEDIZED BY SAMTEC

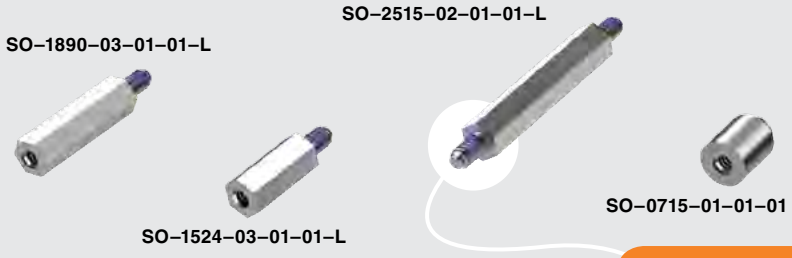
- Edge Rate® contacts
- Latching option
- Extended guide post option
- PCB mounting pins

ERF8	NO. OF POSITIONS PER ROW	01	PLATING OPTION	D	EM2	OTHER OPTION	TR
	–005, –010, –013, –020, –025, –030, –040, –049, –050, –060, –070, –075		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–EM2 = (1.60 mm) .062" Thick PCB	–EGPS = Extended Guide Post Shield (–010, –020, –025, –030 positions only)	–TR = Tape & Reel



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SO SERIES

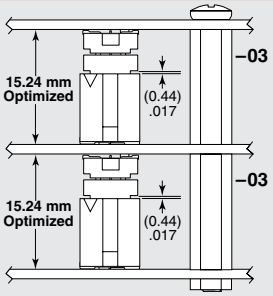
PRECISION BOARD STACKING STANDOFF

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SO

Material:
Aluminum
Locking Compound:
Nylon

APPLICATIONS



See QMS/QFS Series SUMIT™ & PCI/104-Express™ connectors

Requires Standoff SO-1524-03-01-02-L 15.24mm board spacing. Connectors designed to not fully seat when mated.

APPLICATIONS





RUGGEDIZED BY SAMTEC

- Precision machined
- Locking compound

ALSO AVAILABLE (MOQ Required)

- Other heights
- Stainless Steel
- Locking compound removed
- Other materials and threading
- No Hardware

Contact Samtec.

SO	–	BOARD STACKER	–	LEAD STYLE	–	THREAD STYLE	–	01	–	L

Specify BOARD STACKER from chart

–01
= Female Thread/Press-In (–0515 thru –0865 only)

–02
= Male/Male Thread (–0515 and –1115 thru –2515 only)

–03
= Male/Female Thread (-0815 thru –2515 only)

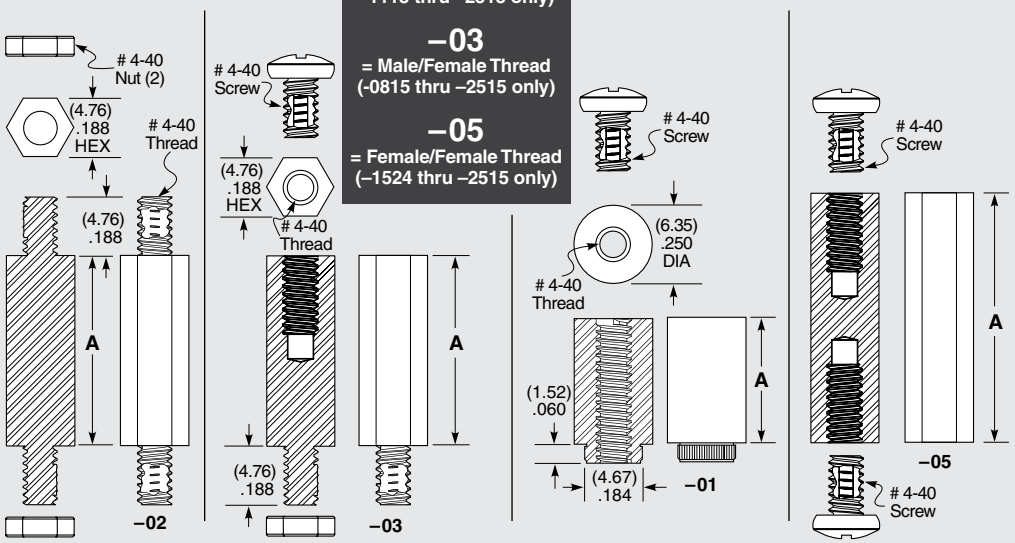
–05
= Female/Female Thread (–1524 thru –2515 only)

–01
= #4-40 Thread

–02
= M3 x 0.5 Thread

–L
= –02 & –03 Lead Style thread locking compound (Leave blank for –01 Lead Style)

BOARD STACKER	A	BOARD STACK HEIGHT
–0515	(5.15) .203	5 mm
–0715	(7.15) .282	7 mm
–0815	(8.15) .321	8 mm
–0865	(8.65) .341	8.5 mm
–1115	(11.15) .439	11 mm
–1215	(12.15) .478	12 mm
–1524	(15.24) .600	15.24 mm
–1615	(16.15) .636	16 mm
–1890	(18.90) .744	18.75 mm
–1915	(19.15) .754	19 mm
–2515	(25.15) .990	25 mm



Notes:
Standoffs are designed, 0.15 mm longer than connector stack heights to allow for processing variables.

Some lengths, styles and options are non-standard, non-returnable.

Components are to be packaged in separate bags unassembled.

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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JSOM SERIES

MICRO JACK SCREW STANDOFF

SPECIFICATIONS

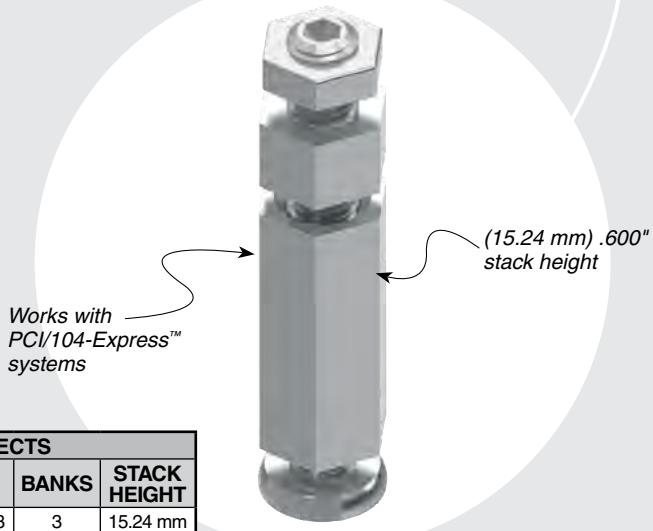
For complete specifications and recommended PCB layouts see www.samtec.com?JSOM

Material:
Stainless Steel

ALSO AVAILABLE
(MOQ Required)

- Other heights

Contact Samtec.

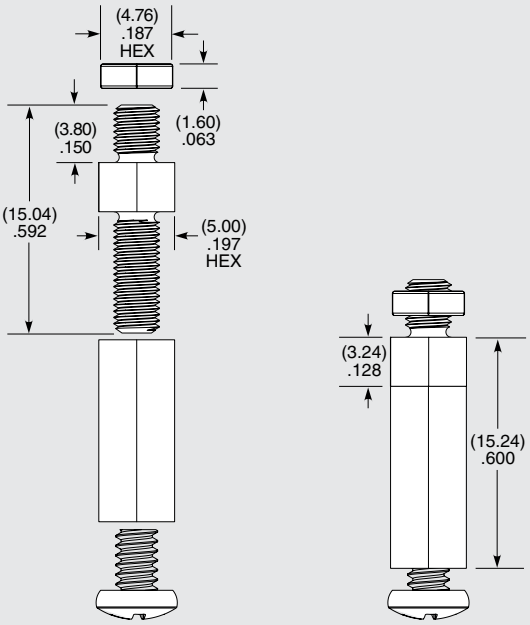


INDUSTRY STANDARD	INTERCONNECTS			
	TERMINAL	SOCKET	BANKS	STACK HEIGHT
PCI/104-Express™	ASP-129637-03	ASP-129646-03	3	15.24 mm
PCI/104-Express™	ASP-129637-13	ASP-129646-22	1	15.24 mm
SUMIT™	ASP-129637-01	ASP-129646-01	1	15.24 mm

JSOM	–	BOARD STACKER	–	LEAD STYLE
		–1524 = (15.24 mm) .600" Stack Height		–02 = Female Thread

APPLICATION





Components are to be packaged in separate bags unassembled.

Notes:
Patent Pending

Due to technical progress, all designs, specifications and components are subject to change without notice.

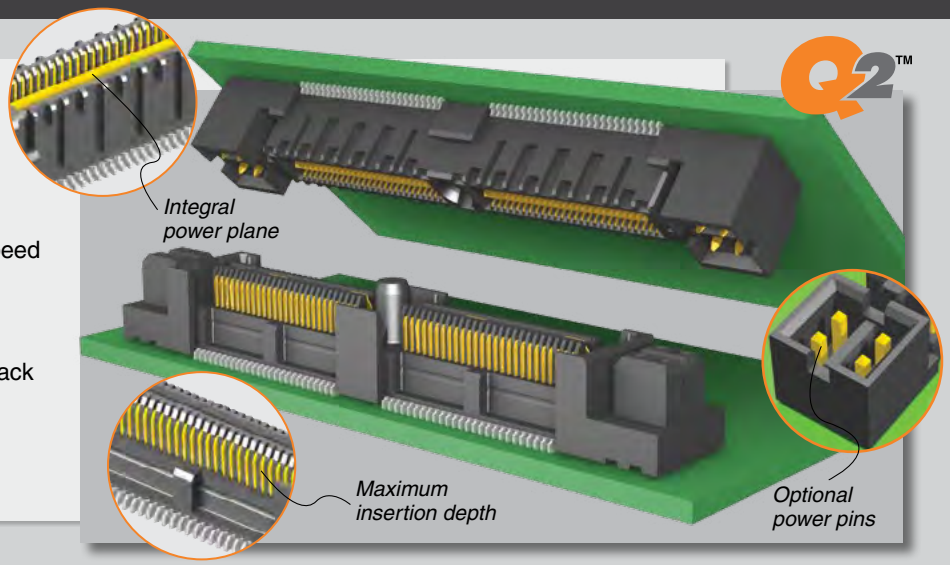
All parts within this catalog are built to Samtec's specifications.
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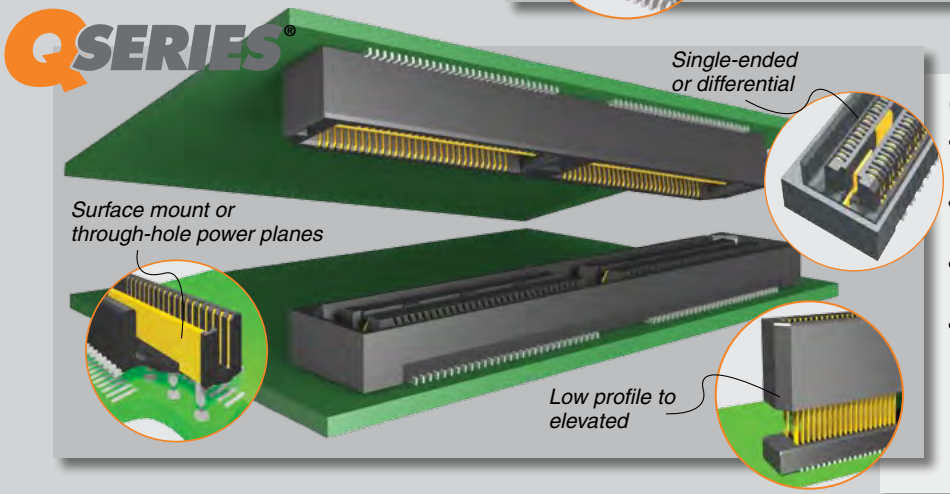
Q FOR POWER

HIGH-SPEED SIGNAL & POWER COMBINATIONS

Q2™

- Integral power/ground plane rated for up to 15.7 amps
- Optional integral power pins rated at 4 amps
- Wide variety of standard high-speed mating cable assemblies
- Combination signal/power cable assemblies
- 0.635 mm pitch with choice of stack heights
- Rugged contact system with increased insertion depth
- See QMS/QFS Series



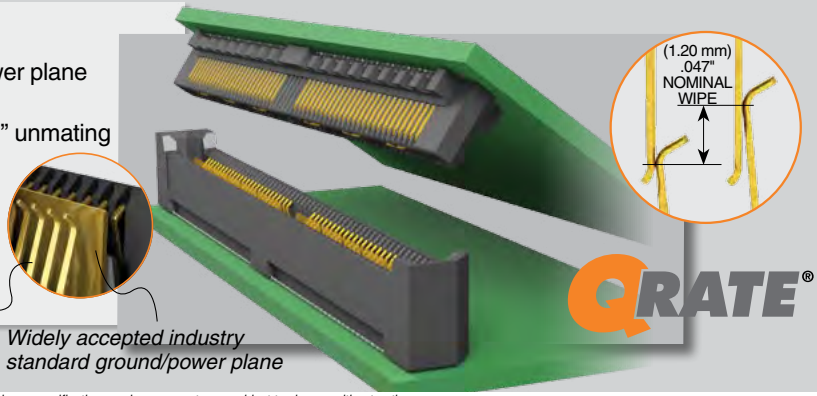


Q Series®

- Integral power/ground plane rated for up to 25 amps
- Wide variety of standard high-speed mating cables
- Low profile (5 mm) to elevated (25 mm) stack heights
- Choice of pitches:
  QTH/QSH Series for 0.50 mm pitch
  QTS/QSS or MIT/MIS Series for 0.635 mm pitch
  QTE/QSE Series for 0.80 mm pitch

Q Rate®

- Widely accepted industry standard ground/power plane rated for up to 8.5 amps
- Robust Edge Rate® contact improves "zippered" unmating
- Slim 4.60 mm body width on 0.80 mm pitch
- Edge Rate® contacts optimized for Signal Integrity performance
- 7 mm to 14 mm stack heights
- See QRM8/QRF8 Series



Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

ULTRA MICRO



RAZOR BEAM™

0.50 mm Pitch Hermaphroditic Connectors (LSHM) 110-111
0.635 mm Pitch Hermaphroditic Connectors (LSS) 112
0.80 mm Pitch Hermaphroditic Connectors (LSEM) 113

EDGE RATE®

0.635 mm Pitch Edge Rate® HD Multi-Row Strips (EDF6, EDM6) 114
0.635 mm Pitch Edge Rate® Slim Strips (ESM6, ESF6) 115

RAZOR BEAM™ LP

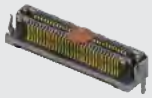
0.40 mm Pitch Low-Profile Strips (ST4, SS4) 116
0.50 mm Pitch Low-Profile Strips (ST5, SS5, SLH, TLH) 117-118

APPLICATIONS

Ultra Micro 18-19

samtec

RAZOR™ BEAM SYSTEM



LSHM–130–02.5–L–DV–A–S–K–TR



LSHM–150–02.5–L–DV–A–N–K–TR



LSHM–120–04.0–L–DV–A–N–K–TR

(0.50 mm) .0197"

LSHM-DV SERIES

HIGH-SPEED HERMAPHRODITIC STRIP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LSHM

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.0 A per pin
(2 adjacent pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

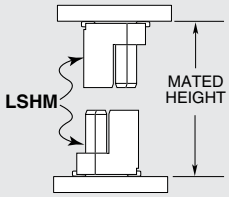
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
Board Stacking:
For applications requiring two or more connectors per board, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATION



LEAD STYLE	MATED HEIGHT*
–02.5 & –02.5	(5.00) .196
–02.5 & –03.0	(5.50) .217
–03.0 & –03.0	(6.00) .236
–02.5 & –04.0	(6.50) .256
–03.0 & –04.0	(7.00) .276
–04.0 & –04.0	(8.00) .315
–02.5 & –06.0	(8.50) .335
–03.0 & –06.0	(9.00) .354
–04.0 & –06.0	(10.00) .394
–06.0 & –06.0	(12.00) .472

*Processing conditions will affect mated height.

Note: Some lengths, styles and options are non-standard, non-returnable.

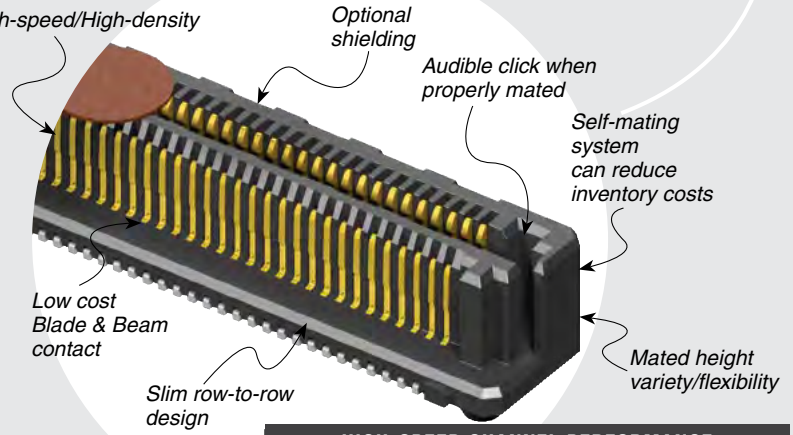
Board Mates:
LSHM

Cable Mates:
HLCD

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



HIGH-SPEED CHANNEL PERFORMANCE

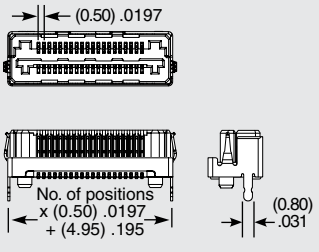
LSHM-DV/LSHM-DV @ 5 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

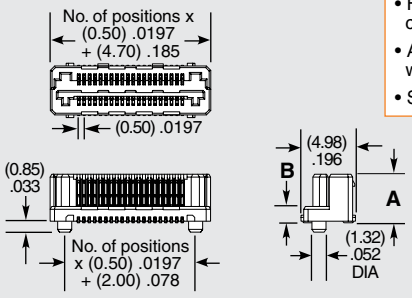
14 Gbps

LSHM	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	TAIL OPTION	–	A	–	SHIELD OPTION	–	K	–	TR
			05, 10, 20, 30, 40, 50		Specify LEAD STYLE from chart		–F = Gold flash on contact, Matte Tin on tail –L = =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–DV = Vertical				–S = With Shield –N = Without Shield		–K = (3.50 mm) .138" DIA Polyimide film Pick & Place Pad		–TR = Tape & Reel

LEAD STYLE (STANDARD)	LEAD STYLE (LUBRICATED)	A	B
–02.5	–L2.5	(3.95) .156	(1.00) .039
–03.0	–L3.0	(4.45) .175	(1.50) .059
–04.0	–L4.0	(5.45) .215	(2.50) .098
–06.0	–L6.0	(7.45) .293	(4.50) .177



–DV–S



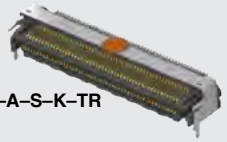
–DV–N

RUGGEDIZED BY SAMTEC

- High retention contacts
- Audible click when mated
- Shrouded

samtec

RAZOR™ BEAM SYSTEM



LSHM–150–01–L–DH–A–S–K–TR



LSHM–130–01–F–DH–A–S–K–TR



LSHM–120–01–L–DH–A–N–K–TR



LSHM–120–01–L–RH–A–S–K–TR

(0.50 mm) .0197"

LSHM-DH, LSHM-RH SERIES

HIGH-SPEED HERMAPHRODITIC STRIP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LSHM

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
1.9 A per pin
(2 adjacent pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

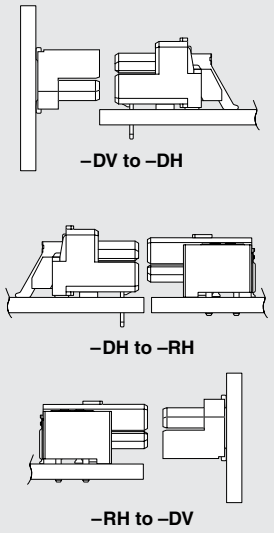
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
Board Stacking:
For applications requiring two or more connectors per board, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATION



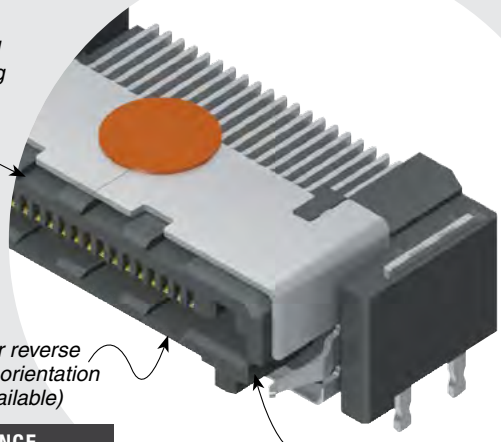
Note: Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
LSHM

Cable Mates:
HLCD

RUGGEDIZED BY SAMTEC

- High retention contacts
- Audible click when mated
- Shrouded



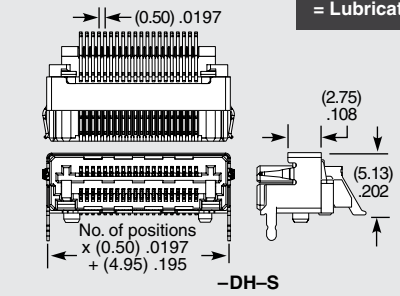
HIGH-SPEED CHANNEL PERFORMANCE

LSHM-DH/LSHM-DH

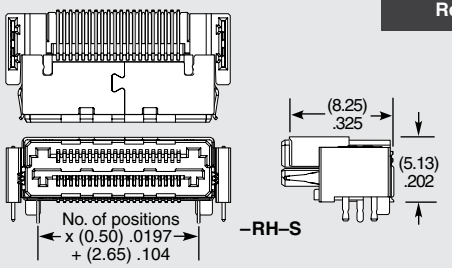
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

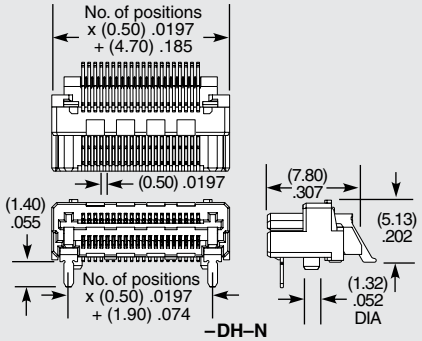
LSHM	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	TAIL OPTION	A	SHIELD OPTION	K	TR
		05, 10, 20, 30, 40, 50	–01 = Standard –L1 = Lubricated	–F = Gold flash on contact, Matte Tin on tail –L = =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	–DH = Right-angle –RH = Reverse Right-angle		–S = With Shield –N = Without Shield	–K = (3.50 mm) .138" DIA Polyimide film Pick & Place Pad	–TR = Tape & Reel



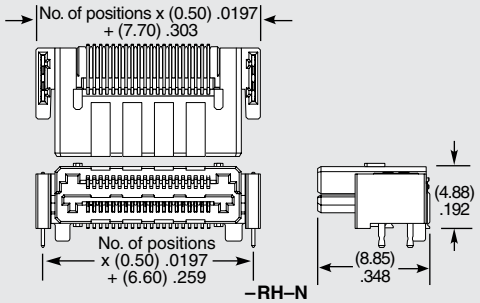
–DH–S



–RH–S



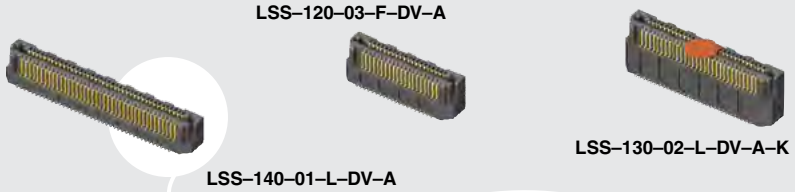
–DH–N



–RH–N

samtec

RAZOR™ BEAM SYSTEM



(0.635 mm) .025"

LSS SERIES

HIGH-SPEED HERMAPHRODITIC STRIP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LSS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
1.7 A per pin
(4 adjacent pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

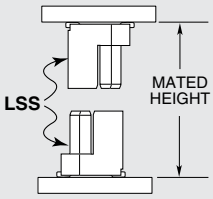
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
Board Stacking:
For applications requiring two or more connectors per board, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATION



LEAD STYLE	MATED HEIGHT*
–01 & –01	(6.00) .236
–01 & –03	(7.00) .276
–03 & –03	(8.00) .315
–01 & –02	(9.00) .354
–02 & –03	(10.00) .394
–02 & –02	(12.00) .472

*Processing conditions will affect mated height.

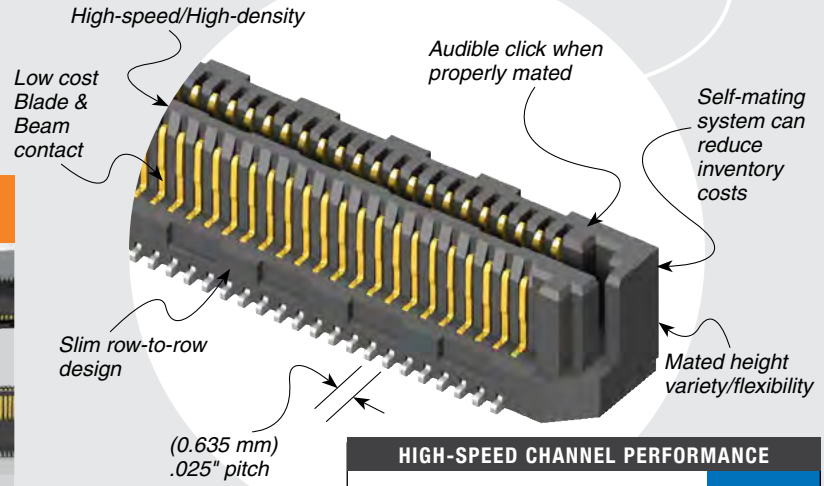
Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with:
LSS

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



HIGH-SPEED CHANNEL PERFORMANCE

LSS-DV/LSS-DV @ 9 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

LSS	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	DV	–	A	–	OPTION

10, 20, 30, 40, 50

Specify LEAD STYLE from chart

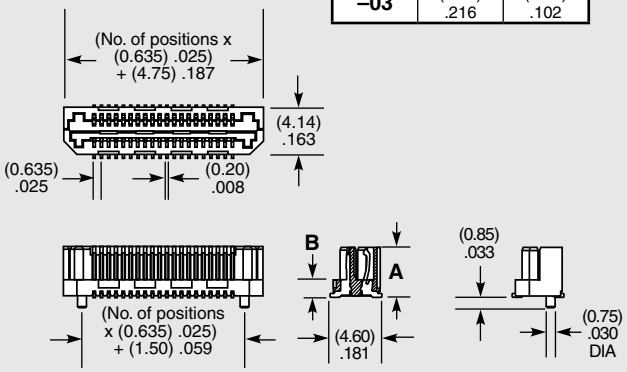
–F
= Gold flash on contact, Matte Tin on tail

–L
=10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–K
= (3.50 mm) .138" DIA Polyimide film Pick & Place Pad

–TR
= Tape & Reel

LEAD STYLE	A	B
–01	(4.50) .177	(1.60) .063
–02	(7.49) .295	(4.59) .181
–03	(5.49) .216	(2.59) .102



RUGGEDIZED BY SAMTEC

- High retention contacts
- Audible click when mated
- Shrouded

ALSO AVAILABLE
(MOQ Required)

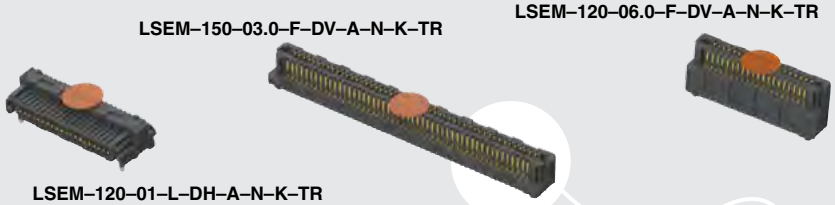
- Locking Clip on –02 or –03 lead style
- Other Gold plating options
- Other pin counts

Contact Samtec.

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

RAZOR™ BEAM SYSTEM



(0.80 mm) .0315"

LSEM SERIES

HIGH-SPEED HERMAPHRODITIC STRIP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LSEM

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
1.8 A per pin
(2 adjacent pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

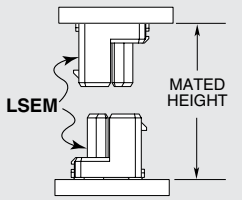
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
Board Stacking:
For applications requiring two or more connectors per board, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATION



LEAD STYLE	MATED HEIGHT*
–03.0 & –03.0	(6.00) .236
–03.0 & –04.0	(7.00) .276
–04.0 & –04.0	(8.00) .315
–03.0 & –06.0	(9.00) .354
–04.0 & –06.0	(10.00) .394
–06.0 & –06.0	(12.00) .472

*Processing conditions will affect mated height.

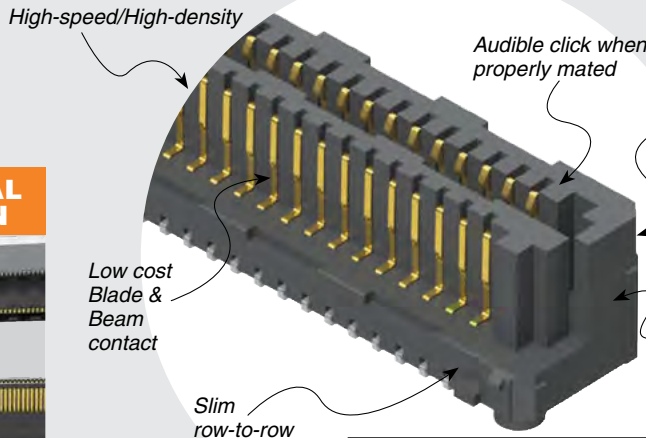
Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with:
LSEM

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions



HIGH-SPEED CHANNEL PERFORMANCE

LSEM-DV/LSEM-DV @ 10 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

LSEM	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	TAIL OPTION	A	N	K	TR

20, 30, 40, 50

Specify LEAD STYLE from chart

–F
= Gold flash on contact, Matte Tin on tail

–L
=10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

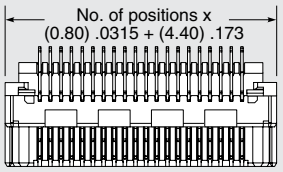
–DV
= Vertical

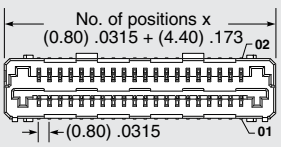
–DH
= Right-angle (Lead style –01 only)

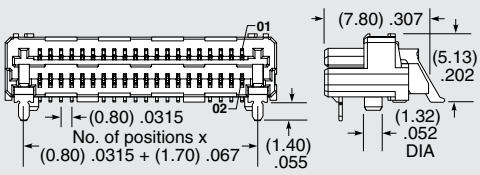
–K
= (5.50 mm) .217" DIA Polyimide film Pick & Place Pad

–TR
= Tape & Reel

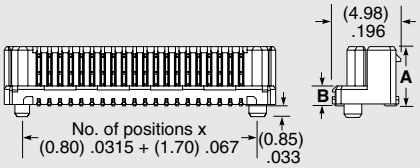
LEAD STYLE	A	B
–01 (-DH only)	NA	NA
–03.0	(4.45) .175	(1.50) .059
–04.0	(5.45) .215	(2.50) .098
–06.0	(7.45) .293	(4.50) .177







–DH



–DV

RUGGEDIZED BY SAMTEC

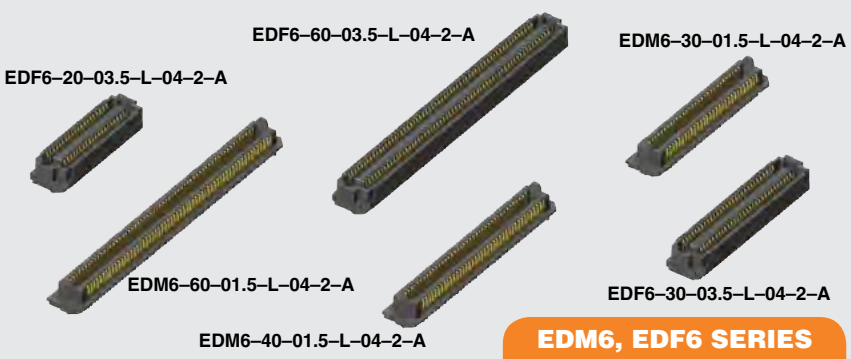
- High retention contacts
- Audible click when mated
- Shrouded

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

EDGERATE®HD

(0.635 mm) .025"



EDM6, EDF6 SERIES

EDGE RATE® HD MICRO INTERFACES

EDM6 Mates with:
EDF6

EDF6 Mates with:
EDM6

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?EDM6 or www.samtec.com?EDF6

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
Testing Now!
Current Rating:
Testing Now!
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

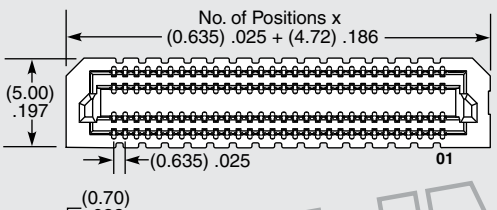
ALSO AVAILABLE
(MOQ Required)

- Other lead styles
- Other rows

Contact Samtec.

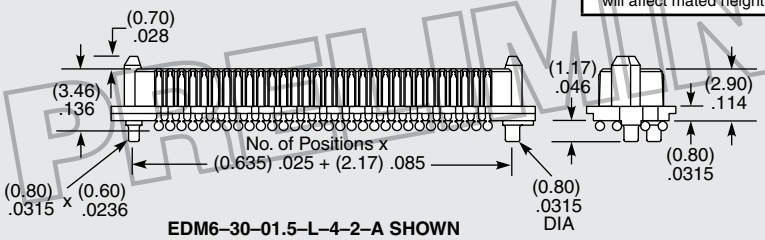
EDM6	NO. OF POSITIONS	01.5	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	OPTION
	–10, –20, –30, –40, –50, –60 (Per Row)		–L = 10 µ" (0.76 µm) Gold on contact area, Matte Tin on tail	–04 = Four Rows	–2 = Lead-Free Solder Ball	Leave blank for no alignment pin –A = Alignment Pin

PAM4 56 Gbps



MATED HEIGHT*	
EDF6 LEAD STYLE	EDM6 LEAD STYLE –01.5
–03.5	(5.00) .197

*Processing conditions will affect mated height.



EDM6–30–01.5–L–4–2–A SHOWN

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

EDF6	NO. OF POSITIONS	03.5	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	OPTION
	–10, –20, –30, –40, –50, –60 (Per Row)		–L = 10 µ" (0.76 µm) Gold on contact area, Matte Tin on tail	–04 = Four Rows	–2 = Lead-Free Solder Ball	Leave blank for no alignment pin –A = Alignment Pin

PAM4 56 Gbps

SPACE-SAVING COMPARISON

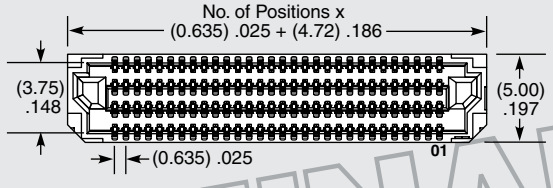


EDX6 Series (240 total positions)



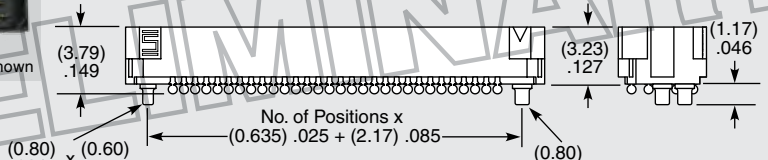
QXH Series (240 total positions)

Actual Size Shown



MATED HEIGHT*	
EDF6 LEAD STYLE	EDM6 LEAD STYLE –01.5
–03.5	(5.00) .197

*Processing conditions will affect mated height.



EDF6–30–03.5–L–4–2–A SHOWN

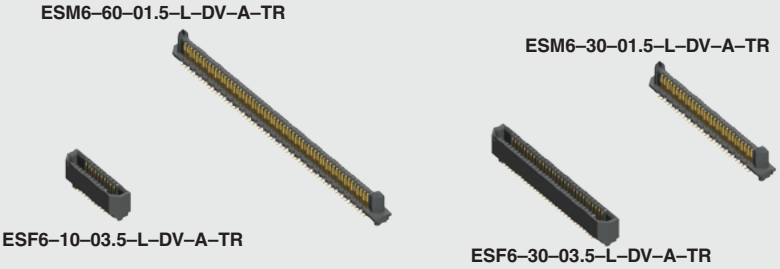
Notes:
Packaged in Tape & Reel with polyimide pick & place pad.

Some sizes, styles and options are non-standard, non-returnable.

PRELIMINARY
PRELIMINARY

samtec

EDGERATE®HD



(0.635 mm) .025"

ESM6, ESF6 SERIES

EDGE RATE® HD MICRO INTERFACES

ESM6 Mates with:
ESF6

ESF6 Mates with:
ESM6

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ESM6 or www.samtec.com?ESF6

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
Testing Now!
Current Rating:
Testing Now!
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

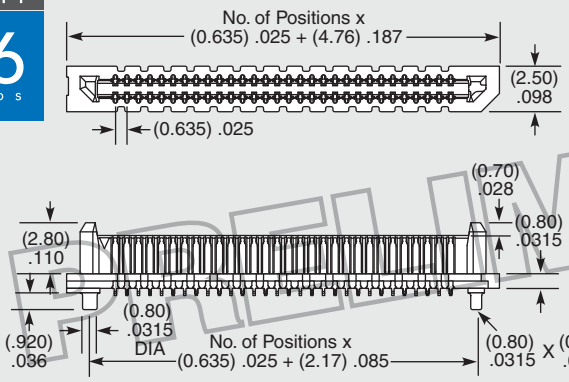
ALSO AVAILABLE
(MOQ Required)

- Other lead styles
- Other sizes
- Other plating options

Contact Samtec.

ESM6	NO. OF POSITIONS	01.5	PLATING OPTION	DV	OPTION	TR
	–10, –20, –30, –40, –50, –60 (Per Row) (Standard Sizes)		–L = 10 µ" (0.76 µm) Gold on contact area, Matte Tin on tail		Leave blank for no alignment pin –A = Alignment Pin	–TR = Tape & Reel Packaging

PAM4 56 Gbps



ESM6–30–01.5–L–DV–A SHOWN

MATED HEIGHT*	
ESF6 LEAD STYLE	ESM6 LEAD STYLE –01.5
–03.5	(5.00) .197

*Processing conditions will affect mated height.

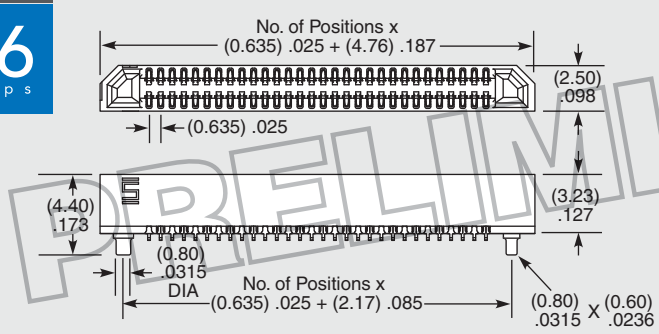
POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

ESF6	NO. OF POSITIONS	03.5	PLATING OPTION	DV	OPTION	TR
	–10, –20, –30, –40, –50, –60 (Per Row) (Standard Sizes)		–L = 10 µ" (0.76 µm) Gold on contact area, Matte Tin on tail		Leave blank for no alignment pin –A = Alignment Pin	–TR = Tape & Reel Packaging

PAM4 56 Gbps



ESF6–30–03.5–L–DV–A SHOWN

MATED HEIGHT*	
ESF6 LEAD STYLE	ESM6 LEAD STYLE –01.5
–03.5	(5.00) .197

*Processing conditions will affect mated height.

Notes:
Tape & Reel packaging is standard.

Some sizes, styles and options are non-standard, non-returnable.

PRELIMINARY
PRELIMINARY

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

RAZOR™ BEAMLP SYSTEM


SS4–40–3.00–L–D–K–TR


ST4–20–1.00–L–D–P–TR


ST4–40–1.00–L–D–P–TR


SS4–20–3.00–L–D–K–TR

(0.40 mm) .0158"

SS4, ST4 SERIES

ULTRA-FINE PITCH SOCKET & HEADER

SS4 Mates with:
ST4

ST4 Mates with:
SS4

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SS4 or www.samtec.com?ST4

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
1.6 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

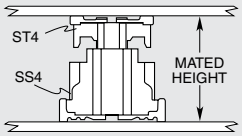
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT



MATED HEIGHT*		
ST4 LEAD STYLE	SS4 LEAD STYLE –3.00	SS4 LEAD STYLE –3.50
–1.00	(4.00) .157	(4.50) .177
–1.50	(4.50) .177	(5.00) .197
–2.50	(5.50) .217	(6.00) .236

*Processing conditions will affect mated height.

Note: Some lengths, styles and options are non-standard, non-returnable.

SS4 – POSITIONS PER ROW – LEAD STYLE – PLATING OPTION – D – K – TR

POSITIONS PER ROW: –10, –20, –30, –40, –50

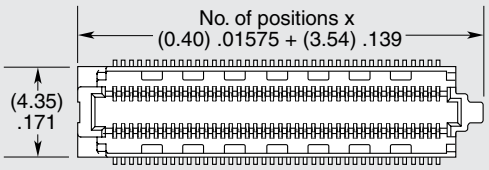
LEAD STYLE:
–3.00 = 3.00 mm
–3.50 = 3.50 mm

PLATING OPTION:
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

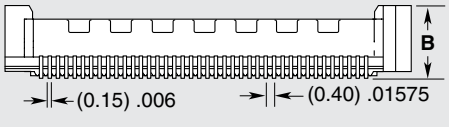
D

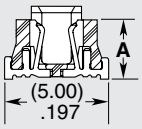
K (Required in callout)
–K = (3.50 mm) .138" DIA Polyimide Film Pick & Place Pad

TR (Required in callout)
–TR = Tape & Reel



LEAD STYLE	A	B
–3.00	(2.85) .112	(3.50) .138
–3.50	(3.35) .132	(4.00) .157





HIGH-SPEED CHANNEL PERFORMANCE

SS4/ST4 @ 4 mm Mated Stack Height

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

ST4 – POSITIONS PER ROW – LEAD STYLE – PLATING OPTION – D – P – TR

POSITIONS PER ROW: –10, –20, –30, –40, –50

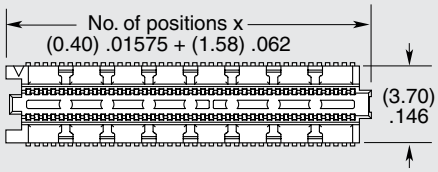
LEAD STYLE:
–1.00 = 1.00 mm
–1.50 = 1.50 mm
–2.50 = 2.50 mm

PLATING OPTION:
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

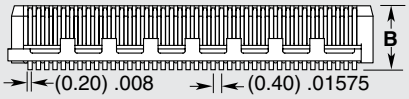
D

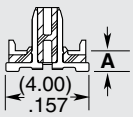
P (Required in callout)
–P = Pick & Place Pad

TR (Required in callout)
–TR = Tape & Reel



LEAD STYLE	A	B
–1.00	(1.00) .039	(3.08) .121
–1.50	(1.50) .059	(3.58) .141
–2.50	(2.50) .098	(4.58) .180





Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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RAZOR™ BEAMLP SYSTEM


SS5–10–3.00–L–D–K–TR


ST5–20–1.50–L–D–P–TR


SS5–20–3.00–L–D–K–TR


SS5–20–3.50–L–D–K–TR


ST5–20–1.00–L–D–P–TR


ST5–10–1.00–L–D–P–TR

(0.50 mm) .0197"

SS5, ST5 SERIES

ULTRA-FINE PITCH SOCKET

SS5 Mates with:
ST5

ST5 Mates with:
SS5

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SS5 or www.samtec.com?ST5

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.6 A per pin
(2 pins powered)
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT*		
ST5 LEAD STYLE	SS5 LEAD STYLE	
	–3.00	–3.50
–1.00	(4.00) .157	(4.50) .177
–1.50	(4.50) .177	(5.00) .197

*Processing conditions will affect mated height.

ALSO AVAILABLE (MOQ Required)

- Other lead styles

Contact Samtec.

Note:
Some lengths, styles and options are non-standard, non-returnable.

SS5 – NO. OF POSITIONS – LEAD STYLE – PLATING OPTION – D – K – TR

NO. OF POSITIONS: –10, –15, –20, –30, –40, –50, –60, –70, –80 (Per Row)

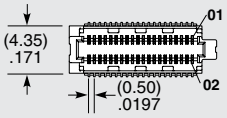
LEAD STYLE:
–3.00 = 3.00 mm
–3.50 = 3.50 mm

PLATING OPTION:
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

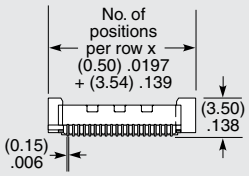
D

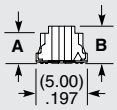
K: (Required in callout)
–K = (3.50 mm) .138" DIA Polyimide Film Pick & Place Pad

TR: (Required in callout)
–TR = Tape & Reel



LEAD STYLE	A	B
–3.00	(2.85) .112	(3.50) .138
–3.50	(3.35) .132	(4.00) .157





POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

HIGH-SPEED CHANNEL PERFORMANCE

SS5/ST5 @ 4 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4 56 Gbps

ST5 – NO. OF POSITIONS – LEAD STYLE – PLATING OPTION – D – P – TR

NO. OF POSITIONS: –10, –15, –20, –30, –40, –50, –60, –70, –80 (Per Row)

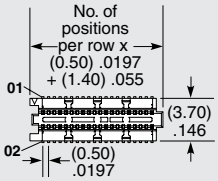
LEAD STYLE:
–1.00 = 1.00 mm
–1.50 = 1.50 mm

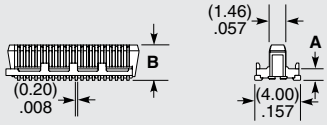
PLATING OPTION:
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

D

P: (Required in callout)
–P = Pick & Place Pad

TR: (Required in callout)
–TR = Tape & Reel

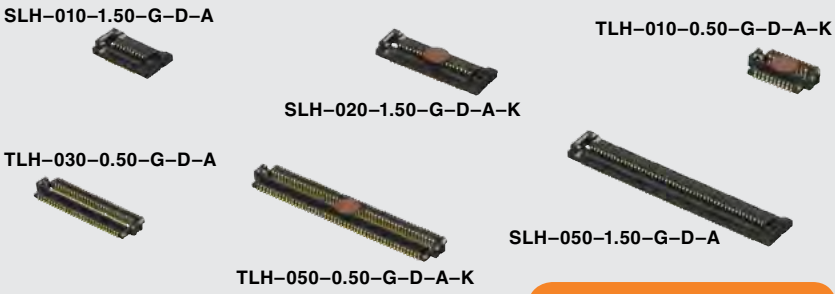




LEAD STYLE	A	B
–1.00	(1.00) .039	(3.08) .121
–1.50	(1.50) .059	(3.58) .141

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RAZOR™ BEAM LP SYSTEM



(0.50 mm) .0197"

TLH, SLH SERIES

ULTRA-LOW PROFILE TERMINAL

TLH Mates with:
SLH

SLH Mates with:
TLH

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TLH or www.samtec.com?SLH

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Copper Alloy
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
2.1 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

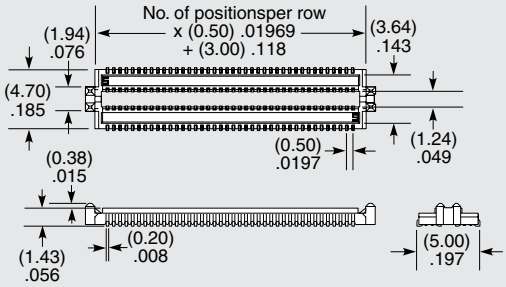
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

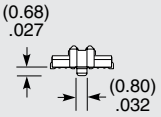
Note: Some lengths, styles and options are non-standard, non-returnable.

TLH –	NO. OF POSITIONS	– LEAD STYLE	– PLATING OPTION	– D –	OPTION	– OPTION
	–010, –020, –030, –040, –050 (Per Row)	–0.50 =0.50 mm	–G = 10 µ" (0.25 µm) Gold in contact, Gold flash on tail		–A = Alignment Pin	–K = (3.00 mm) .118" DIA Polyimide Film Pick & Place Pad

–040 & –050 POSITIONS PRELIMINARY



–040 POSTIONS SHOWN



–A OPTION

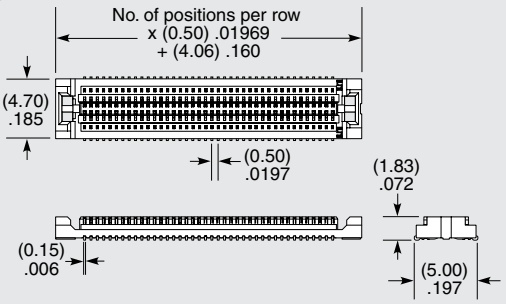
HIGH-SPEED CHANNEL PERFORMANCE

TLH/SLH @ 2 mm Mated Stack Height
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

SLH –	NO. OF POSITIONS	– LEAD STYLE	– PLATING OPTION	– D –	OPTION	– OPTION
	–010, –020, –030, –040, –050 (Per Row)	–1.50 = 1.50 mm	–G = 10 µ" (0.25 µm) Gold in contact, Gold flash on tail		–A = Alignment Pin	–K = (3.00 mm) .118" DIA Polyimide Film Pick & Place Pad

–040 & –050 POSITIONS PRELIMINARY



–40 POSTIONS SHOWN

–A OPTION

Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

HIGH-SPEED EDGE CARD

MICRO EDGE CARD SOCKETS

0.50 mm High-Density Edge Card Sockets (BEC5C) 120
0.50 mm Micro Pitch Sockets (MEC5) 121
0.635 mm Micro Pitch Sockets (MEC6) 122-123
0.80 mm Micro Pitch Sockets (MEC8) 124-126
Power/Signal Combo Edge Card Sockets (HSEC8-PV) 127
0.80 mm Pitch Edge Rate® Socket (HSEC8) 128-133
0.80 mm Pitch Elevated Riser Card Kit (RU8, HSC8) 130
1.00 mm Pitch Edge Rate® Socket (HSEC1) 136
1.00 mm Pitch High-Speed Through Board Socket (SAL1) 137
PCI Express® Socket (PCIE) 138
Low-Profile PCI Express® Socket (PCIE-LP) 139

MINI EDGE CARD INTERFACES

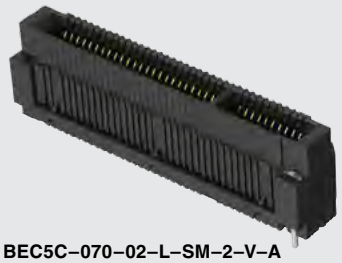
1.00 mm Pitch Mini Edge Card Socket (MEC1) 134-135
1.27 mm Pitch Mini Edge Card Socket (MECF) 140
2.00 mm Pitch Mini Edge Card Socket (MEC2) 141-142

APPLICATIONS

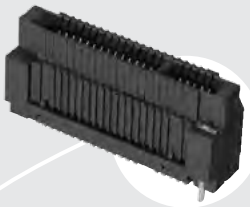
Edge Card 20-21

samtec

EDGE® RATE CONTACT



BEC5C–070–02–L–SM–2–V–A



BEC5C–040–02–L–SM–2–V–A

(0.50 mm) .0197"

BEC5C SERIES

LOW COST HIGH-DENSITY EDGE CARD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?BEC5C

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.5 A per pin
(4 adjacent pins powered)
Voltage Rating:
200 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other platings

Contact Samtec.

Mates with:
(1.60 mm) .062" and
(2.36 mm) .093" thick cards



Lead-free solder crimps

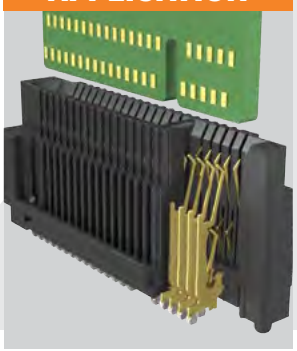


Weld tab

RUGGEDIZED BY SAMTEC

- Solder crimps

APPLICATION



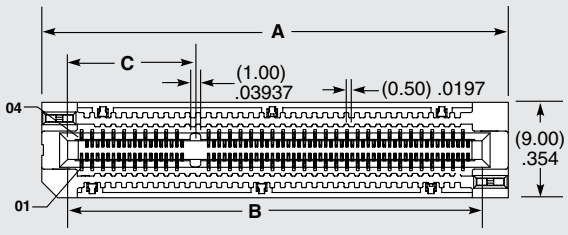
HIGH-SPEED CHANNEL PERFORMANCE

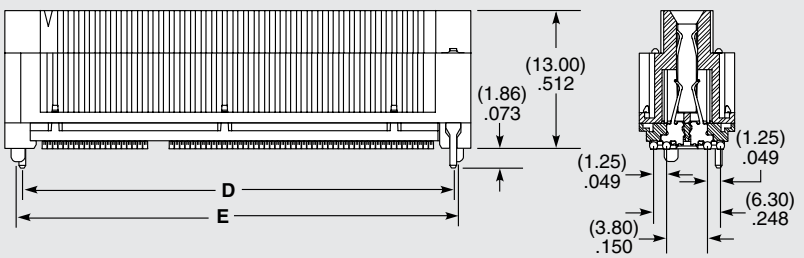
BEC5C

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

BEC5C	–	POSITIONS PER ROW	–	CARD	–	PLATING OPTION	–	SM	–	2	–	V	–	A	–	OPTION
		–040, –050, –060, –070		–02 = (1.60 mm) .062" thick card –03 = (2.36 mm) .093" thick card		–L = 10 µ" (0.25 µm) Gold on contact area, Gold flash on solder tail								–K = (8.25 mm) .325" Polyimide film Pick & Place Pad		





POSITIONS PER ROW	A	B	C	D	E
–040	(29.00) 1.142	(24.15) .951	(7.08) .279	(25.70) 1.012	(26.50) 1.043
–050	(34.00) 1.339	(29.15) 1.148	(7.08) .279	(30.70) 1.209	(31.50) 1.240
–060	(39.00) 1.535	(34.15) 1.344	(12.08) .475	(35.70) 1.406	(36.50) 1.437
–070	(44.00) 1.732	(39.15) 1.541	(12.08) .475	(40.70) 1.602	(41.50) 1.634

Notes:
Patented

While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information.

May not be suitable for hot plugging application, contact Samtec engineering.

Some sizes, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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MEC5–050–01–L–DV–W1–K–TR

MEC5–040–01–L–RA–W2



(0.50 mm) .0197"

MEC5-DV, MEC5-RA SERIES

VERTICAL/RIGHT-ANGLE CARD SOCKET

Mates with:
(1.60 mm) .062" thick card with standard board tolerance

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC5-DV

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
Testing Now!
Current Rating:
1.5 A per pin
(2 pins powered)
Voltage Rating:
125 VAC/175 VDC
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes

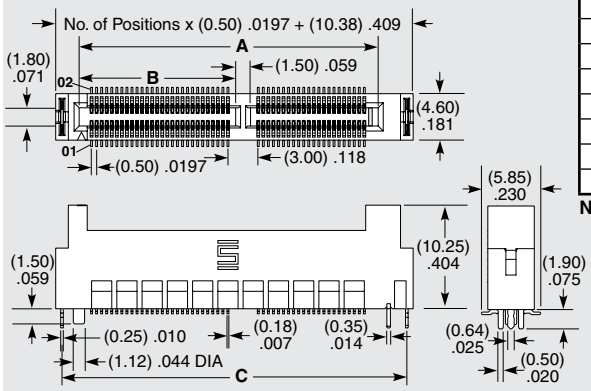
Note: Some sizes, styles and options are non-standard, non-returnable.

MEC5	–	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	DV	–	W1	–	K	–	TR

–030, –040, –050, –060, –070, –080, –090, –100

–01
= (1.60 mm) .062" thick card

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail



–W1 SHOWN

POSITION PER ROW	A	B	C
–30	(17.10) .673	N/A	(21.63) .852
–40	(22.10) .870	N/A	(26.63) 1.048
–50	(29.60) 1.165	(15.48) .609	(34.13) 1.344
–60	(34.60) 1.362	(17.98) .708	(39.13) 1.541
–70	(39.60) 1.559	(20.48) .806	(44.13) 1.737
–80	(44.60) 1.756	(22.98) .905	(49.13) 1.934
–90	(49.60) 1.953	(25.48) 1.003	(54.13) 2.131
–100	(54.60) 2.150	(27.98) 1.102	(59.13) 2.328

Note: Polarization rib is not present on –030 & -040 postions

HIGH-SPEED CHANNEL PERFORMANCE

MEC5-DV

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4 56 Gbps

Mates with:
(1.60 mm) .062" thick card with standard board tolerance

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC5-RA

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
Testing Now!
Current Rating:
1.5 A per pin
(2 pins powered)
Voltage Rating:
125 VAC/175 VDC
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes

Note: Some sizes, styles and options are non-standard, non-returnable.

MEC5	–	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	RA	–	WELD TAB

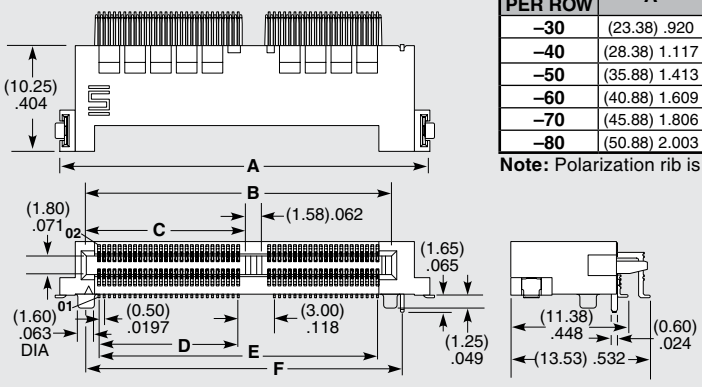
–030, –040, –050, –060, –070, –080

–01
= (1.60 mm) .062" thick card

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–W1
= Weld Tab Through-hole

–W2
= Weld Tab Surface Mount



–W2 SHOWN

POSITION PER ROW	A	B	C
–30	(23.38) .920	(17.10) .673	N/A
–40	(28.38) 1.117	(22.10) .870	N/A
–50	(35.88) 1.413	(29.60) 1.165	(15.44) .608
–60	(40.88) 1.609	(34.60) 1.362	(17.94) .706
–70	(45.88) 1.806	(39.60) 1.559	(20.44) .805
–80	(50.88) 2.003	(44.60) 1.756	(22.94) .903

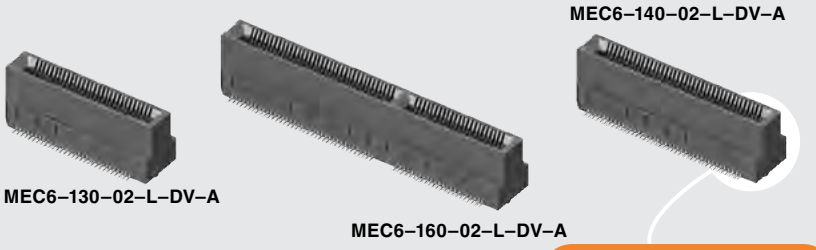
Note: Polarization rib is not present on –030 & -040 postions

POSITION PER ROW	D	E	F
–30	N/A	(14.50) .571	(18.16) .715
–40	N/A	(19.50) .768	(23.16) .912
–50	(13.50) .531	(27.00) 1.063	(30.66) 1.207
–60	(16.00) .630	(32.00) 1.260	(35.66) 1.404
–70	(18.50) 728	(37.00) 1.457	(40.66) 1.601
–80	(21.00) 2.003	(42.00) 1.654	(45.66) 1.798

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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(0.635 mm) .025"

MEC6-DV SERIES

VERTICAL MICRO EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC6-DV

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(4.22 mm) .166" to
(5.66 mm) .223"
Current Rating:
2.4 A per pin
(2 pins powered)
Voltage Rating:
210 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-50)
(0.15 mm) .006" max (60-70)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

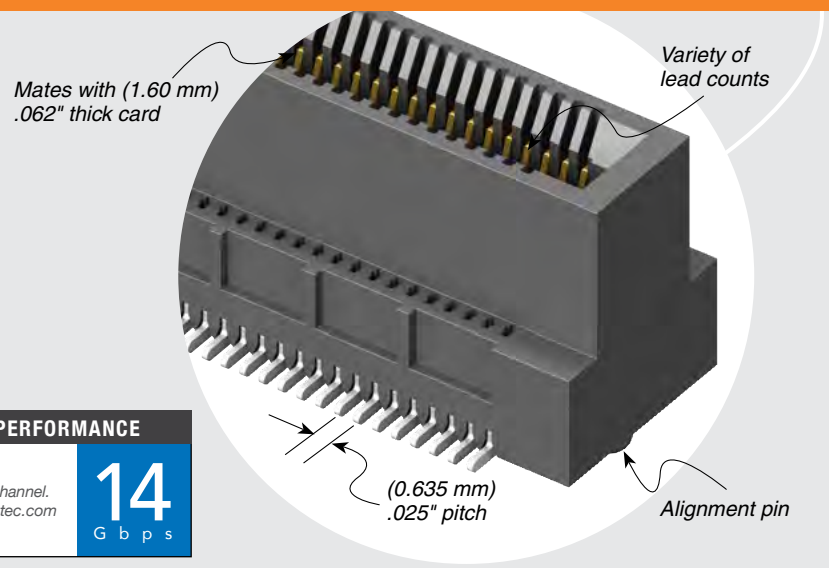
FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Locking Clip
  (Manual placement required)
- Other platings

Contact Samtec.

Mates with:
(1.60 mm) .062" thick card

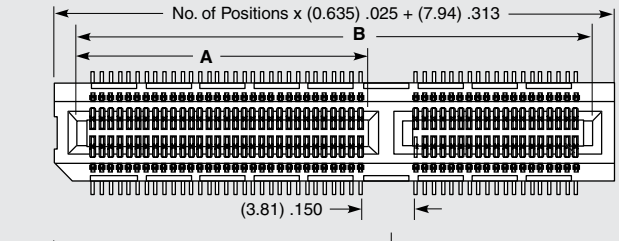


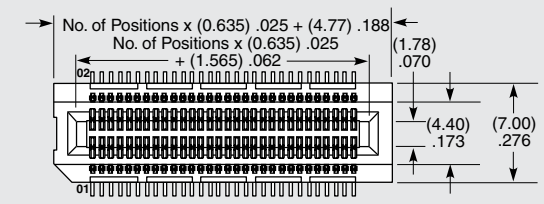
HIGH-SPEED CHANNEL PERFORMANCE

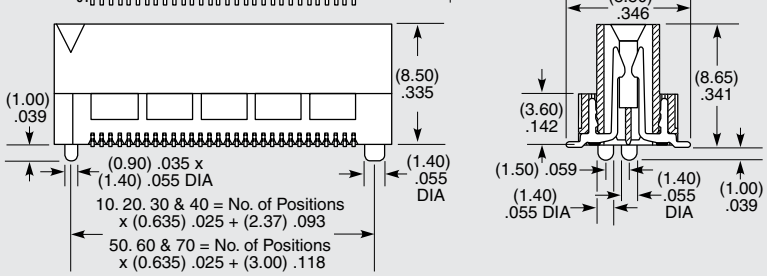
MEC6-DV
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

MEC6	-	1	POSITIONS PER ROW	-	02	-	PLATING OPTION	-	DV	-	A	-	OPTION
			10, 20, 30, 40, 50, 60, 70				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–K = (5.50 mm) .217" DIA Polyimide Pick & Place Pad –TR = Tape & Reel		







POSITIONS PER ROW	A	B
50	(21.06) .829	(36.49) 1.437
60	(24.87) .979	(42.84) 1.687
70	(28.68) 1.129	(49.19) 1.937

Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information.

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MEC6–150–02–L–D–RA1



MEC6–120–02–L–D–RA1



MEC6–130–02–L–D–RA1

(0.635 mm) .025"

MEC6-RA SERIES

RIGHT-ANGLE MICRO EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC6-RA

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(4.22 mm) .166" to
(5.66 mm) .223"
Current Rating:
2.4 A per pin
(2 pins powered)
Voltage Rating:
195 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-30)
(0.15 mm) .006" max (40-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

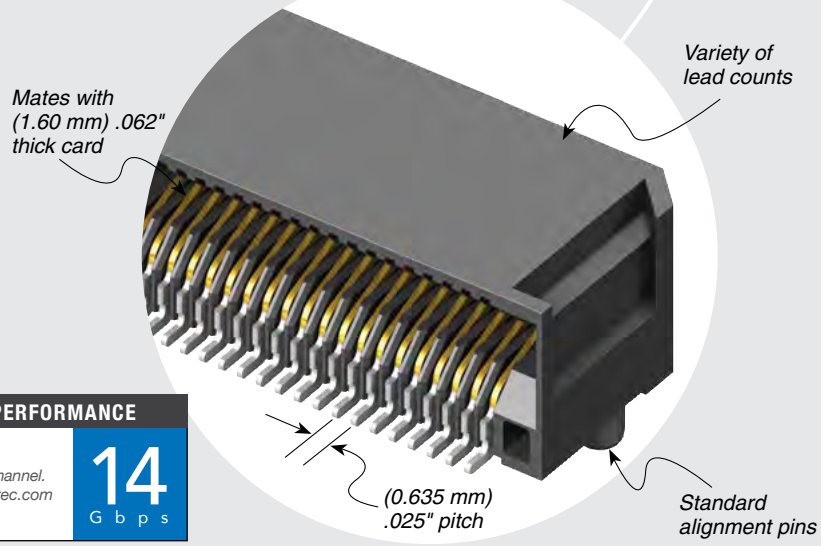
FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other platings

Contact Samtec.

Mates with:
(1.60 mm) .062" thick card



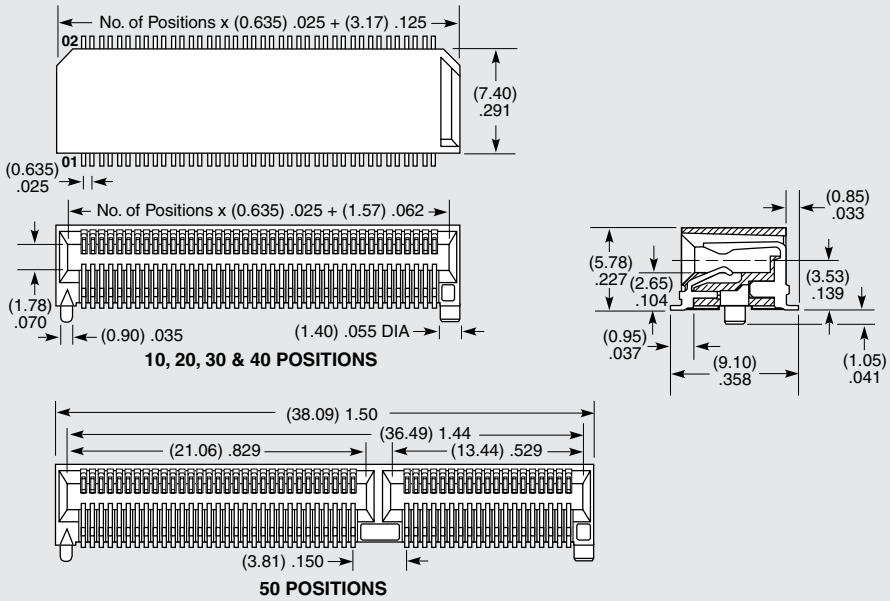
HIGH-SPEED CHANNEL PERFORMANCE

MEC6-RA

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

MEC6	-	1	POSITIONS PER ROW	-	02	-	PLATING OPTION	-	D	-	TAIL OPTION	-	OPTION
			10, 20, 30, 40, 50				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–RA1 = Right-angle		–TR = Tape & Reel



Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information.

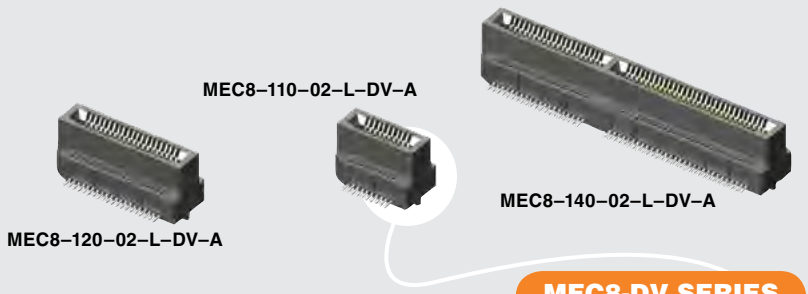
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WWW.SAMTEC.COM

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(0.80 mm) .0315"

MEC8-DV SERIES

VERTICAL MICRO EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC8-DV

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(4.22 mm) .166" to
(5.66 mm) .223"
Current Rating:
1.8 A per pin
(4 adjacent pins powered)
Voltage Rating:
185 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-50)
(0.15 mm) .006" max (60-70)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- 1 mm mating card thickness option
- Locking clip (Manual placement required)

Contact Samtec.

OTHER SOLUTIONS

- Right-angle
- Edge Mount

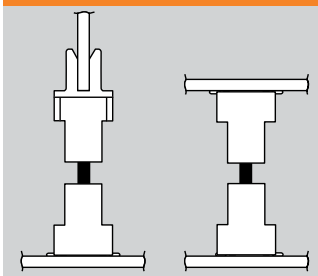
See samtec.com?MEC8-RA or samtec.com?MEC8-EM

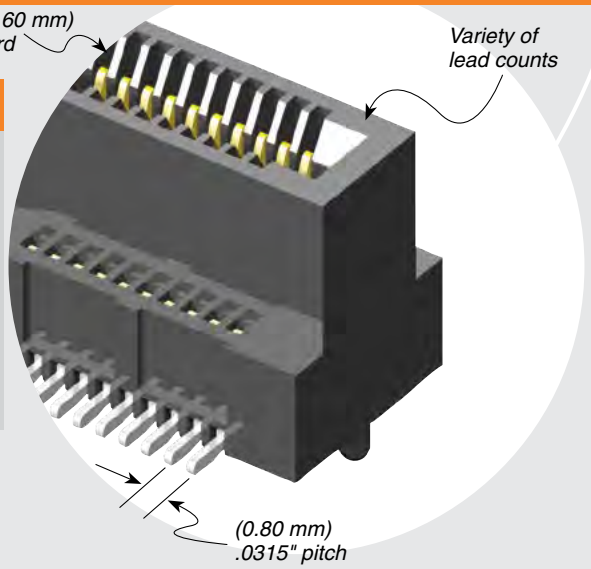
Notes:
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Some sizes, styles and options are non-standard, non-returnable.

Mates with:
(1.60 mm) .062" thick card

APPLICATIONS





HIGH-SPEED CHANNEL PERFORMANCE

MEC8-DV

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

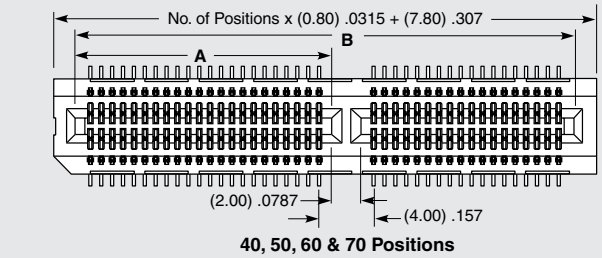
MEC8	–	1	POSITIONS PER ROW	–	02	–	PLATING OPTION	–	DV	–	OTHER OPTION

10, 20, 30, 40, 50, 60, 70

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

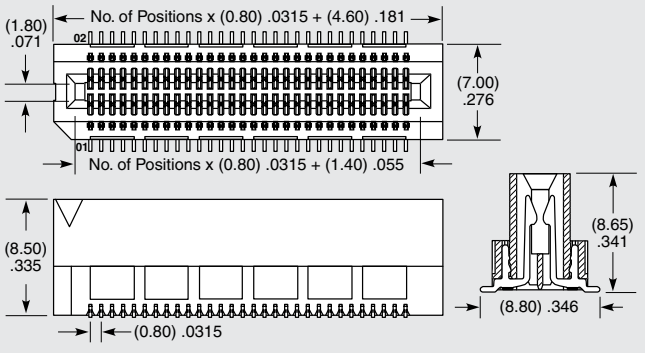
–A
= Alignment Pin

–K
= (5.50 mm) .217" DIA Polyimide Pick & Place Pad



40, 50, 60 & 70 Positions

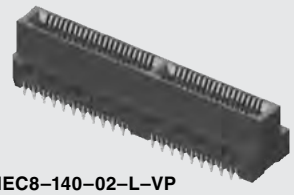
POSITIONS PER ROW	A	B
40	(18.90) .744	(36.60) 1.441
50	(22.90) .902	(44.60) 1.756
60	(26.90) 1.059	(52.60) 2.071
70	(30.90) 1.217	(60.60) 2.386



10, 20 & 30 Positions

–A OPTION

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MEC8–140–02–L–VP

MEC8–110–02–L–VP



(0.80 mm) .0315"

MEC8-VP SERIES

PRESS-FIT MICRO EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC8-VP

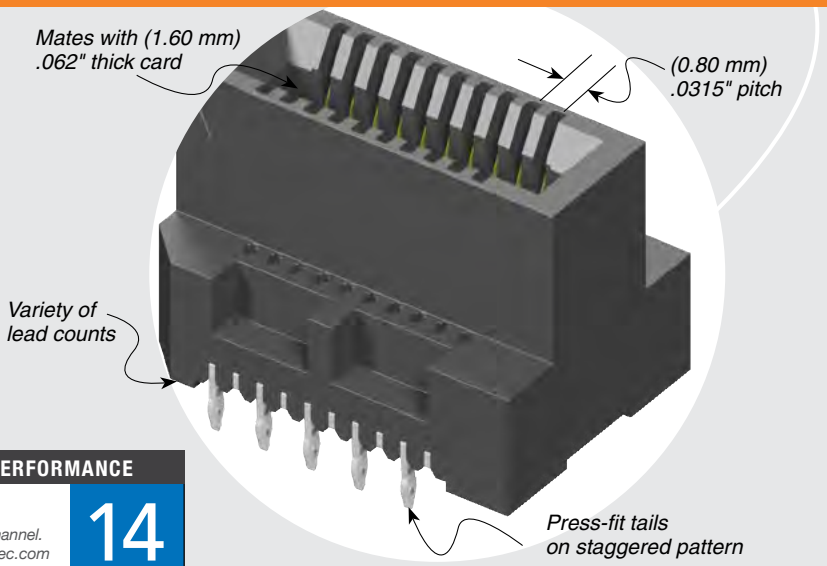
Insulator Material:
Liquid Crystal Polymer
Contact Material:
Copper
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
3.3 A per pin
(2 adjacent pins powered)
Voltage Rating:
188 VAC/265 VDC
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Mates with:
(1.60 mm) .062" thick card



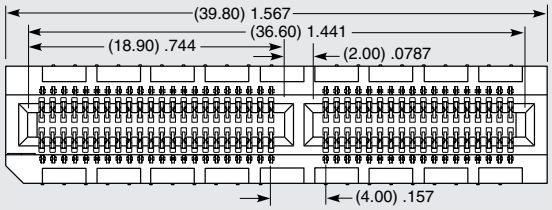
HIGH-SPEED CHANNEL PERFORMANCE

MEC8-VP

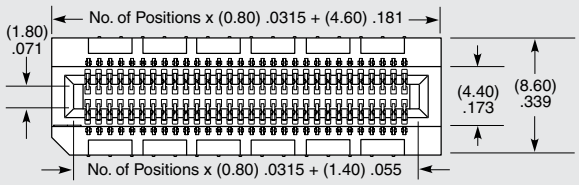
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

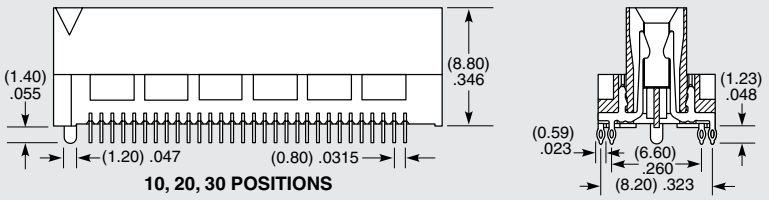
14 Gbps

MEC8	– 1	POSITIONS PER ROW	– CARD THICKNESS	– PLATING OPTION	– TAIL
		10, 20, 30, 40	–02 = (1.60 mm) .062" thick card	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	–VP = Press-fit



40 POSITIONS





10, 20, 30 POSITIONS

Notes:
Patent Pending

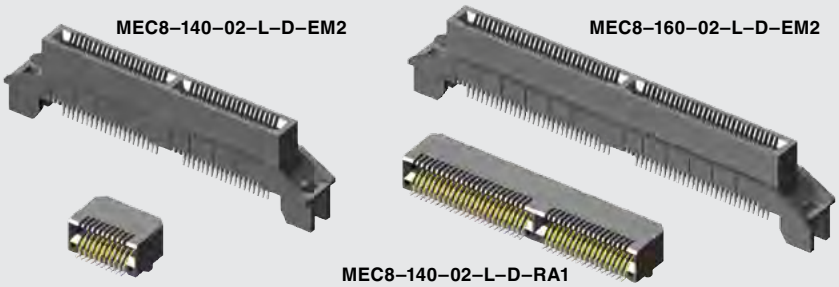
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information.

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(0.80 mm) .0315"

MEC8-RA, MEC8-EM SERIES

RIGHT-ANGLE/EDGE MOUNT SOCKETS

Mates with:
(1.60 mm) .062" thick card

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC8-RA

Insulator Material: Black LCP
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +125 °C
Insertion Depth: (3.94 mm) .155" to (6.25 mm) .246"
Current Rating: 2.4 A per pin (2 adjacent pins powered)
Voltage Rating: 265 VAC
RoHS Compliant: Yes
Lead–Free Solderable: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note: Some sizes, styles and options are non-standard, non-returnable.

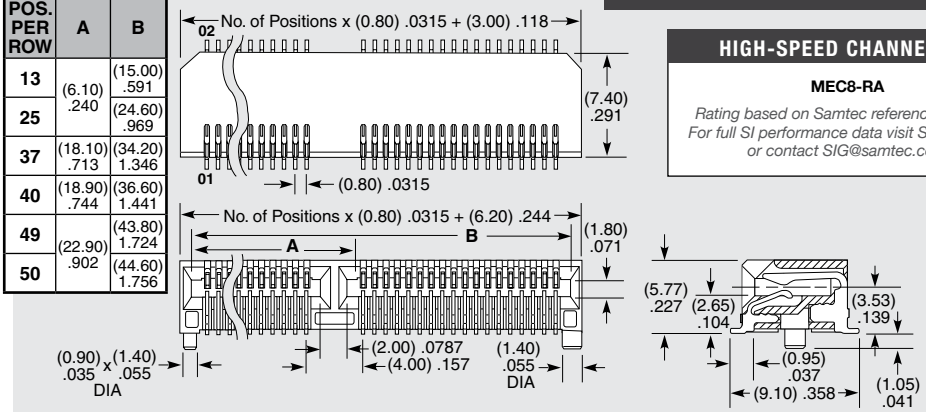
MEC8 - 1 - POSITIONS PER ROW - 02 - PLATING OPTION - D - RA1 - OTHER OPTION

POSITIONS PER ROW: 10, 13, 20, 25, 30, 37, 40, 49, 50

PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

OTHER OPTION: –TR = Tape & Reel Packaging

POS. PER ROW	A	B
13	(6.10) .240	(15.00) .591
25		(24.60) .969
37	(18.10) .713	(34.20) 1.346
40	(18.90) .744	(36.60) 1.441
49	(22.90) .902	(43.80) 1.724
50		(44.60) 1.756



HIGH-SPEED CHANNEL PERFORMANCE

MEC8-RA

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

ALSO AVAILABLE (MOQ Required)

- 1 mm mating card thickness option
- Latching option
- Elevated

Contact Samtec.

Mates with:
(1.60 mm) .062" thick card

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC8-EM

Insulator Material: Black LCP
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +125 °C
Insertion Depth: (4.32 mm) .170" to (5.66 mm) .223"
Current Rating: 2.2 A per pin (2 adjacent pins powered)
Voltage Rating: 265 VAC
RoHS Compliant: Yes
Lead–Free Solderable: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

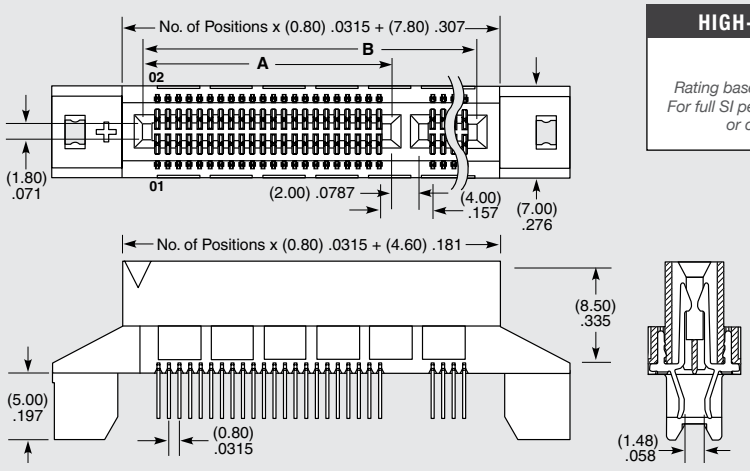
Note: Some sizes, styles and options are non-standard, non-returnable.

MEC8 - 1 - POSITIONS PER ROW - 02 - PLATING OPTION - D - EM2

POSITIONS PER ROW: 10, 20, 30, 40, 50, 60, 70

PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

EM2 = (1.60 mm) .062" thick PCB



HIGH-SPEED CHANNEL PERFORMANCE

MEC8-EM

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

POSITIONS PER ROW	A	B
40	(18.90) .744	(36.60) 1.441
50	(22.90) .902	(44.60) 1.756
60	(26.90) 1.059	(52.60) 2.071
70	(30.90) 1.217	(60.60) 2.386

ALSO AVAILABLE (MOQ Required)

- 1 mm mating card thickness option

Contact Samtec.

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10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

(0.80 mm) .0315"



HSEC8-PV SERIES

POWER/HIGH-SPEED EDGE CARD COMBO

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HSEC8-PV

Insulator Material:
Black Liquid Crystal Polymer
Signal Contact:
BeCu
Power Contact:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp:
-55 °C to +125 °C
Current Rating:
Signal Pin: 3.2 A per pin
(2 pins powered)
Power Pin: 27.5 A per pin
(2 pins powered)
RoHS Compliant:
Yes

PROCESSING

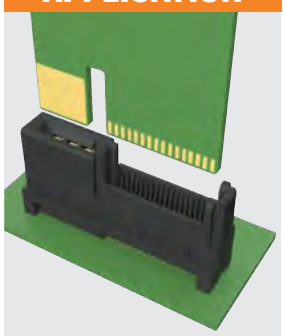
Lead-Free Solderable:
Yes

RECOGNITIONS

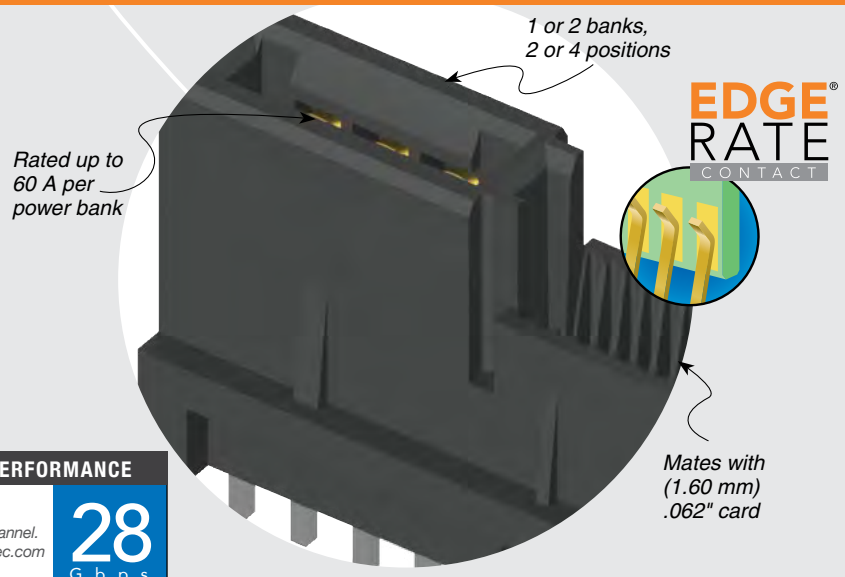
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATION



Mates with:
(1.60 mm) .062" thick card



HIGH-SPEED CHANNEL PERFORMANCE

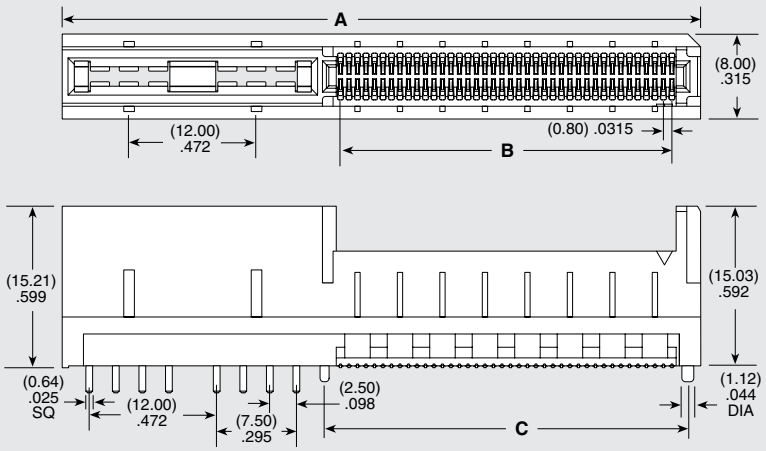
HSEC8-PV

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

HSEC8	1	SIG POS	CARD THICKNESS	PLATING OPTION	PV	PWR POS	POWER TAIL	OTHER OPTION
		20, 30, 40 (Signal positions per row)	–01 = (1.60 mm) .062" Thick Card	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail		–2, –4 (Total, 2 per power bank)	1 = Use with (1.60 mm) .062" Thick PCB –2 = Use with (2.36 mm) .093" Thick PCB	–WT = Weld Tab

SIGNAL POSITIONS	POWER POSITIONS					
	A (–2)	B (–2)	C (–2)	A (–4)	B (–4)	C (–4)
–20	(32.10) 1.264	(15.20) .598	(18.20) .717	(44.10) 1.736	(15.20) .598	(18.20) .717
–30	(40.10) 1.579	(23.20) .913	(26.20) 1.031	(52.10) 2.051	(23.20) .913	(26.20) 1.031
–40	(48.10) 1.894	(31.20) 1.228	(34.20) 1.346	(60.10) 2.366	(31.20) 1.228	(34.20) 1.346



POWER TAIL	D
–1	(2.35) .093
–2	(3.13) .123

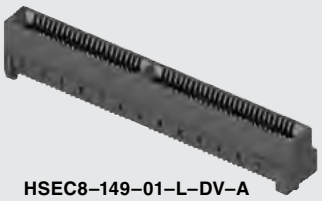
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EDGE® RATE CONTACT



HSEC8–149–01–L–DV–A



HSEC8–125–01–L–DV–A

(0.80 mm) .0315"

HSEC8-DV SERIES

VERTICAL EDGE RATE® CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HSEC8-DV

Insulator Material:
Black Liquid Crystal Polymer
Contact:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.8 A per pin
(2 adjacent pins powered)
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-60)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

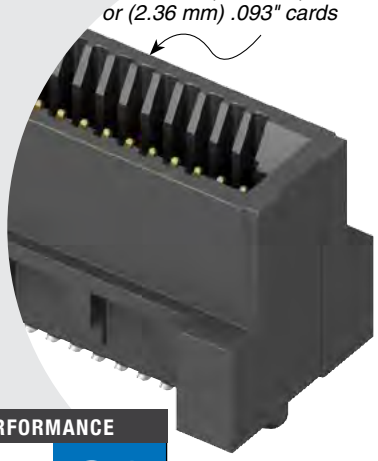
FILE NO: 090871_0_000

Card Mates:
(1.60 mm) .062" card,
(2.36 mm) .093" card,
HSC8

Cable Mates:
ECDP

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

Mates with (1.60 mm) .062" or (2.36 mm) .093" cards



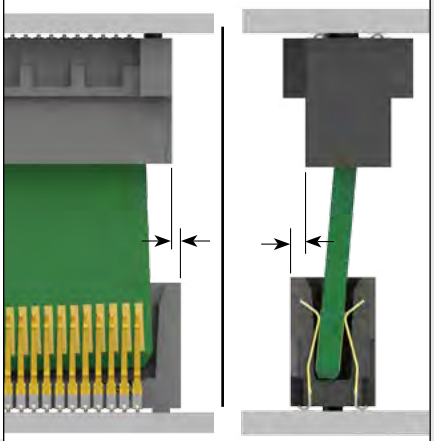
HIGH-SPEED CHANNEL PERFORMANCE

HSEC8-DV

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

MISALIGNMENT MITIGATION



Custom designs compensate for misalignment. Contact Samtec.

HSEC8	–	1	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	DV	–	A	–	OTHER OPTION

09, 10, 13, 20, 25, 30, 37, 40, 49, 50, 60, 70, 80, 100
(13, 25, 49 only available with –L or –L2 option; 09 only available with –L2 option; 37 only available with –L option)

–01
= (1.60 mm) .062" thick card

–03
= (2.36 mm) .093" thick card

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–S
= 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail

–K
= (7.01 mm) .276" DIA Polyimide Film Pick & Place Pad (with –01 card)
= (6.25 mm) .246" DIA Polyimide Film Pick & Place Pad (with –03 card)

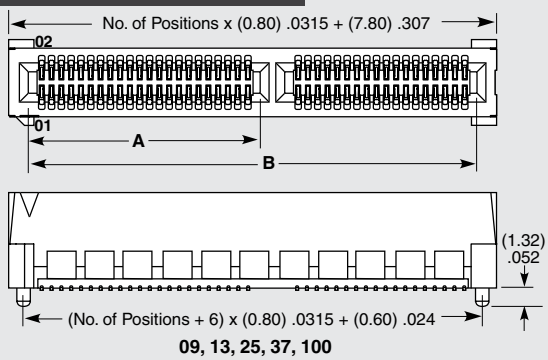
–BL
= Board Locks (40, 50, 60, 80 only) (Other sizes available. Contact Samtec.) (Weld tab standard)

–L
= Latching Option (13, 25, 37, 49 only) (Weld tab standard)

–L2
= ECDP Latching (09, 13, 25, 49 only) (For use with ECDP) (Weld tab standard)

–WT
= Weld tab

–TR
= Tape & Reel (09 - 70 only)

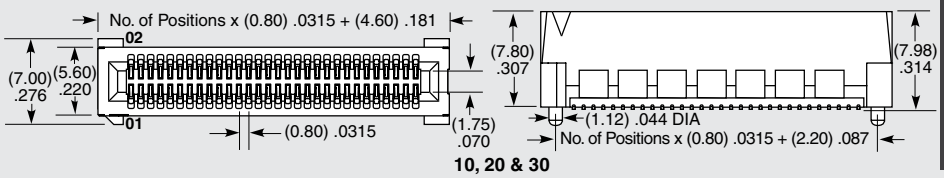


09, 13, 25, 37, 100

POSITIONS PER ROW	A	B
09*†	(4.50) .177	(11.80) .465
13*†	(6.10) .240	(15.00) .591
25*†	(6.10) .240	(24.60) .969
37†	(18.10) .713	(34.20) 1.346
40	(18.90) .744	(36.60) 1.441
49*†	(22.90) .902	(43.80) 1.724
50	(22.90) .902	(44.60) 1.756
60	(26.90) 1.059	(52.60) 2.071
70†	(26.90) 1.059	(60.60) 2.386
80†	(26.90) 1.059	(68.60) 2.701
100†	(26.90) 1.059	(84.60) 3.331

Positions where no dimensions are given do not have keying feature.
* Mates with ECDP Series.
† Available with –01 Card Only.

CABLE	CONNECTOR
ECDP–04	HSEC8–109–L2
ECDP–08	HSEC8–113–L2
ECDP–16	HSEC8–125–L2
ECDP–32	HSEC8–149–L2



10, 20 & 30

Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information.

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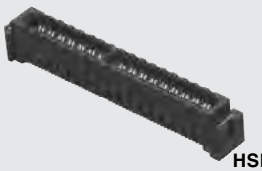
samtec

EDGE® RATE CONTACT

(0.80 mm) .0315"



HSEC8–16–01–L–DP–A



HSEC8–32–01–L–DP–A–WT



HSEC8–08–01–L–DP–A

HSEC8-DP SERIES

DIFFERENTIAL PAIR EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HSEC8-DP

Insulator Material:
Black Liquid Crystal Polymer
Contact:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp:
Testing Now!
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

Card Mates:
(1.60 mm) .062" thick card

APPLICATION



High-Speed Edge Rate® Contacts

Designed for high-speed differential pair applications



Optional weld tab available

HIGH-SPEED CHANNEL PERFORMANCE

HSEC8-DP

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4 56 Gbps

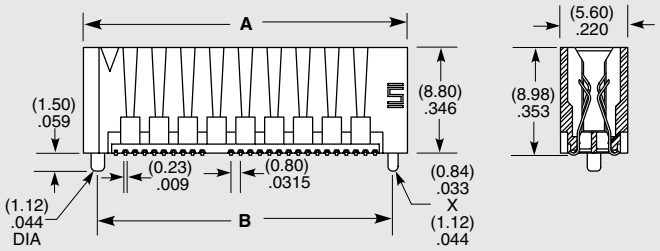
ALSO AVAILABLE (MOQ Required)

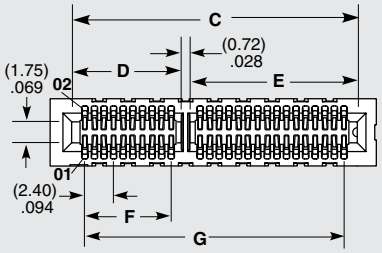
- Other platings
- Other pin counts

Contact Samtec.

HSEC8 – NO. OF PAIRS – 01 – PLATING OPTION – DP – A – OPTION

NO. OF PAIRS	PLATING OPTION	OPTION
–08, –12, –16, –20, –32, –56 (Total Pairs)	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	–WT =Weld Tab





HSEC8–16–01–L–DP–A SHOWN

NO. OF PAIRS	A	B	C	D	E	F	G
–08	(17.40) .685	(15.00) .591	(14.20) .559	(4.34) .171	(9.14) .360	(2.40) .094	(12.00) .472
–12	(22.20) .874	(19.80) .780	(19.00) .748	(6.74) .265	(11.54) .454	(4.80) .189	(16.80) .661
–16	(27.00) 1.063	(24.60) .969	(23.80) .937	(9.14) .360	(13.94) .549	(7.20) .283	(21.60) .850
–20	(31.80) 1.252	(29.40) 1.157	(28.60) 1.126	(11.54) .454	(16.34) .643	(9.60) .378	(26.40) 1.039
–32	(46.20) 1.819	(43.80) 1.724	(43.00) 1.693	(18.74) .738	(23.54) .927	(16.80) .661	(40.80) 1.606
–56	(75.00) 2.953	(72.60) 2.858	(71.80) 2.827	(33.14) 1.305	(37.94) 1.494	(31.20) 1.228	(69.60) 2.740

Notes:
Tape & Reel packaging and K-Dot are standard.

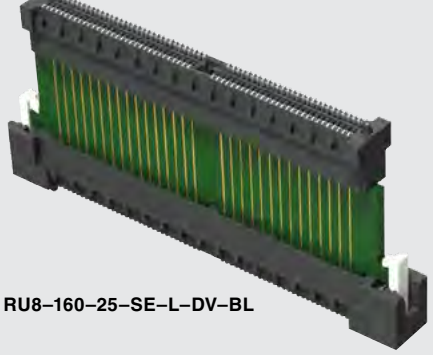
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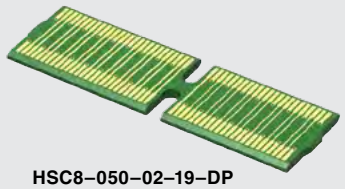
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samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



RU8–160–25–SE–L–DV–BL



HSC8–050–02–19–DP

(0.80 mm) .0315"

RU8, HSC8 SERIES

HIGH-SPEED RISER CARD KIT

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?RU8

CONNECTOR

Insulator Material: Black LCP
Contact: BeCu
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 3.1 A per pin (6 adjacent pins powered)
Operating Temp: -55 °C to +125 °C

EDGE® RATE CONTACT

PROCESSING

Lead-Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max (40-60)
RoHS Compliant: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note: While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information.

RU8	–	1	POSITIONS PER ROW	–	STACK HEIGHT	–	SIGNAL ROUTING	–	PLATING OPTION	–	DV	–	BL	–	OTHER OPTION

POSITIONS PER ROW: 40, 50, 60

Kit contains two connectors and one card. Assembly required.

STACK HEIGHT:
- **–19** = (19 mm) .748"
- **–25** = (25 mm) .984"
- **–30** = (30 mm) 1.180"

SIGNAL ROUTING:
- **–SE** = Single-Ended
- **–DP** = Differential Pair

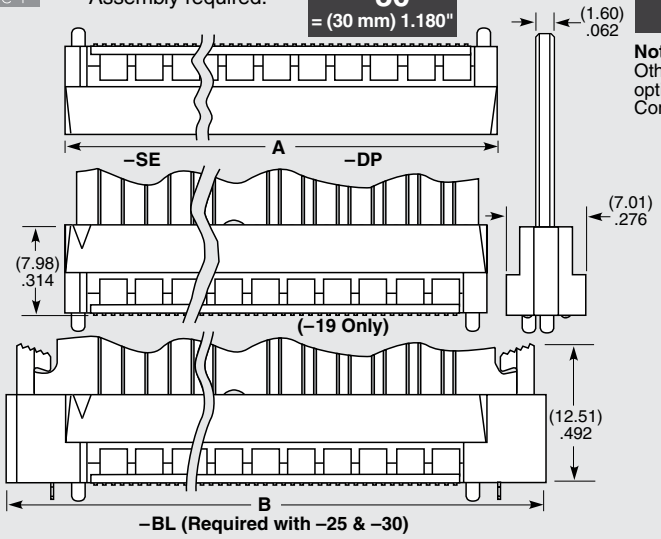
PLATING OPTION:
- **–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Plating for connectors) Plating for Card is Hard Gold

Note: Other Gold plating options available. Contact Samtec.

DV

BL:
- **–BL** = Board Locks (Bottom Socket only) (Not available on –19 stack height)

OTHER OPTION:
- Leave blank for Trays
- **–K** = (5.50 mm) .217" DIA Polyimide Film Pick & Place Pad
- **–TR** = Tape & Reel



NO. OF POSITIONS PER SIDE	A	B	–SE TOTAL SIGNAL LINES	–DP TOTAL SIGNAL PAIRS
40	(39.80) 1.567	(51.05) 2.010	40	26
50	(47.80) 1.882	(59.05) 2.325	50	32
60	(55.80) 2.197	(67.05) 2.640	60	38

Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with:
HSEC8

SPECIFICATIONS

For complete specifications see www.samtec.com?HSC8

Conductor: ½ oz Copper
Contact Area: Hard Gold Plated
Insulator: FR-4
RoHS Compliant: Yes

NO. OF POSITIONS PER SIDE	–SE TOTAL SIGNAL LINES	–DP TOTAL SIGNAL PAIRS
–40	40	26
–50	50	32
–60	60	38

Note: Some sizes, styles and options are non-standard, non-returnable.

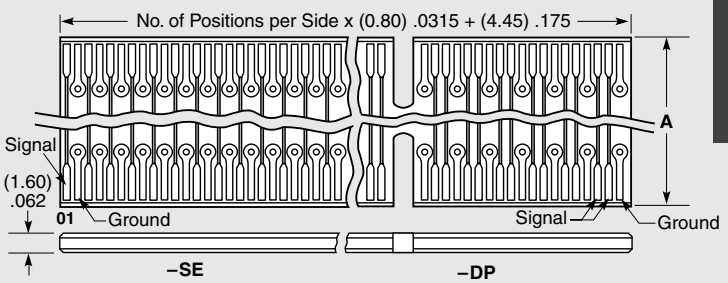
HSC8	–	NUMBER OF POSITIONS PER SIDE	–	CARD STYLE	–	STACK HEIGHT	–	SIGNAL ROUTING

NUMBER OF POSITIONS PER SIDE: –040, –050, –060

CARD STYLE:
- **–02** = (1.60 mm) .062" thick card

STACK HEIGHT:
- **–19** = (19 mm) .748"
- **–25** = (25 mm) .984"
- **–30** = (30 mm) 1.180"

SIGNAL ROUTING:
- **–SE** = Single-Ended
- **–DP** = Differential Pair



STACK HEIGHT	A
–19	(14.84) .584
–25	(20.84) .820
–30	(25.84) 1.017

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10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



HSEC8–120–01–L–DV–A–PE



HSEC8–110–01–L–DV–A–PE

(0.80 mm) .0315"

HSEC8-PE SERIES

PASS-THROUGH EDGE RATE® CARD SOCKET

SPECIFICATIONS

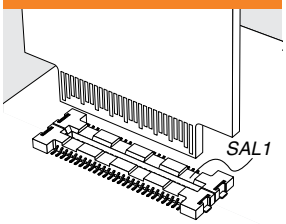
For complete specifications and recommended PCB layouts see www.samtec.com?HSEC8

Insulator Material:
Black Liquid Crystal Polymer
Contact:
BeCu
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-20)

OTHER SOLUTIONS



• Other card pass-through options. See SAL1 Series.

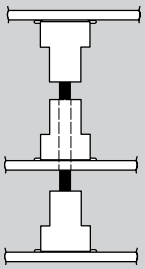
ALSO AVAILABLE (MOQ Required)

• Other platings
Contact Samtec.

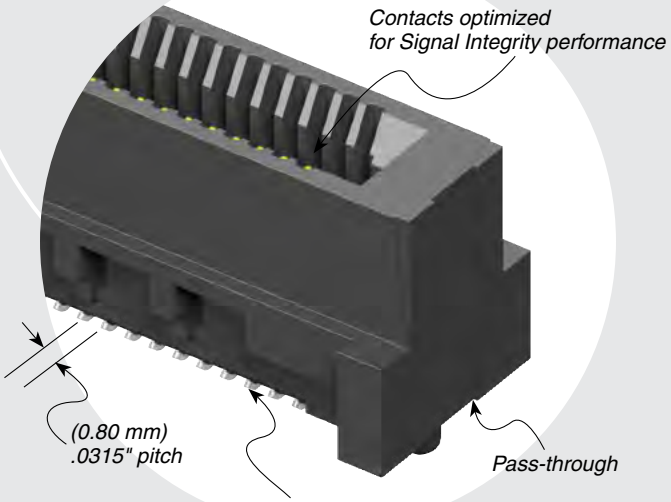
Mates with:
(1.60 mm) .062" thick card, HSC8

EDGE® RATE CONTACT

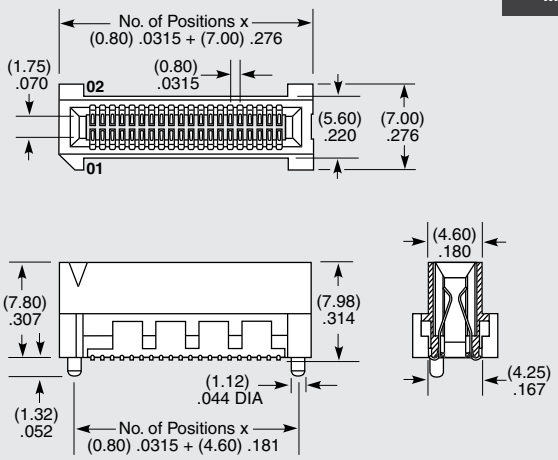
BOARD-TO-BOARD APPLICATIONS



–DV to –PE to –DV



HSEC8	1	POSITIONS PER ROW	CARD THICKNESS	PLATING OPTION	DV	A	PE	OTHER OPTION
		10, 13, 20	–01 = (1.60 mm) .062" thick card	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail				–K = (5.50 mm) .217" DIA Polyimide Film Pick & Place Pad –TR = Tape & Reel Packaging



Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information

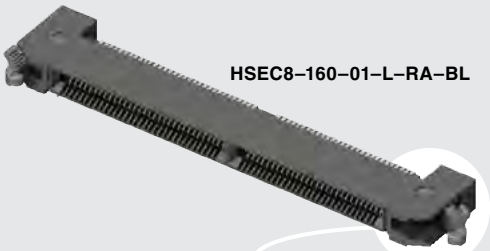
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10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES





(0.80 mm) .0315"

HSEC8-RA SERIES

RIGHT-ANGLE EDGE RATE® CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HSEC8-RA

Insulator Material:
Black Liquid Crystal Polymer
Contact:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.6 A per pin
(2 adjacent pins powered)
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-60)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

- Other platings

Contact Samtec.

Card Mates:
(1.60 mm) .062" thick card, HSC8

Cable Mates:
ECDP

EDGE® RATE CONTACT



Rugged Edge Rate® contacts designed for Signal Integrity



Optional Board Locks

Accepts (1.60 mm) .062" PCB thicknesses

HIGH-SPEED CHANNEL PERFORMANCE

HSEC8-RA

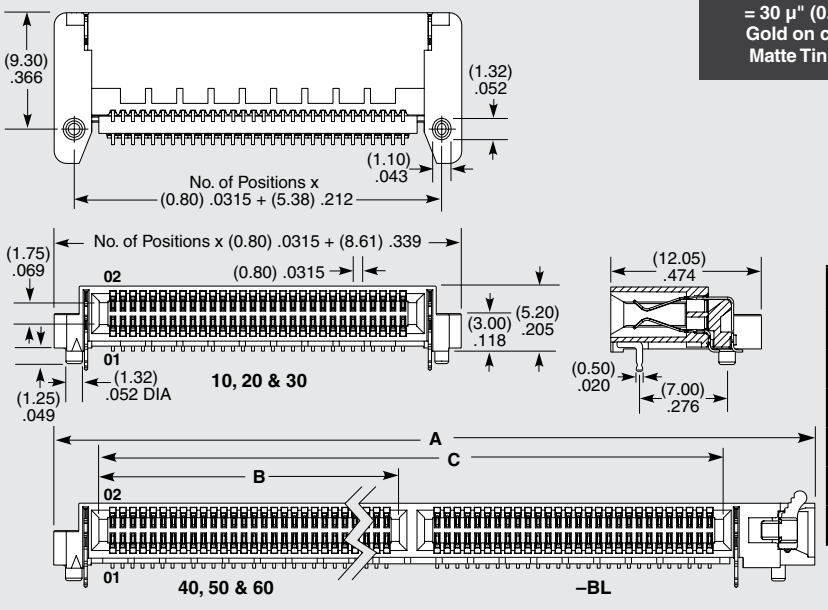
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

RUGGEDIZED BY SAMTEC

- Board lock option

HSEC8	1	POSITIONS PER ROW	CARD THICKNESS	PLATING OPTION	RA	OTHER OPTION
		09, 10, 13, 20, 25, 30, 40, 49, 50, 60	–01 = (1.60 mm) .062" thick card	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail		–BL = Board Locks (09, 13, 25, 40, 49, 50, 60 only) –L2 = ECDP Latching (09, 13, 25, 49 only) (For use with ECDP) –TR = Tape & Reel Packaging (10 thru 60 positions only)



POSITIONS PER ROW	A	B	C
40	(43.80) 1.724	(18.90) .744	(36.60) 1.441
50	(51.80) 2.039	(22.90) .902	(44.60) 1.756
60	(59.80) 2.354	(26.90) 1.059	(52.60) 2.071
40-BL	(51.30) 2.020	(18.90) .744	(36.60) 1.441
50-BL	(59.30) 2.335	(22.90) .902	(44.60) 1.756
60-BL	(67.30) 2.650	(26.90) 1.059	(52.60) 2.071

Notes:
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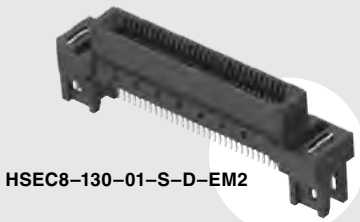
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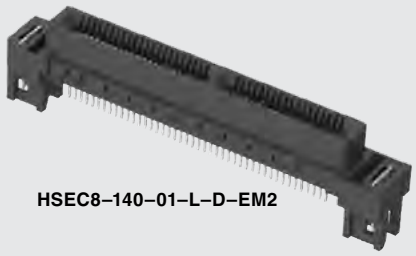
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samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES


HSEC8–130–01–S–D–EM2


HSEC8–140–01–L–D–EM2

(0.80 mm) .0315"

HSEC8-EM SERIES

EDGE MOUNT EDGE RATE® CARD SOCKET

SPECIFICATIONS

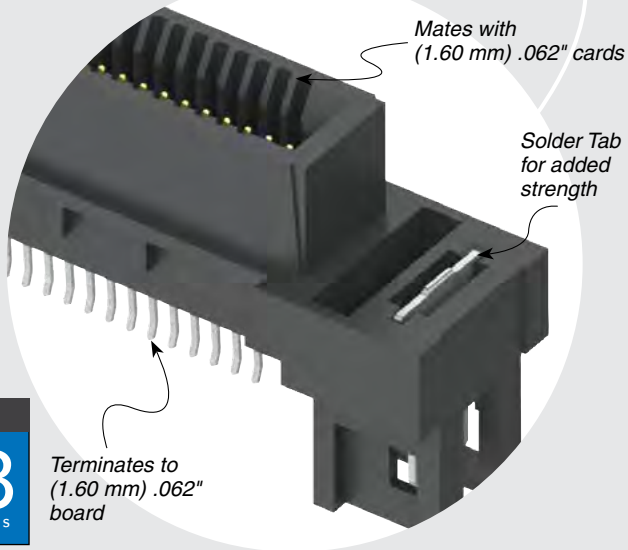
For complete specifications and recommended PCB layouts see www.samtec.com?HSEC8-EM

Insulator Material:
Liquid Crystal Polymer
Contact:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp:
-55 °C to +125 °C
Lead–Free Solderable:
Yes
RoHS Compliant:
Yes

Card Mates:
(1.60 mm) .062" thick card, HSC8

Cable Mates:
ECDP

EDGE® RATE CONTACT



HIGH-SPEED CHANNEL PERFORMANCE

HSEC8-EM

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

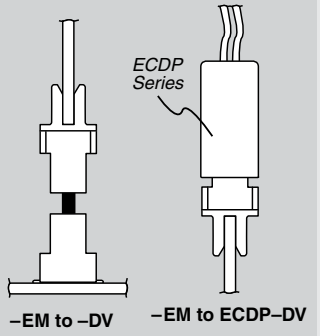
FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other platings

Contact Samtec.

APPLICATIONS



Note:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information.

HSEC8	–	1	POSITIONS PER ROW	–	01	PLATING OPTION	–	D	–	EM2

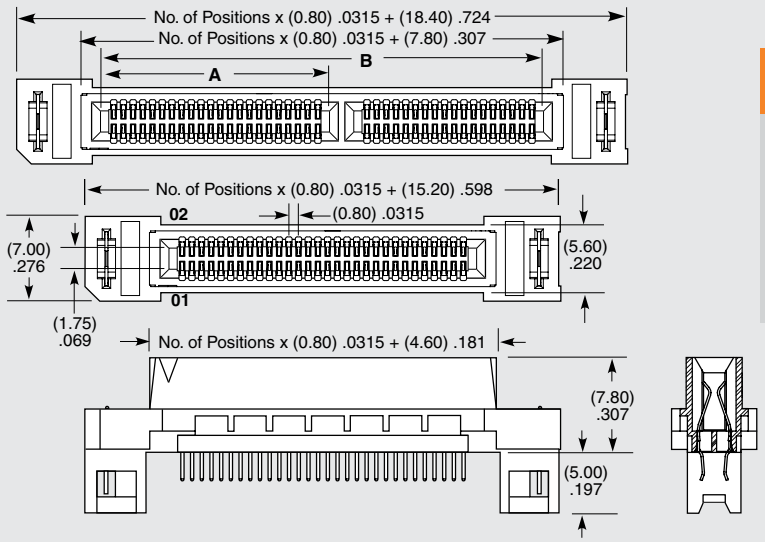
10, 20, 30, 40, 50, 60

POSITIONS PER ROW	A	B
40	(18.90) .744	(36.60) 1.441
50	(22.90) .902	(44.60) 1.756
60	(26.90) 1.059	(52.60) 2.071

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–S
= 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail

–EM2
= (1.60 mm) .062" thick PCB



OTHER SOLUTIONS

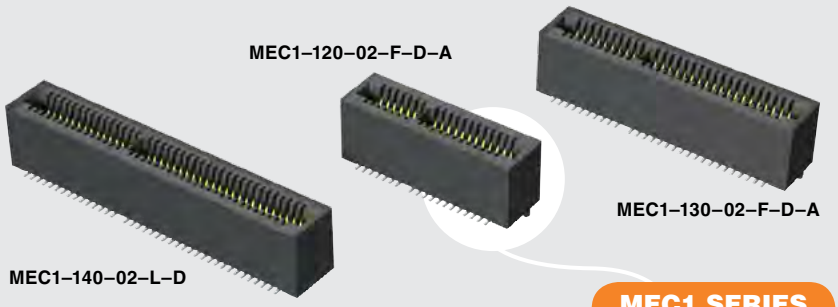
Polarized mates for ECDP Series twinax cables

CONNECTOR	CABLE
HSEC8–113	ECDP–08
HSEC8–125	ECDP–16
HSEC8–137	ECDP–24
HSEC8–149	ECDP–32

Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec



(1.00 mm) .0394"

MEC1 SERIES

MINI EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC1

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
2.2 A per pin
(2 adjacent pins powered)
Voltage Rating:
300 VAC
Insertion Depth:
(5.84 mm) .230" to
(8.13 mm) .320"
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-20)
(0.15 mm) .006" max (30-70)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Locking Clip
  (Manual placement required)
- Other platings

Contact Samtec.

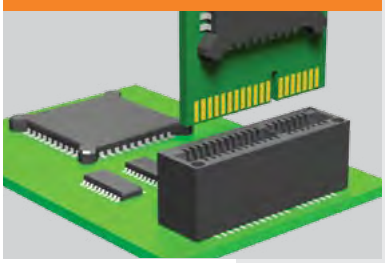
Important Note:
Samtec recommends that pads on the mating board be Gold plated.

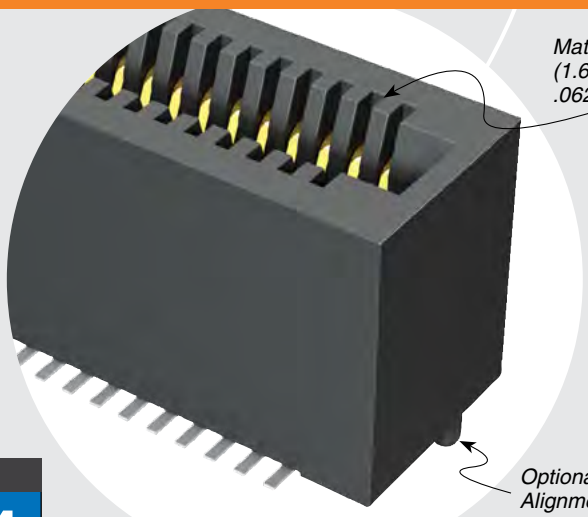
Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information.

Some sizes, styles and options are non-standard, non-returnable.

Mates with:
(1.60 mm) .062" card

APPLICATION





HIGH-SPEED CHANNEL PERFORMANCE

MEC1

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

MEC1	–	1	POSITIONS PER ROW	–	02	–	PLATING OPTION	–	D	–	NP	–	OTHER OPTION

05, 08, 20, 30, 40, 50, 60, 70

–F
= Gold flash on contact, Matte tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

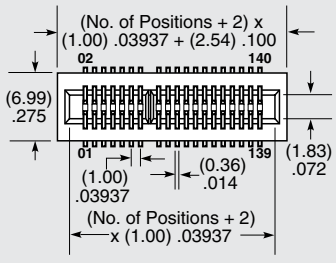
–NP
= No Polarization (05, 08, 20 & 30 positions only)

Leave Blank for polarization

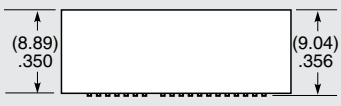
–A
= Alignment Pin metal or plastic at Samtec discretion.

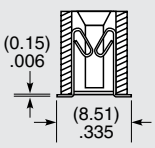
–K
= (7.87 mm) .310" DIA Polyimide film Pick & Place Pad

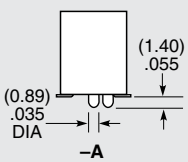
–TR
= Tape & Reel (05-60 only)



POSITIONS PER ROW	POLARIZED POSITIONS (No Contact)
05	3, 4
08	5, 6
20	15, 16
30	21, 22
40	31, 32
50	41, 42
60	31, 32, 63 & 64
70	53, 54, 115 & 116







–A
OPTION

Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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(1.00 mm) .0394"

MEC1-RA, MEC1-EM SERIES

RIGHT-ANGLE/EDGE MOUNT SOCKETS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC1-RA

Insulator Material: Black LCP
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 1.6 A per pin (2 adjacent pins powered)
Operating Temp Range: -55 °C to +125 °C
Insertion Depth: (5.84 mm) .230" to (8.13 mm) .320"
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-40)
(0.15 mm) .006" max (50-70)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MEC1 – 1 – POSITIONS PER ROW – CARD SLOT – PLATING OPTION – D – RA1 – NP – SL

Mates with:
(1.60 mm)
.062" card

05, 08, 20, 30, 40, 50, 60, 70

–02
= (1.60 mm) .062" thick card

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

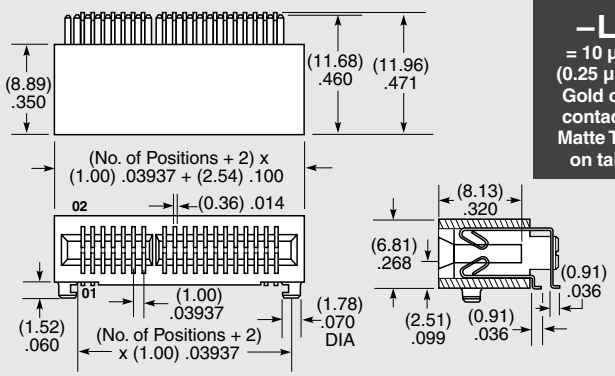
POSITIONS PER ROW	POLARIZED POSITIONS
05	3, 4
08	5, 6
20	15, 16
30	21, 22
40	31, 32
50	41, 42
60	31, 32, 63 & 64
70	53, 54, 115 & 116

Note: While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information.

–NP
= No Polarization (8 positions only)
Leave Blank for polarization

ALSO AVAILABLE (MOQ Required)
- Elevated body height
- Other platings

Contact Samtec.



Note: Some sizes, styles and options are non-standard, non-returnable.

HIGH-SPEED CHANNEL PERFORMANCE

MEC1-RA

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

APPLICATION

Samtec recommends that pads on the mating board be Gold plated.

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC1-EM

Insulator Material: Black LCP
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 1.8 A per pin (2 adjacent pins powered)
Operating Temp Range: -55 °C to +125 °C
Insertion Depth: (5.84 mm) .230" to (8.13 mm) .320"
RoHS Compliant: Yes
Lead–Free Solderable: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MEC1 – 1 – POSITIONS PER ROW – 02 – PLATING OPTION – D – EM2 – NP

Mates with:
(1.60 mm)
.062" card

05, 08, 20, 30, 40, 50, 60, 70

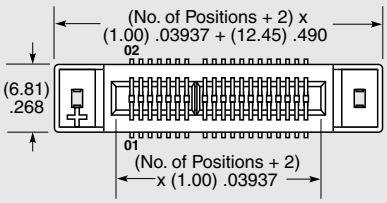
–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–NP
= No Polarization (8 positions only)
Leave Blank for polarization

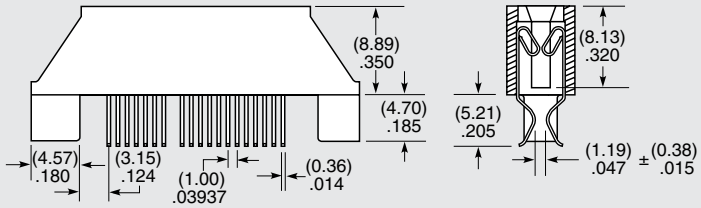
ALSO AVAILABLE (MOQ Required)
- Edge mount leads for (0.80 mm) .031" thick board
- Other platings

Contact Samtec.



Note: While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information.

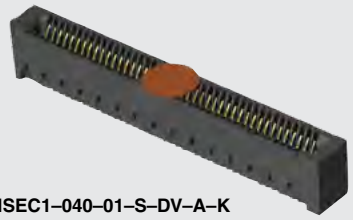
POSITIONS PER ROW	POLARIZED POSITIONS
05	3, 4
08	5, 6
20	15, 16
30	21, 22
40	31, 32
50	41, 42
60	31, 32, 63 & 64
70	53, 54, 115 & 116



Note: Some sizes, styles and options are non-standard, non-returnable.

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EDGE® RATE CONTACT



HSEC1–040–01–S–DV–A–K

HSEC1–010–01–L–DV–WT



(1.00 mm) .0394"

HSEC1-DV SERIES

VERTICAL HIGH-SPEED EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HSEC1-DV

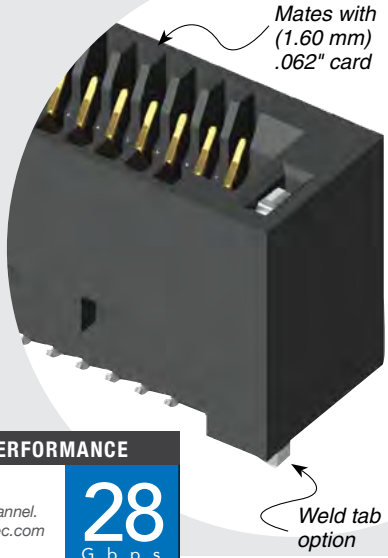
Insulator Material:
Black Liquid Crystal Polymer
Contact:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Testing Now!
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-70)

Card Mates:
(1.60 mm) .062" card

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



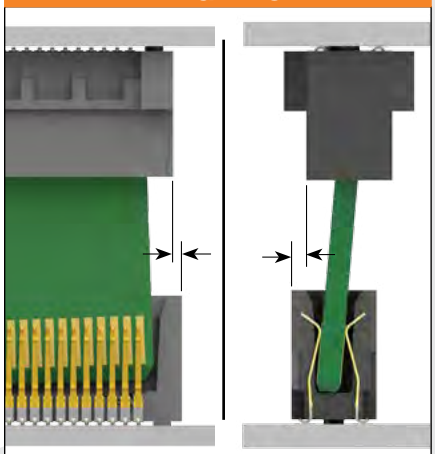
HIGH-SPEED CHANNEL PERFORMANCE

HSEC1-DV

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

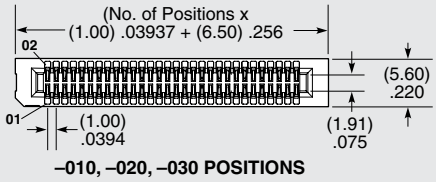
28 Gbps

MISALIGNMENT MITIGATION



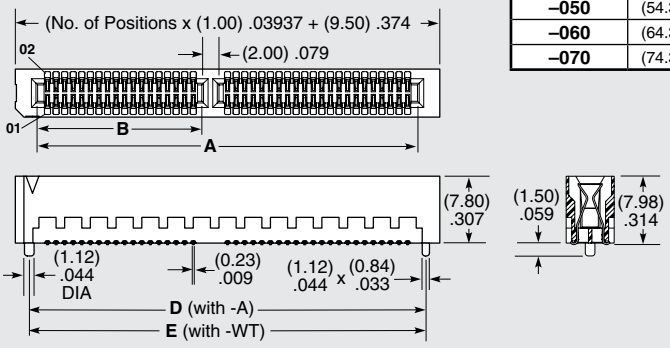
Custom designs compensate for misalignment. Contact Samtec.

HSEC1	NO. OF POSITIONS	CARD THICKNESS	PLATING OPTION	DV	OPTION	OTHER OPTION
	–010, –020, –030, –040, –050, –060, –070 (Per Row)	–01 = (1.60 mm) .062" thick card	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail		–A = Alignment Pin (Not available with –WT)	–K = (7.01 mm) .276" DIA Polyimide Film Pick & Place Pad –WT = Weld tab (Not Available with –A) –TR = Tape & Reel



–010, –020, –030 POSITIONS

NO. OF POSITIONS	A	B
–010	(11.30) .445	N/A
–020	(21.30) .839	N/A
–030	(31.30) 1.232	N/A
–040	(44.30) 1.744	(19.15) .754
–050	(54.30) 2.138	(24.15) .951
–060	(64.30) 2.531	(29.15) 1.148
–070	(74.30) 2.925	(34.15) 1.344



–040, –050, –060, –070 POSITIONS

NO. OF POSITIONS	D	E
–010	(13.25) .522	(14.50) .571
–020	(23.25) .915	(24.50) .965
–030	(33.25) 1.309	(34.50) 1.358
–040	(46.25) 1.821	(47.50) 1.870
–050	(56.25) 2.215	(57.50) 2.264
–060	(66.25) 2.608	(67.50) 2.657
–070	(76.25) 3.002	(77.50) 3.051

Notes:
Some lengths, styles and options are non-standard, non-returnable.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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(1.00 mm) .0394"

SAL1 SERIES

HIGH-SPEED THROUGH BOARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SAL1

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp:
-55 °C to +125 °C
Current Rating:
2.9 A per pin
(2 adjacent pins powered)
RoHS Compliant: Yes

PROCESSING

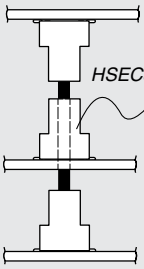
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS



• Card pass-through option. See HSEC8-PE Series.

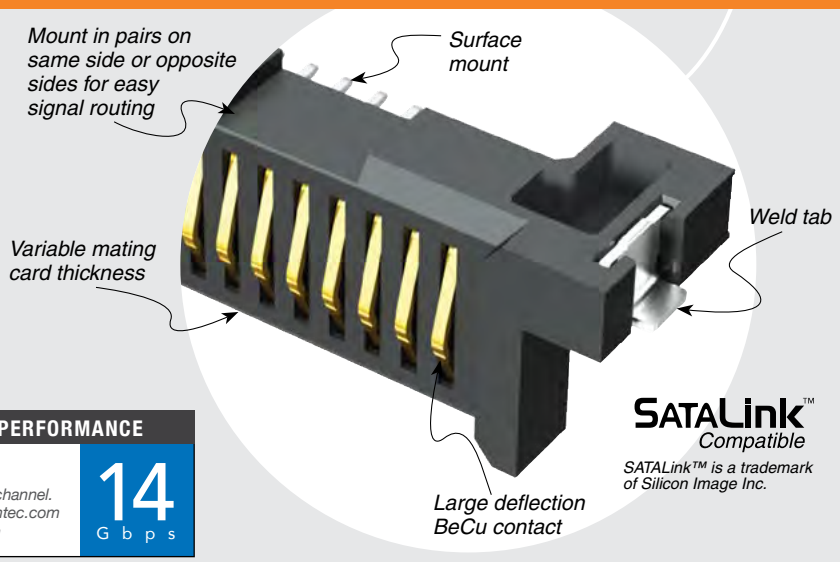
ALSO AVAILABLE (MOQ Required)

• Heavy Gold plating
Contact Samtec.

Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information.

Some lengths, styles and options are non-standard, non-returnable.

Mates with:
(1.60 mm) .062" or
(2.36 mm) .093" card



SATALink™ Compatible

SATALink™ is a trademark of Silicon Image Inc.

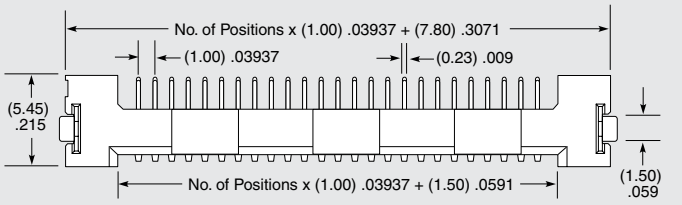
HIGH-SPEED CHANNEL PERFORMANCE

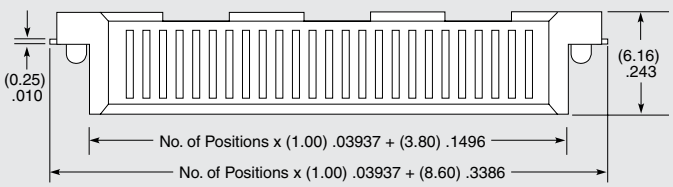
SAL1 (Top Entry)

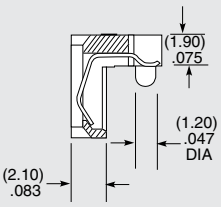
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

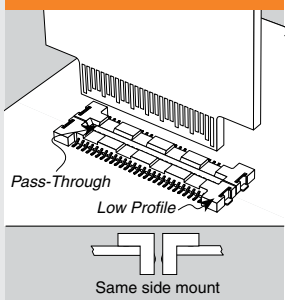
SAL1	–	1	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	S	–	A	–	TR
			20, 27, 30, 40				–S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail						–TR = Tape & Reel







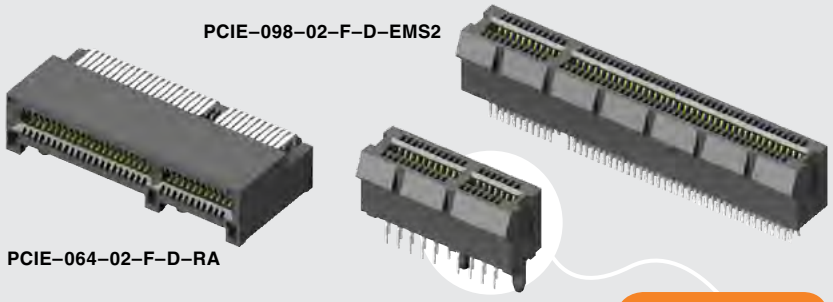
APPLICATIONS



samtec

PCI EXPRESS®

(1.00 mm) .0394"



PCIE SERIES

PCI EXPRESS® CARD SOCKETS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?PCIE

Insulator Material:
–TH=Black Nylon
–EMS2 & –RA=LCP
Contact: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating:
2.2 A per pin
(2 adjacent pins powered)
Operating Temp:
-55 °C to +125 °C
Card Insertion Depth:
(7.65 mm) .301" nominal
RoHS Compliant: Yes
Lead–Free Solderable:
–RA & –EMS2=Yes
–TH=Wave only

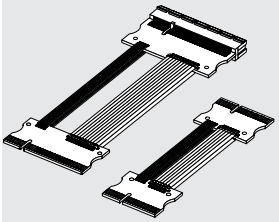
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

PCI Express® Jumpers & Extenders call for PCIEC Series



- Loop back Extender (From one PCIe® slot to another PCIe® slot)
- Ser-Des Physical Extender (From one PCIe® slot to another PCIe® Ser-Des)
- Physical Extender for easy troubleshooting of PCIe® card debug and analysis (PCIe® slot to Emulator or Analyzer)

Contact Samtec.

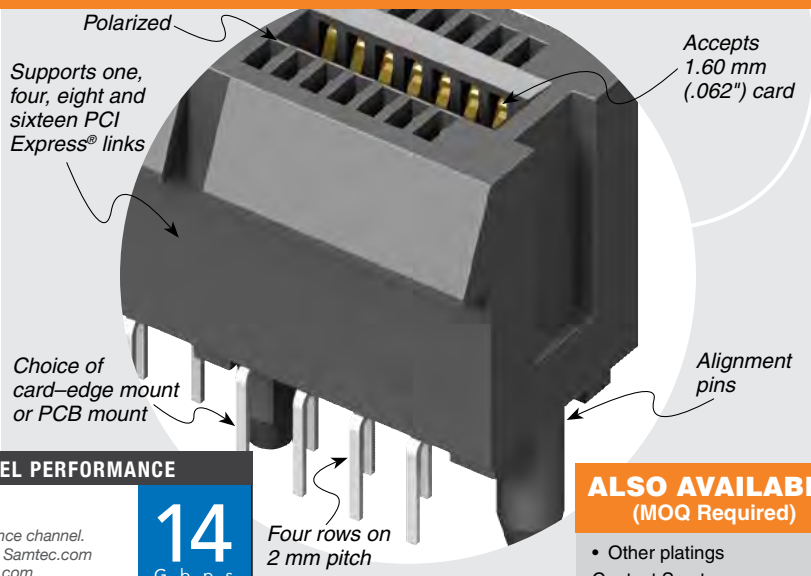
PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Note:
Some lengths, styles and options are non-standard, non-returnable.

Card Mates:
(1.60 mm) .062" card

Cable Mates:
PCIEC

Note:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information.



HIGH-SPEED CHANNEL PERFORMANCE

PCIE

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

ALSO AVAILABLE (MOQ Required)

- Other platings

Contact Samtec.

PCIE	–	NO. OF POSITIONS	–	02	–	PLATING OPTION	–	D	–	TAIL OPTION

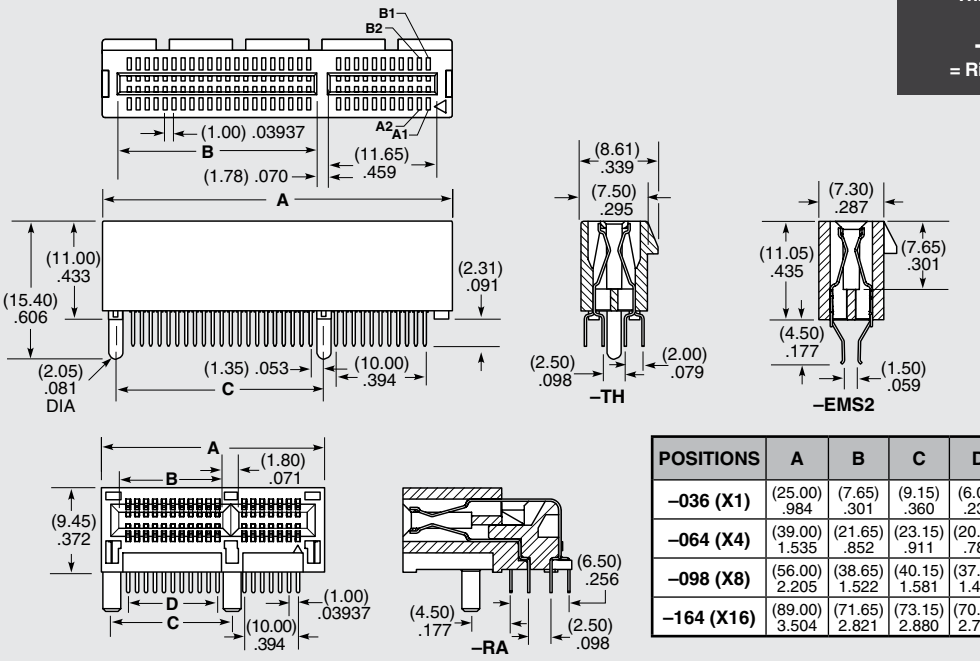
–036, –064, –098, –164

–F
= Gold flash on contact, Tin on tail

–EMS2
= Edge Mount

–TH
= Through-hole

–RA
= Right-angle



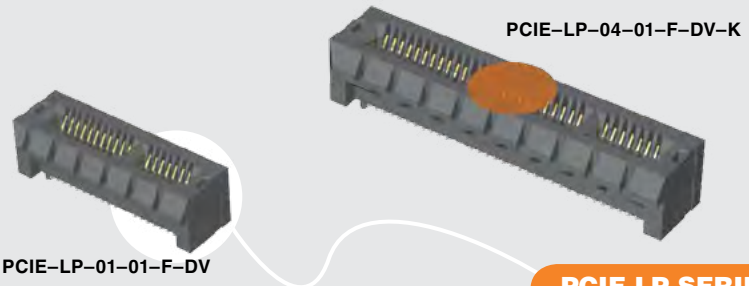
POSITIONS	A	B	C	D
–036 (X1)	(25.00) .984	(7.65) .301	(9.15) .360	(6.00) .236
–064 (X4)	(39.00) 1.535	(21.65) .852	(23.15) .911	(20.00) .787
–098 (X8)	(56.00) 2.205	(38.65) 1.522	(40.15) 1.581	(37.00) 1.457
–164 (X16)	(89.00) 3.504	(71.65) 2.821	(73.15) 2.880	(70.00) 2.756

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samtec

EDGE® RATE CONTACT



(1.00 mm) .0394"

PCIE-LP SERIES

PCI EXPRESS® LOW-PROFILE ASSEMBLY

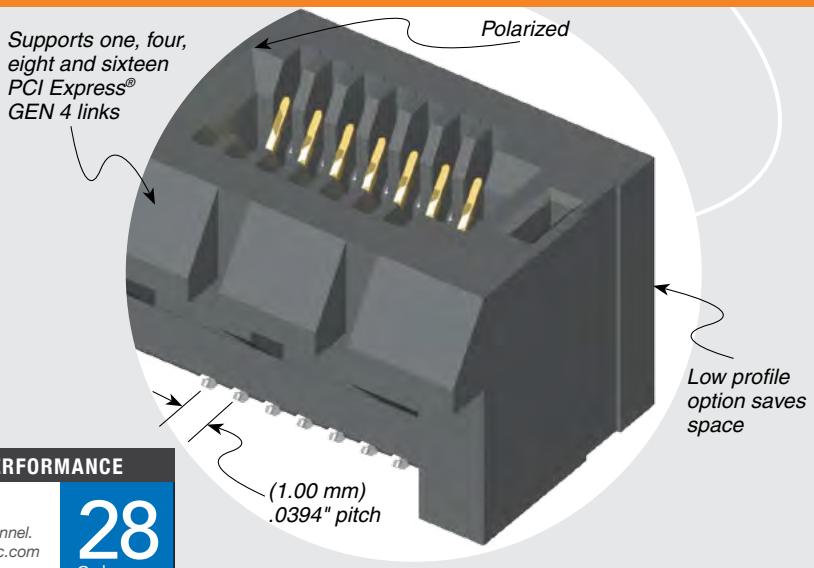
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?PCIE

Insulator Material:
Black Nylon LCP
Contact:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Testing Now!
Operating Temp:
-55 °C to +125 °C
RoHS Compliant:
Yes

Card Mates:
(1.60 mm) .062" card

Cable Mates:
PCIEC



PROCESSING

Lead–Free Solderable:
Yes

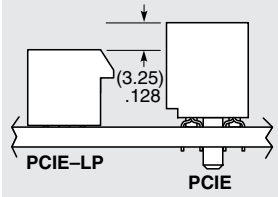
HIGH-SPEED CHANNEL PERFORMANCE

PCIE-LP

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

28 Gbps

APPLICATION



PCIE	–	LP	–	NO. OF LANES	–	01	–	PLATING OPTION	–	DV	–	OPTION	–	PACKAGING

–01, –04, –08, –16

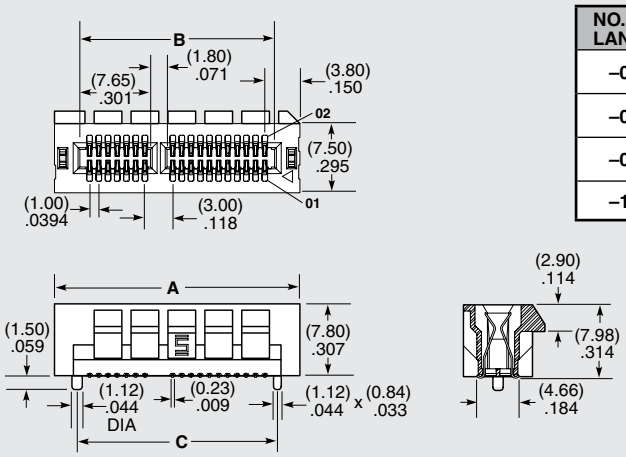
–F
= Gold flash on contact, Tin on tail

–K
= Polyimide film Pick & Place Pad

–TR
=Tape & Reel (Available with –01, –04 –08 lanes only)

OTHER SOLUTIONS

• Press-fit tails in development
Contact Samtec.



NO. OF LANES	A	B	C
–01	(26.60) 1.047	(21.10) .831	(21.70) .854
–04	(40.60) 1.598	(35.10) 1.382	(35.70) 1.406
–08	(57.60) 2.268	(52.10) 2.051	(52.70) 2.075
–16	(90.60) 3.567	(85.10) 3.350	(85.70) 3.374

PCIE–LP–01–01–X–DV SHOWN

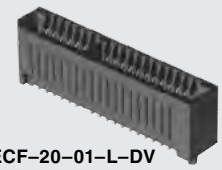
PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Note:
Some lengths, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

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MECF–20–01–L–DV

MECF–05–01–L–DV–WT



(1.27 mm) .050"

MECF SERIES

MICRO EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MECF-DV

Insulator Material:
–01=Black Liquid Crystal Polymer
–02=Natural Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
3.5 A per pin
(2 adjacent pins powered)
Voltage Rating:
280 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-30)
(0.15 mm) .006" max (40-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

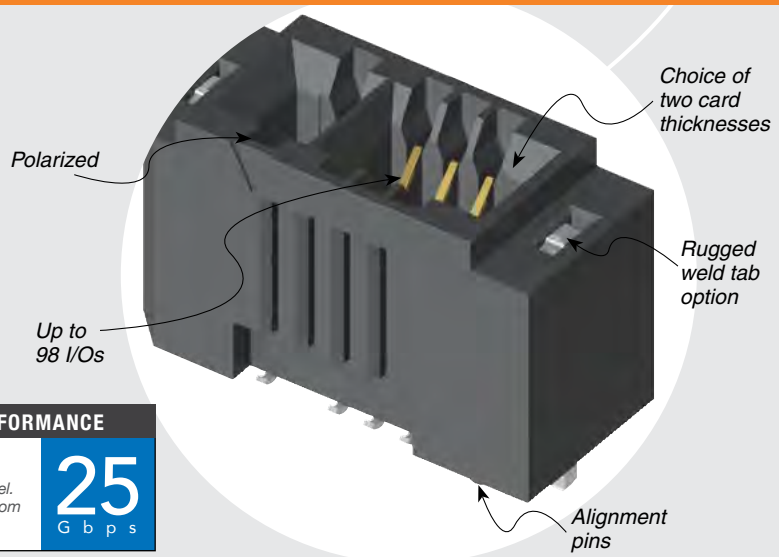
FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Non-polarized
- Other platings

Contact Samtec.

Mates with:
(1.60 mm) .062" card,
(2.36 mm) .093" card



HIGH-SPEED CHANNEL PERFORMANCE

MECF-DV

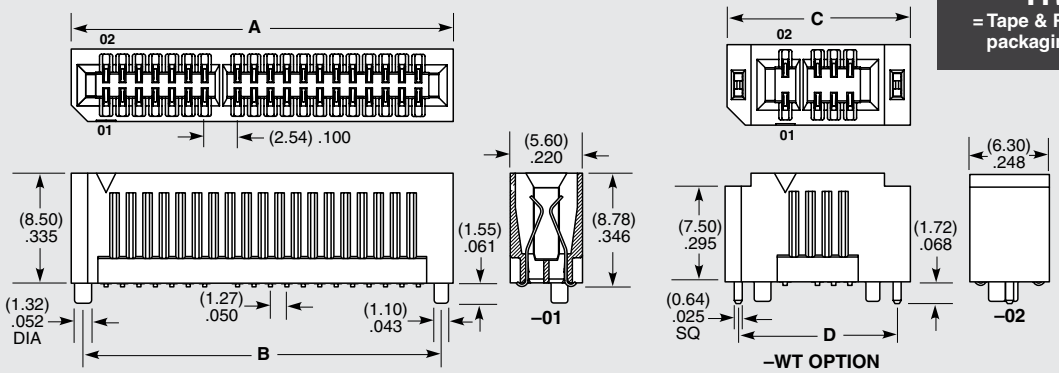
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

25 Gbps

MECF	–	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	DV	–	OPTION
		–05, –08, –20, –30, –40, –50		–01 = (1.60 mm) .062" thick card –02 = (2.36 mm) .093" thick card		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–WT = Weld Tabs (Standard on –02 card thickness, optional on –01 card thickness) –K = (5.00 mm) .197" DIA (–01 card thickness) (5.70 mm) .224" DIA (–02 card thickness) Polyimide film pick & place pad (–TR only) –TR = Tape & Reel packaging

POSITIONS PER ROW	A	B	C	D
–05	(10.46) .412	(8.64) .340	(14.53) .572	(12.45) .490
–08	(14.27) .562	(12.45) .490	(18.34) .722	(16.26) .640
–20	(29.51) 1.162	(27.69) 1.090	(33.58) 1.322	(31.50) 1.240
–30	(42.21) 1.662	(40.39) 1.590	(46.28) 1.822	(44.20) 1.740
–40	(54.91) 2.162	(53.09) 2.090	(58.98) 2.322	(56.90) 2.240
–50	(67.61) 2.662	(65.79) 2.590	(71.68) 2.822	(69.60) 2.740

POSITIONS PER ROW	POLARIZED POSITIONS (No Contact)
–05	3, 4
–08	5, 6
–20	15, 16
–30	21, 22
–40	31, 32
–50	41, 42



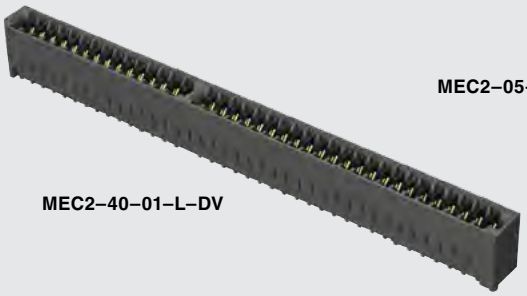
Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information.

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(2.00 mm) .0787"

MEC2-DV SERIES

VERTICAL MICRO EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC2-DV

Insulator Material:
–01=Black Liquid Crystal Polymer
–02=Natural Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
3.5 A per pin
(2 adjacent pins powered)
Voltage Rating:
238 VAC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-30)
(0.15 mm) .006" max (40-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

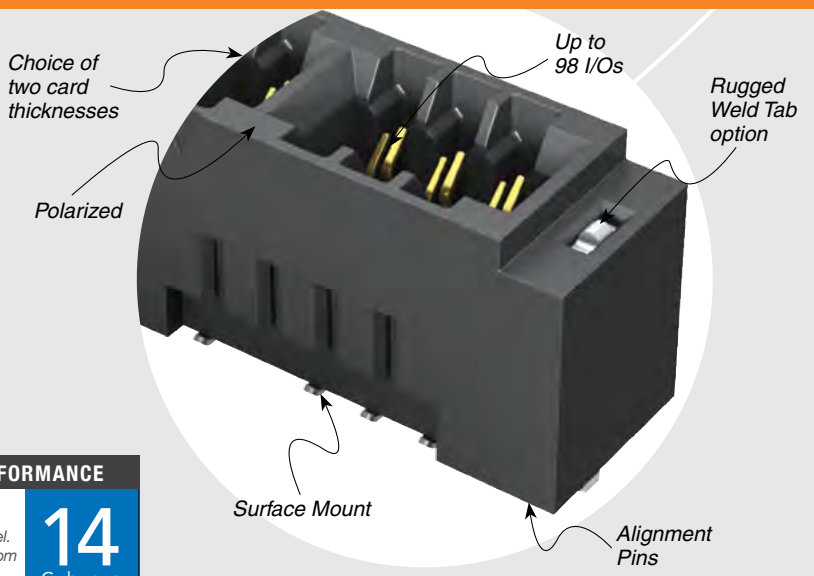
FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Non-polarized
- Other platings

Contact Samtec.

Mates with:
(1.60 mm) .062" card,
(2.36 mm) .093" card



HIGH-SPEED CHANNEL PERFORMANCE

MEC2-DV

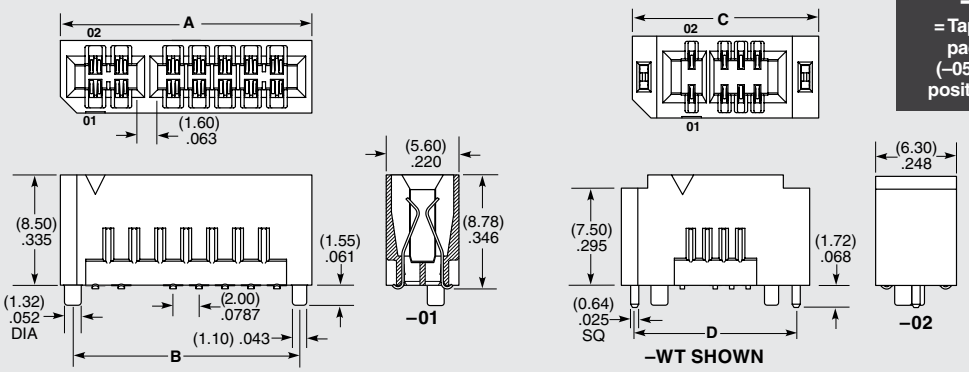
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

MEC2	–	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	DV	–	OPTION
		–05, –08, –20, –30, –40, –50		–01 = (1.60 mm) .062" thick card –02 = (2.36 mm) .093" thick card		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–WT = Weld Tabs (Standard on –02 card thickness, optional on –01 card thickness) –K = (5.00 mm) .197" DIA (–01 card thickness) (5.70 mm) .224" DIA (–02 card thickness) Polyimide film pick & place pad (–TR only) –TR = Tape & Reel packaging (–05 thru –30 positions only)

POSITIONS PER ROW	A	B	C	D
–05	(13.40) .528	(11.50) .453	(17.40) .685	(15.40) .606
–08	(19.40) .764	(17.50) .689	(23.40) .921	(21.40) .843
–20	(43.40) 1.709	(41.50) 1.634	(47.40) 1.866	(45.40) 1.787
–30	(63.40) 2.496	(61.50) 2.421	(67.40) 2.654	(65.40) 2.575
–40	(83.40) 3.283	(81.50) 3.209	(87.40) 3.441	(85.40) 3.362
–50	(103.40) 4.071	(101.50) 3.996	(107.40) 4.228	(105.40) 4.150

POSITIONS PER ROW	POLARIZED POSITIONS (No Contact)
–05	3, 4
–08	5, 6
–20	15, 16
–30	21, 22
–40	31, 32
–50	41, 42

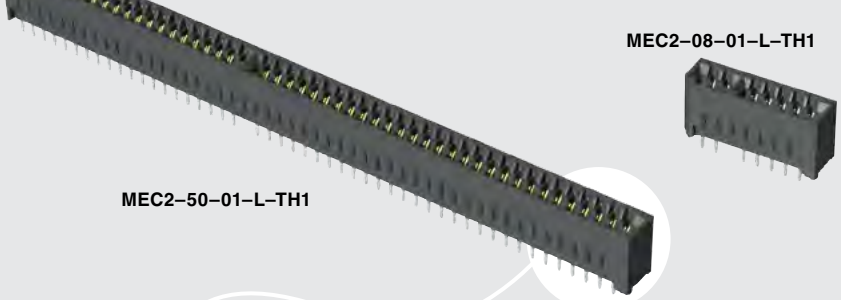


Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information.

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(2.00 mm) .0787"

MEC2-TH SERIES

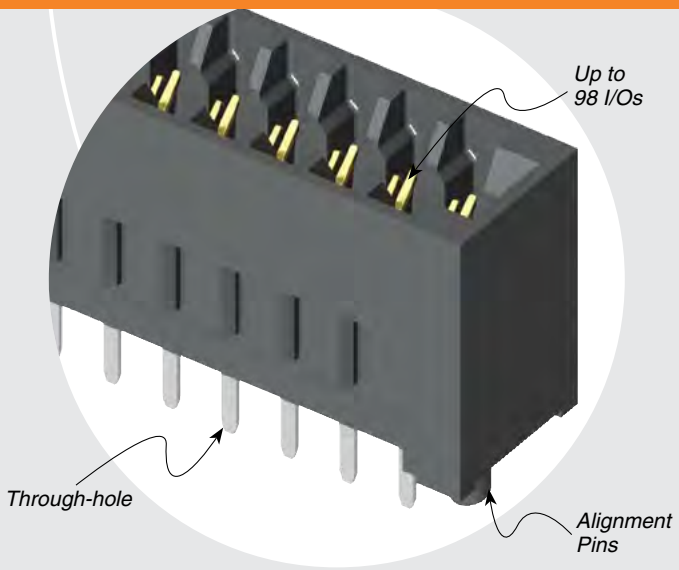
MICRO EDGE CARD SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MEC2-TH

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
4.9 A per pin
(2 adjacent pins powered)
Voltage Rating:
230 VAC/325 VDC
RoHS Compliant:
Yes

Mates with:
(1.60 mm) .062" card



PROCESSING

Lead–Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Non-polarized
- Other platings

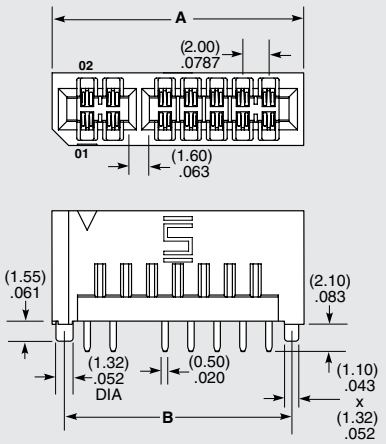
Contact Samtec.

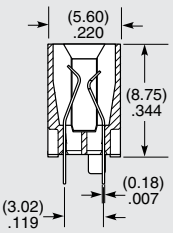
Notes:
While optimized for 50 Ω applications, this connector with alternative signal/ground patterns may also perform well in certain 75 Ω applications. Contact Samtec for further information.

Some sizes, styles and options are non-standard, non-returnable.

MEC2	–	POSITIONS PER ROW	–	CARD THICKNESS	–	PLATING OPTION	–	TAIL OPTION
		–05, –08, –20, –30, –40, –50		–01 = (1.60 mm) .062" thick card		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–TH1 = Through-hole

POSITIONS PER ROW	A	B
–05	(13.40) .528	(11.50) .453
–08	(19.40) .764	(17.50) .689
–20	(43.40) 1.709	(41.50) 1.634
–30	(63.40) 2.496	(61.50) 2.421
–40	(83.40) 3.283	(81.50) 3.209
–50	(103.40) 4.071	(101.50) 3.996





POSITIONS PER ROW	POLARIZED POSITIONS (No Contact)
–05	3, 4
–08	5, 6
–20	15, 16
–30	21, 22
–40	31, 32
–50	41, 42

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HIGH-SPEED BACKPLANE

XCede® HD Backplane System (HDTF, HDTM) 144-145
ExaMAX® Vertical Header (EBTM) 146
ExaMAX® Right-Angle Receptacle (EBTF-RA) 147
ExaMAX® Direct-Mate Orthogonal Header (EBDM-RA) 148
Power Modules for ExaMAX® (EPTT, EPTS) 149
Guidance Modules for ExaMAX® (EGBM, EGBF) 150



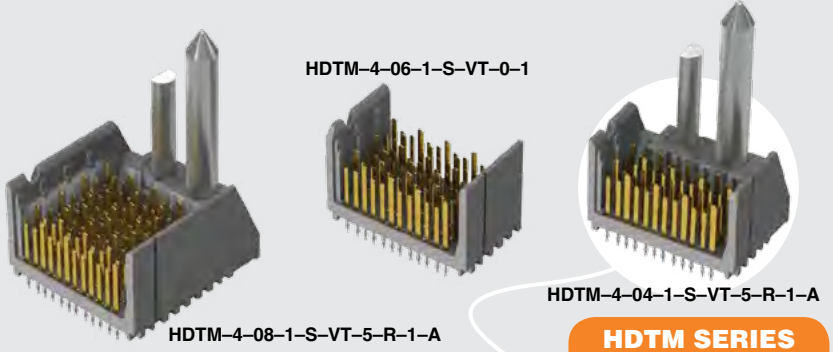
APPLICATIONS

Backplane 22-23

samtec

XCede HD

(1.80 mm) .071"



HDTM SERIES

XCede® HD BACKPLANE HEADER

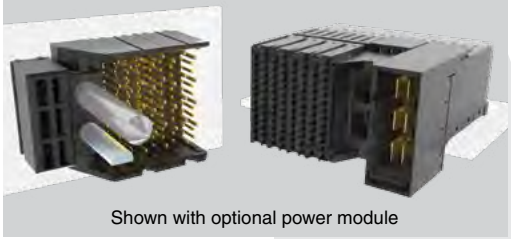
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HDTM

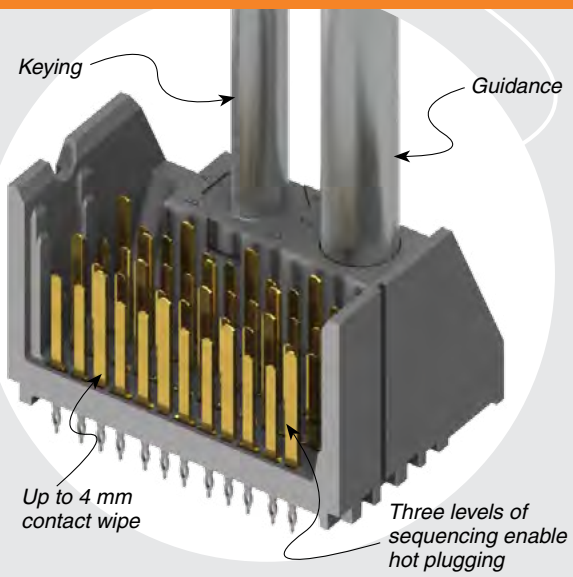
Insulator Material:
Liquid Crystal Polymer
Contact Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
Testing Now!
Current Rating:
Testing Now!
RoHS Compliant:
Yes

Mates with:
HDTF

APPLICATION

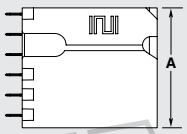


Shown with optional power module

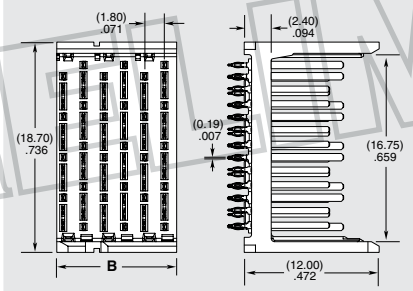


HDTM	PAIRS	NO. OF COL.	1	S	SIDE WALLS	GUIDE	STAGE COMBO	KEY	END WALL
	–3, –4, –6 = Pairs Per Column **–S Plating:** = 30 µ" (0.76 µm) Gold in contact area, Matte Tin on tail	–04 = Four Columns –06 = Six Columns –08 = Eight Columns		–0 = Open (No Walls) –4 = Left Polarizing –5 = Right Polarizing		(Only available with –4 or –5 polarizing) (Leave Blank for None) –L = Left Side Guide Pin –R = Right Side Guide Pin	–1 = 3 mm Wipe Signal / 4 mm Wipe Ground –3 = 3 mm Wipe Signal / 3 mm Wipe Ground	(Only available with –4 or –5 polarizing) (Leave Blank for None) –A thru –H = Position of flat on Key (See table for Key)	(Leave Blank for standard wall) –T = Thick Wall

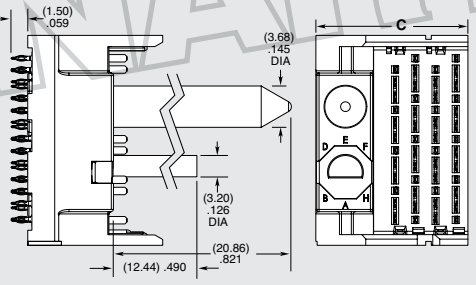
NO. OF COLUMNS	A	B			C	
		Left Wall	Two Wall	Right Wall	Left Polarize	Right Polarize
–04	(7.06) .278	(8.20) .322	(9.20) .362	(8.06) .317	(13.54) .533	(13.05) .513
–06	(10.66) .420	(11.80) .465	(12.80) .503	(11.66) .459	(17.14) .674	(16.65) .656
–08	(14.26) .561	(15.40) .606	(16.40) .817	(15.26) .600	((20.74) .817	(20.25) .797



GUIDANCE	KEYING							
	–A	–B	–C	–D	–E	–F	–G	–H
–L /–R								



HDTM–4–06–1–S–VT–0–1 SHOWN



HDTM–4–04–1–S–VT–R–1–A SHOWN

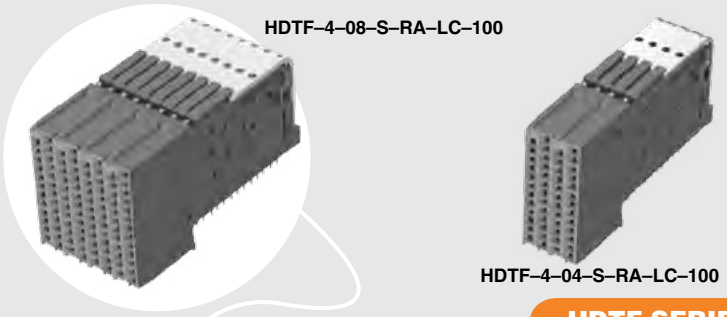
Note:
XCede® is a registered trademark of Amphenol.

PRELIMINARY

samtec

XCede HD

(1.80 mm) .071"



HDTF SERIES

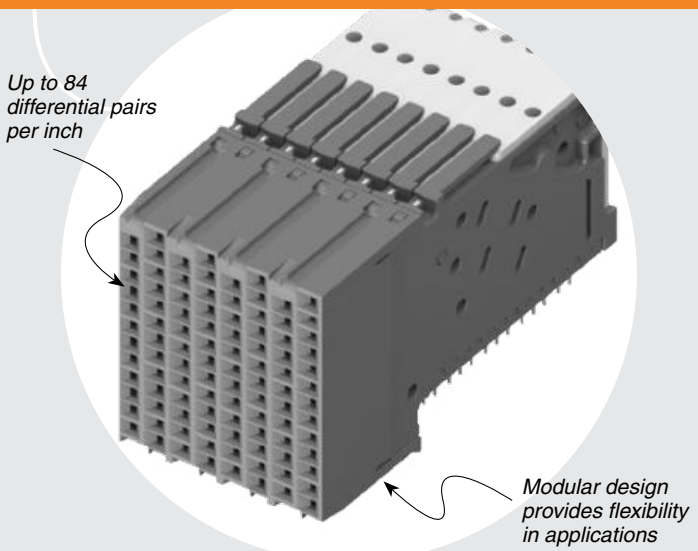
XCede® HD BACKPLANE RECEPTACLE

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HDTF

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
Testing Now!
Current Rating:
Testing Now!
RoHS Compliant:
Yes

Mates with:
HDTM

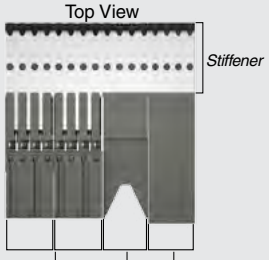


ALSO AVAILABLE
(Customer Defined Configurations)

BSP Series

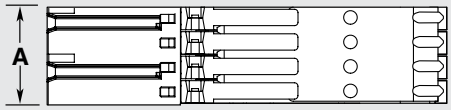


Top View

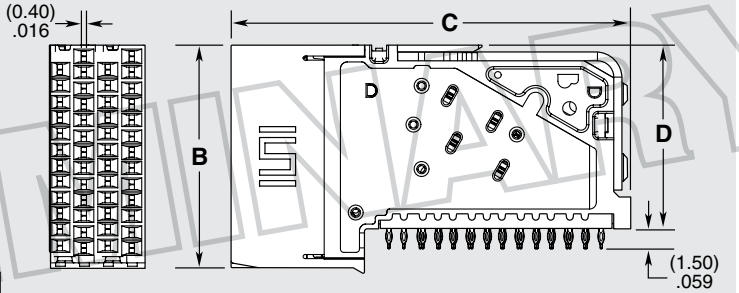


Contact HSBP@samtec.com for more information about Samtec's full line of High-Speed Backplane solutions

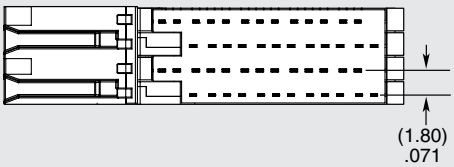
HDTF	PAIRS PER COLUMN	NO. OF COLUMNS	PLATING	RA	WAFERS	IMPEDANCE
	–3, –4, –6 = Pairs Per Column	–04 = Four Columns –06 = Six Columns –08 = Eight Columns	–S = 30 µ" (0.76 µm) Gold in contact area, Matte Tin on tail		–LC = Standard –HS = High-Speed	–100 = 100 Ω –085 = 85 Ω



NO. OF COLUMNS	A
–04	(7.2) .28
–06	(10.8) .42
–08	(14.4) .57



PAIRS PER COLUMNS	B	C	D
–3	(12.8) .50	(26.0) 1.02	(9.80) .386
–4	(16.4) .64	(29.4) 1.16	(13.5) .53
–6	(23.6) .93	(36.6) 1.44	(20.7) .81



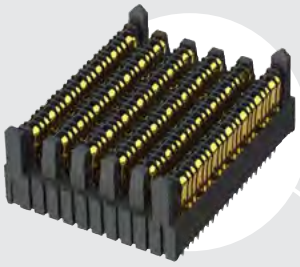
PRELIMINARY

Note:
XCede® is a registered trademark of Amphenol.

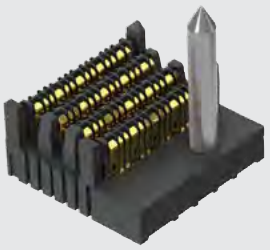
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EBTM–6–12–2.0–S–VT–1



EBTM–4–08–2.0–S–VT–1–L

(2.00 mm) .0787"

ExaMAX® BACKPLANE SYSTEM

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?EBTM or www.samtec.com?EBTF-RA

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +85 °C
Current Rating:
4.2 A per pin
(1 pin powered)
Contact Wipe:
2.4 mm
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Staging
- Keying

Contact Samtec.

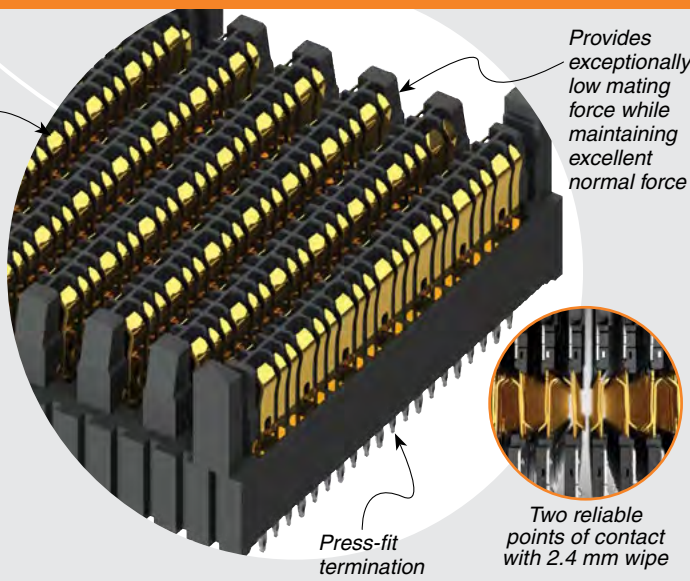
EBTM Mates with:
EBTF-RA

EBTF-RA Mates with:
EBTM, EBDM

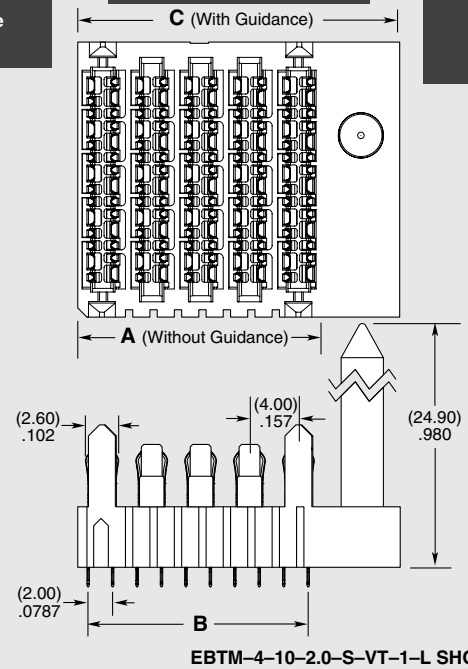
PAM4
56
Gbps

APPLICATION



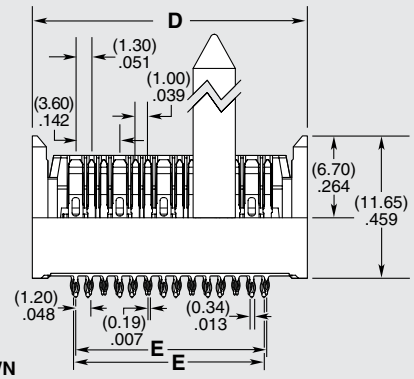


TYPE	NO. OF PAIRS PER COLUMN	COLUMNS	COLUMN PITCH
EBTM = Vertical Header **EBTF** = Right-Angle Receptacle	**–4** = 4 Pairs **–6** = 6 Pairs	**–06** **–08** **–10** **–12** (–6 only)	**–2.0** = (2.0 mm) .0787"



COLUMNS	A	B	C
–06	(11.90) .469	(10.00) .394	(18.35) .722)
–08	(15.90) .626	(14.00) .551	(22.35) (.880)
–10	(19.90) .783	(18.00) .709	(26.35) 1.037)
–12	(23.90) .941	(22.00) .866	(30.35) (.880)

NO. OF PAIRS PER COLUMN	D	E
–4	(22.50) .886	(15.60) .614
–6	(29.70) 1.169	(22.80) .898



EBTM–4–10–2.0–S–VT–1–L SHOWN

Notes:
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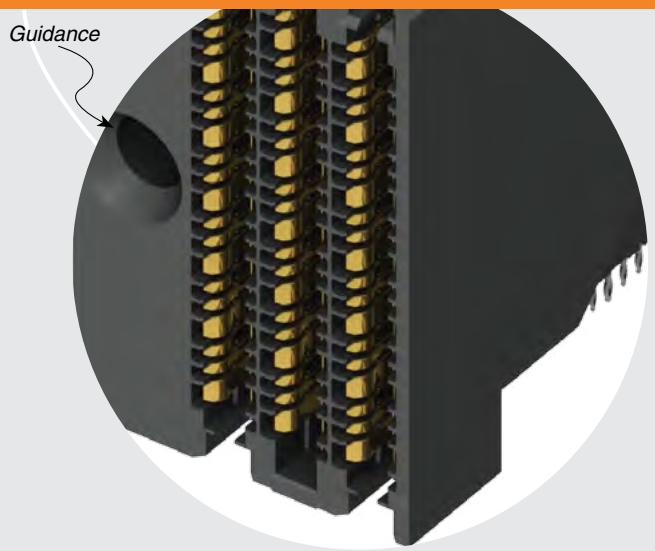
EBTF–6–6–2.0–S–RA–1–L

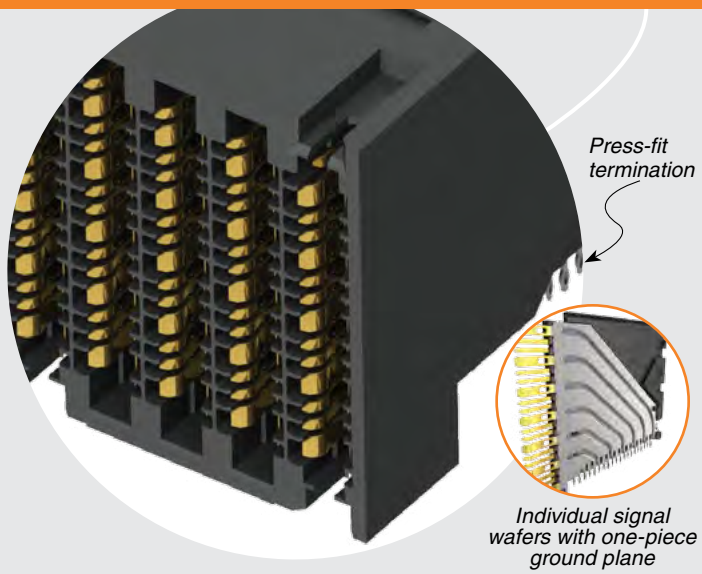


EBTF–6–12–2.0–S–RA–1



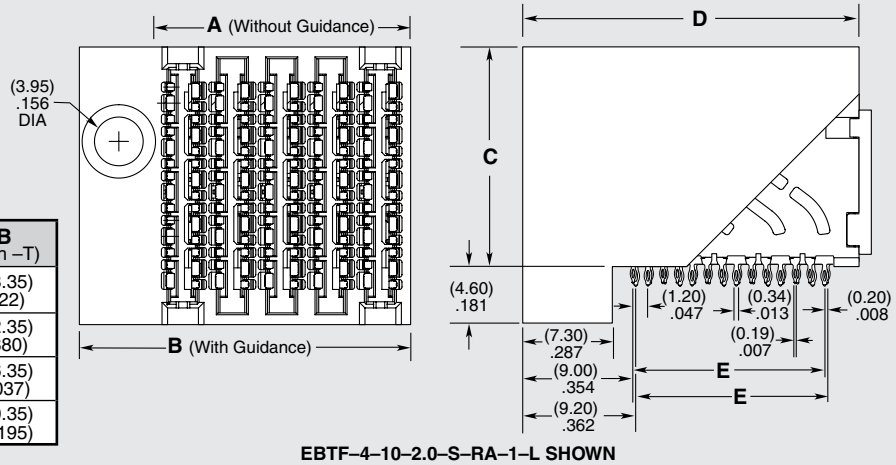
EBTF–4–10–2.0–S–RA–1





PLATING	ORIENTATION	1	GUIDANCE	END WALLS
–S = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on tail	**–VT** = Vertical (EBTM only) **–RA** = Right-Angle (EBTF-RA only)		(Leave Blank for no Guidance) **–L** = Left Guidance **–R** = Right Guidance	(Leave Blank for Thick End Wall) **–T** = Thin Walls (EBTF-RA only)

NO. OF PAIRS PER COLUMN	C	D	E
–4	(17.90) .705	(28.40) 1.118	(22.80) .898
–6	(25.10) .988	(35.60) 1.402	(22.80) .898



COLUMNS	A	A (with –T)	B	B (with –T)
–06	(12.90) .506	(11.90) .469	(18.85) .742)	(18.35) .722)
–08	(16.90) .665	(15.90) .626	(22.85) (.900)	(22.35) (.880)
–10	(20.90) .823	(19.90) .783	(26.85) 1.057)	(26.35) 1.037)
–12	(24.90) .980	(23.90) .941	(30.85) (1.215)	(30.35) (1.195)

EBTF–4–10–2.0–S–RA–1–L SHOWN

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samtec

ExaMAX®

(2.00 mm) .0787"



EBDM–6–12–2.0–S–RA–1–G



EBDM–6–10–2.0–S–RA–1–G–S

EBDM-RA SERIES

ExaMAX® DIRECT-MATE ORTHOGONAL

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?EBDM-RA

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Shield:
Copper Alloy
Operating Temp Range:
Testing Now!
Current Rating:
Testing Now!
RoHS Compliant:
Yes

Mates with:
EBTF-RA

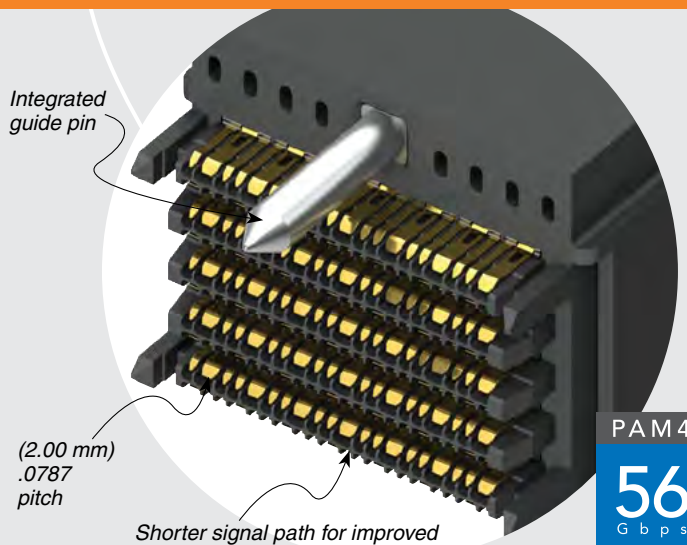
APPLICATION



Traditional Midplane



Direct-Mate Orthogonal
Improves airflow and requires fewer connectors by eliminating the midplane



PAM4
56
Gbps

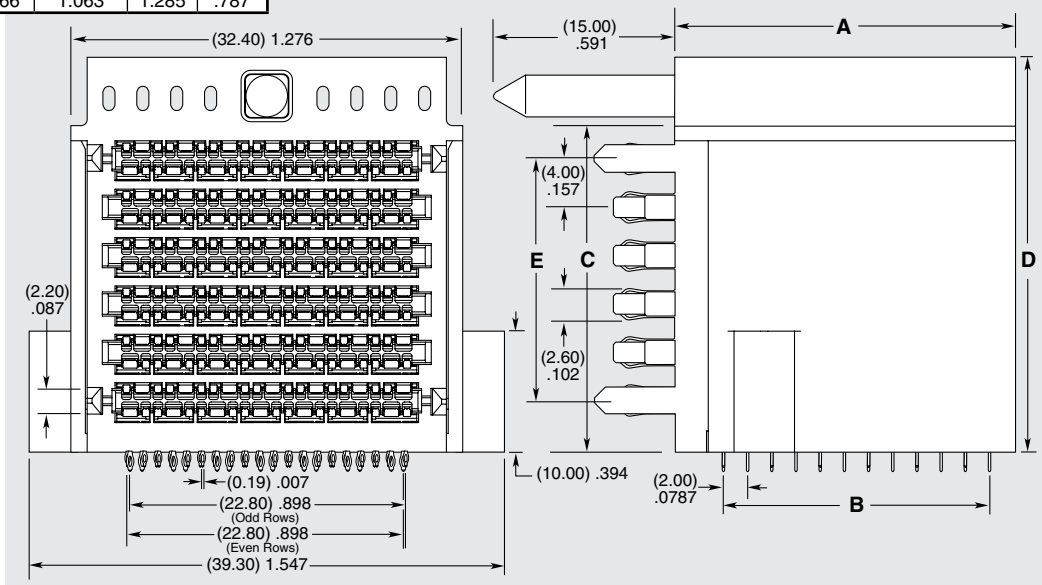
IN DESIGN

- 6 and 8 columns

Contact Samtec.

EBDM	–	PAIRS	–	COLUMN	2.0	–	PLATING	–	RA	–	1	–	GUIDE	–	MOUNT
		–6 = 6 Pairs		–10 = Ten Columns –12 = Twelve Columns			–S = 30 µ" (0.76 µm) Gold in contact area, Matte Tin on tail						Leave blank for no guide pin –G = Guide Pin		Leave blank for no screw mount –S = Screw Mount

COLUMNS	A	B	C (without –G)	D (with –G)	E
–10	(24.15) .951	(18.00) .709	(23.00) .906	(28.65) 1.128	(16.00) .630
–12	(28.15) 1.108	(22.00) .866	(27.00) 1.063	(32.65) 1.285	(20.00) .787



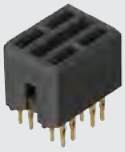
Notes:
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EPTS–2–P–D–VT–01

EPTT–2–P–11.5–D–RA



(2.00 mm) .0787"

EPTT, EPTS SERIES

ExaMAX® POWER MODULES

Mates with:
EPTS

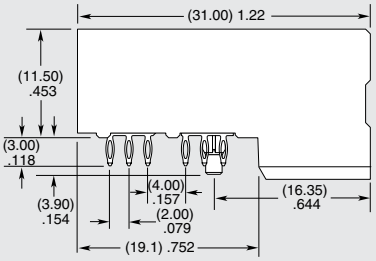
SPECIFICATIONS

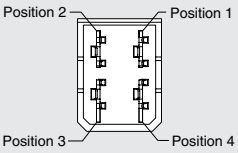
For complete specifications see www.samtec.com?EPTT

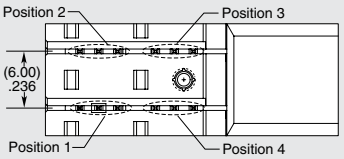
Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Current Rating:
14.8 A per pin
(2 pins powered)

Note:
Some sizes, styles and options are non-standard, non-returnable.

EPTT	POSITIONS PER ROW	PLATING OPTION	HEIGHT	D	RA
	–2 = 4 Positions	–P = Palladium with flash Gold on contacts, Matte Tin on tails	–11.5 = (11.50 mm) .453" Height		







APPLICATION



Mates with:
EPTT

SPECIFICATIONS

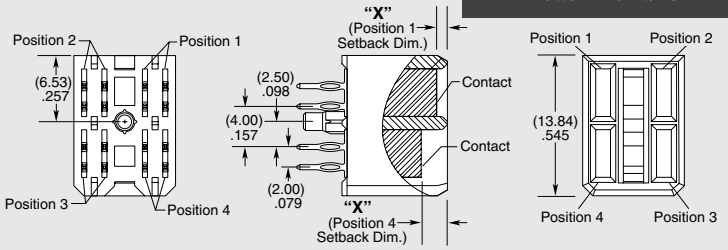
For complete specifications see www.samtec.com?EPTS

Insulator Material:
Vectra E130i
Terminal Material:
Phosphor Bronze
Current Rating:
14.8 A per pin
(2 pins powered)

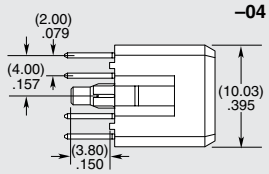
Notes:
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ExaMAX® is a registered trademark of AFCI.

EPTS	POSITIONS PER ROW	PLATING OPTION	D	VT	PIN STAGING
	–2 = 4 Positions	–P = Palladium with flash Gold on contacts, Matte Tin on tails			–01 thru –06 (See chart)



–04 SHOWN



PIN STAGING	LENGTH CALLOUT ("X" = SETBACK DIM.)			
	POS. 1	POS. 2	POS. 3	POS. 4
–01	Long	Long	Long	Long
	1.10			
–02	Long	Long	Short	Short
	1.10		2.60	
–03	Long	Short	Short	Long
	1.10	2.60		1.10
–04	Long	Short	Short	Short
	1.10	2.60		
–05	Short	Short	Short	Long
	2.60			1.10
–06	Short	Short	Short	Short
	2.60			

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EGBM–VT–1–25.3–20



EGBM–VT–2–25.3–20



EGBF–RA–20

EGBM, EGBF SERIES

ExaMAX® GUIDE MODULES

Mates with:
EGBF

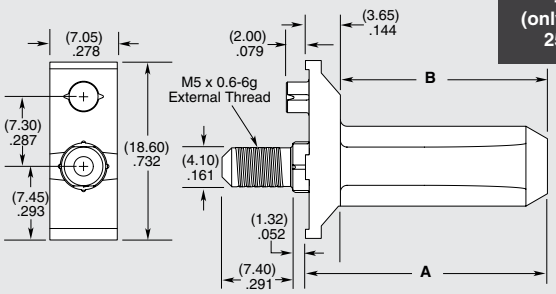
SPECIFICATIONS

For complete specifications see www.samtec.com?EGBM

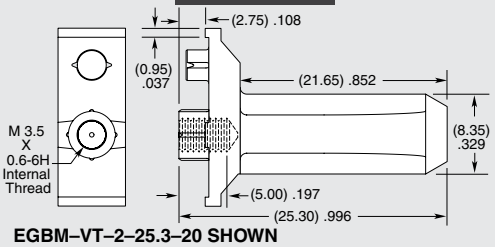
Insulator Material:
Zinc Alloy
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

Note:
Some sizes, styles and options are non-standard, non-returnable.

EGBM	–	ORIENTATION	–	THREADING	–	LENGTH	–	CARD SPACING
		–VT = Vertical		–1 = External –2 = Internal (only available in 25.3 length)		–18.3 = 18.30 mm .720" –25.3 = 25.30 mm .996"		–20 = 20 mm .787"



EGBM–VT–1–XX.X–20 SHOWN



EGBM–VT–2–25.3–20 SHOWN

LENGTH	A	B
–18.3	(18.30) .720	(14.65) .577
–25.3	(25.30) .996	(21.65) .852

APPLICATION



Mates with:
EGBM

SPECIFICATIONS

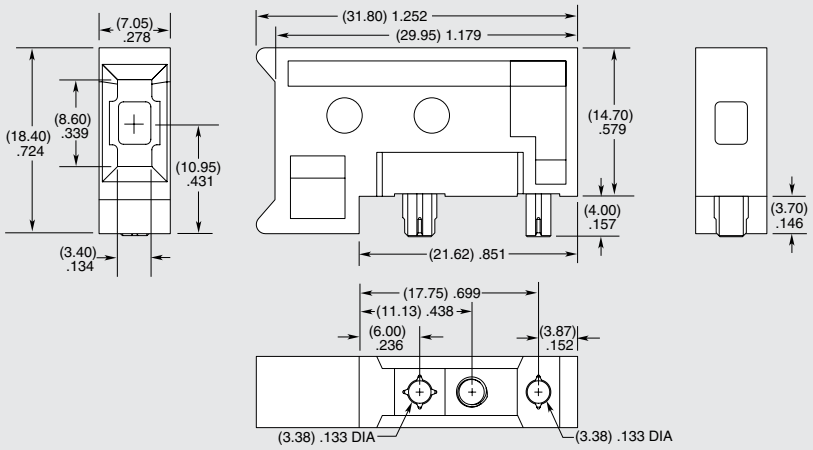
For complete specifications see www.samtec.com?EGBF

Insulator Material:
Zinc Alloy
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

Notes:
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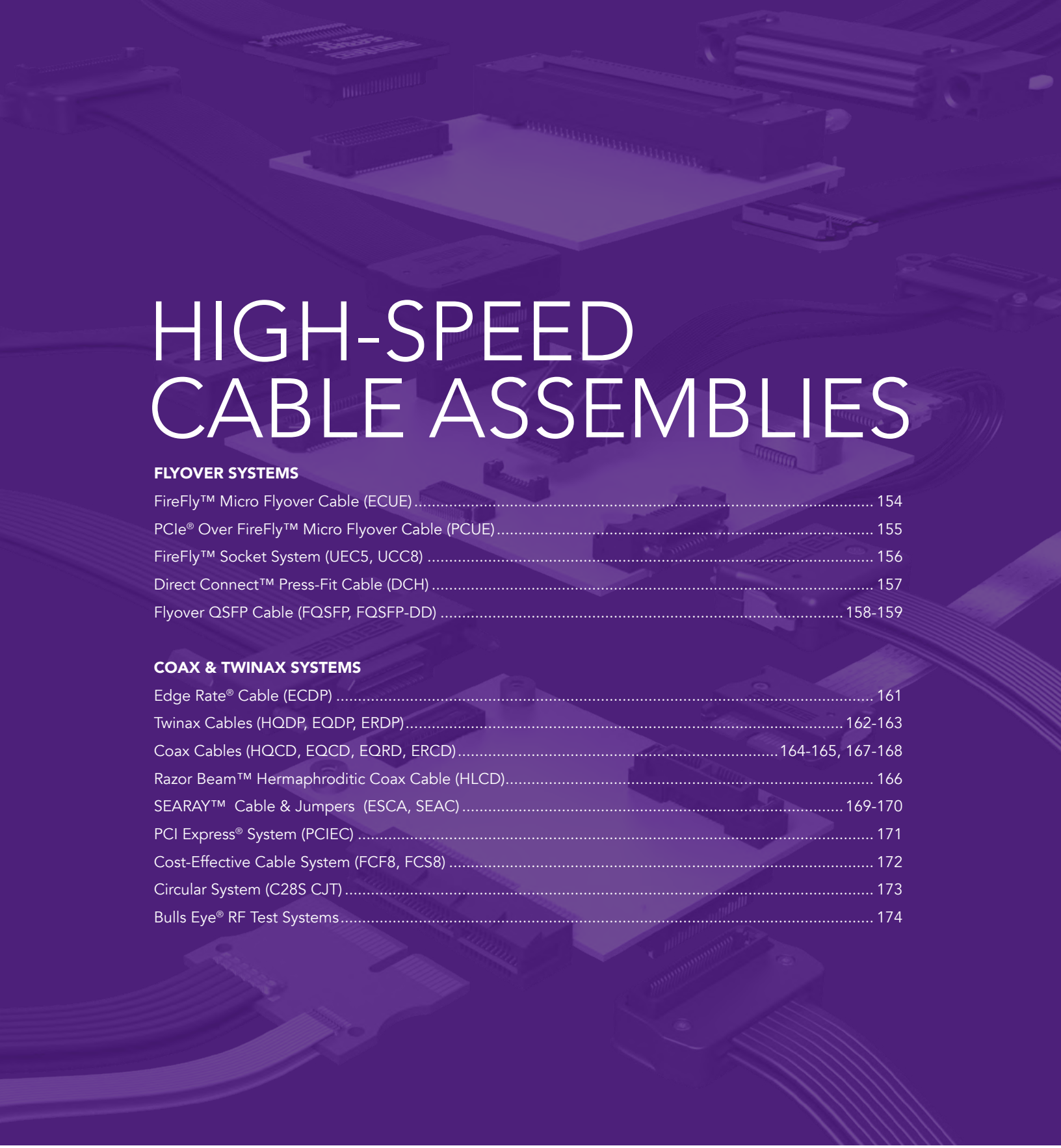
ExaMAX® is a registered trademark of AFCI.

EGBF	–	ORIENTATION	–	CARD SPACING
		–RA = Right-angle		–20 = 20 mm .787"



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HIGH-SPEED CABLE ASSEMBLIES

FLYOVER SYSTEMS

FireFly™ Micro Flyover Cable (ECUE) 154
PCIe® Over FireFly™ Micro Flyover Cable (PCUE) 155
FireFly™ Socket System (UEC5, UCC8) 156
Direct Connect™ Press-Fit Cable (DCH) 157
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COAX & TWINAX SYSTEMS

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Twinax Cables (HQDP, EQDP, ERDP) 162-163
Coax Cables (HQCD, EQCD, EQRD, ERCD) 164-165, 167-168
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APPLICATIONS

Flyovers 24-25
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FLYOVER ULTRA-LOW SKEW CABLE

EYE SPEED® ULTRA-LOW SKEW TWINAX CABLE

Samtec's co-extruded twinax cable technology eliminates the performance limitations and inconsistencies of individually extruded dielectric twinax cabling, improving signal integrity, bandwidth and reach for high-performance system architectures.

Ultra-Low Skew Twinax

- Tight coupling between signal conductors
- Improved bandwidth and reach
- Improved signal integrity and eye pattern opening
- Low skew over extended lengths

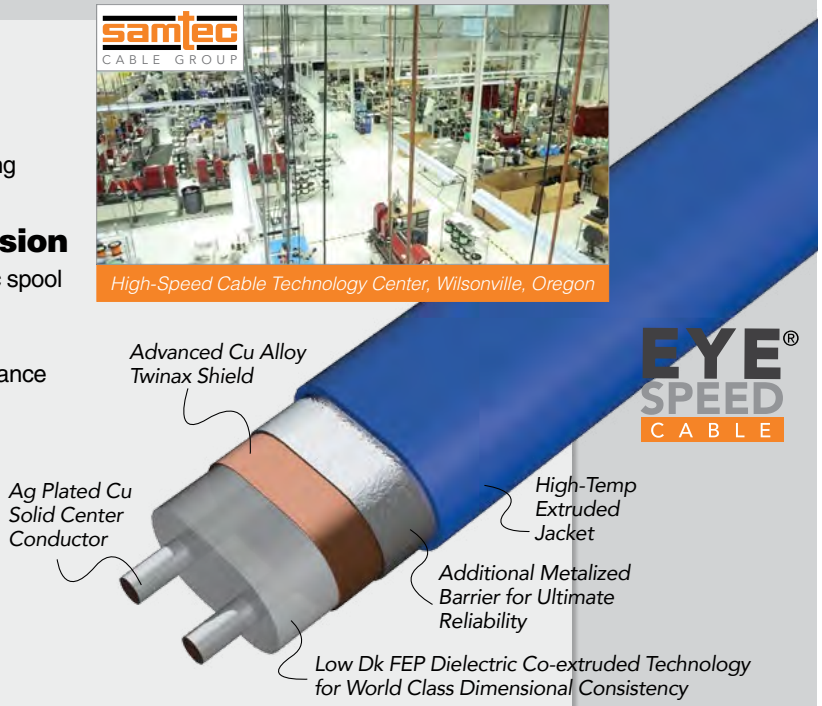
Micro Cellular Dielectric Extrusion

- Critical dimensions measured at every dielectric spool
- Inline laser and CAPAC devices for capacitance monitoring and diameter control
- In-process stats summary sheet for Cpk acceptance

Manufacturing Technology Innovation

- World class in-house expertise, R&D and test & measurement
- Real-time closed-loop control to adjust process parameters
- Internally developed proprietary processes
- Contact Samtec's High-Speed Cable Group at **HDR@samtec.com.**

High-Speed Cable Technology Center, Wilsonville, Oregon



NOMINAL PERFORMANCE SPECIFICATIONS

			28 AWG	30 AWG	32 AWG	34 AWG	36 AWG
Eye Speed® Ultra-Low Skew Twinax Cable							
14 GHz (28 Gbps)	**0.25 m**	**IL (dB)**	-1.0	-1.2	-1.5	-1.8	-2.2
	1.00 m		-3.9	-4.7	-5.9	-7.2	-8.7
28 GHz (56 Gbps)	**0.25 m**		-1.5	-1.8	-2.2	-2.6	-3.2
	1.00 m		-6.0	-7.0	-8.7	-10.6	-12.7
Density / Flexibility			Good	Good	Better	Best	Best

Eye Speed® Ultra-Low Skew Twinax Cable is available in engineered impedance configurations of 85 Ω, 92 Ω and 100 Ω.

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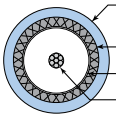
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EYE® SPEED CABLE

50 Ω MICRO COAX CABLE SPECS

26 AWG – High Temp Coax



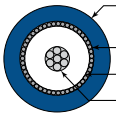


Jacket: FEP
.0710 (1.803) DIA
Shield: Braided, Silver Plated Copper
Dielectric: Foamed FEP
Center Conductor: 26 AWG Stranded
.0188 (.478) DIA

Capacitance: 85 pF/meter (nominal)
Inductance: .220 µH/meter (calculated)
Propagation Delay: 4.17 nS/meter (1.27 nS/foot)

32 AWG – Eye Speed®



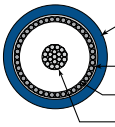


Jacket: PVC
.0393 (.997) DIA
Shield: Serve, Silver Plated Copper
Dielectric: Foamed FEP
Center Conductor: 32 AWG Stranded
.0092 (.232) DIA

Capacitance: 85 pF/meter (nominal)
Inductance: .218 µH/meter (calculated)
Propagation Delay: 4.23 nS/meter (1.29 nS/foot)

26 AWG – Eye Speed®



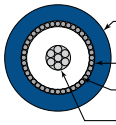


Jacket: PVC
.0750 (1.905) DIA
Shield: Serve, Silver Plated Copper
Dielectric: Foamed FEP
Center Conductor: 26 AWG Stranded
.0188 (.478) DIA

Capacitance: 84 pF/meter (nominal)
Inductance: .220 µH/meter (calculated)
Propagation Delay: 4.23 nS/meter (1.29 nS/foot)

34 AWG – Eye Speed®



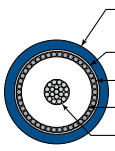


Jacket: PVC
.0320 (.813) DIA
Shield: Serve, Silver Plated Copper
Dielectric: Foamed FEP
Center Conductor: 34 AWG Stranded
.0075 (.189) DIA

Capacitance: 90 pF/meter (nominal)
Inductance: .225 µH/meter (calculated)
Propagation Delay: 4.27 nS/meter (1.30 nS/foot)

28 AWG – Eye Speed®



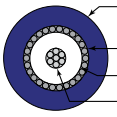


Jacket: PVC
.0620 (1.575) DIA
Shield: Aluminum Mylar Tape
Shield: Serve, Silver Plated Copper
Dielectric: Foamed FEP
Center Conductor: 28 AWG Stranded
.0152 (.386) DIA

Capacitance: 87 pF/meter (nominal)
Inductance: .223 µH/meter (calculated)
Propagation Delay: 4.23 nS/meter (1.29 nS/foot)

36 AWG – Eye Speed®



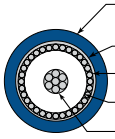


Jacket: THV
0.263 (.667) DIA
Shield: Serve, Silver Plated Copper
Dielectric: Foamed FEP
Center Conductor: 36 AWG Stranded
.0060 (.152) DIA

Capacitance: 94 pF/meter (nominal)
Inductance: .230 µH/meter (calculated)
Propagation Delay: 4.36 nS/meter (1.33 nS/foot)

30 AWG – Eye Speed®



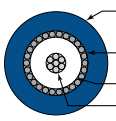


Jacket: PVC
.0525 (1.334) DIA
Shield: Aluminum Mylar Tape
Shield: Serve, Silver Plated Copper
Dielectric: Foamed FEP
Center Conductor: 30 AWG Stranded
.0119 (.302) DIA

Capacitance: 87 pF/meter (nominal)
Inductance: .216 µH/meter (calculated)
Propagation Delay: 4.20 nS/meter (1.28 nS/foot)

38 AWG – Eye Speed®





Jacket: PVC
.0257 (.653) DIA
Shield: Serve, Silver Plated Copper
Dielectric: FEP
Center Conductor: 26 AWG Stranded
.0046 (.117) DIA

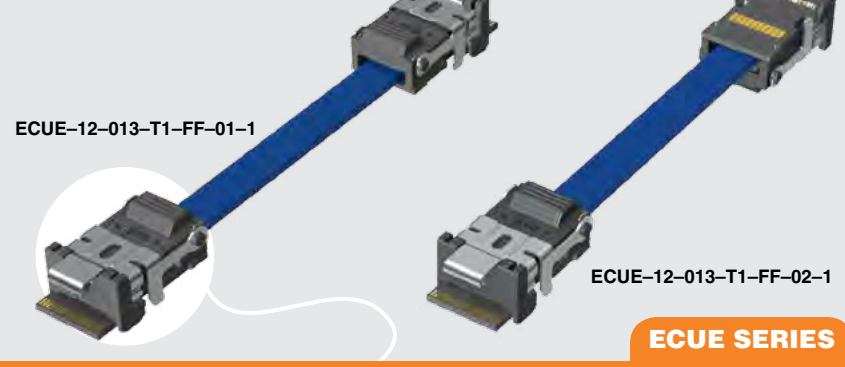
Capacitance: 97 pF/meter (nominal)
Inductance: .267 µH/meter (calculated)
Propagation Delay: 4.79 nS/meter (1.46 nS/foot)

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samtec

FIREFLY™



ECUE SERIES

LOW-PROFILE MICRO FLYOVER ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?ECUE

Cable:
Eye Speed® 34 AWG twinax or Eye Speed® 36 AWG twinax
Signal Routing:
100 Ω Differential
Bend Radius:
(3.18 mm) .125"
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

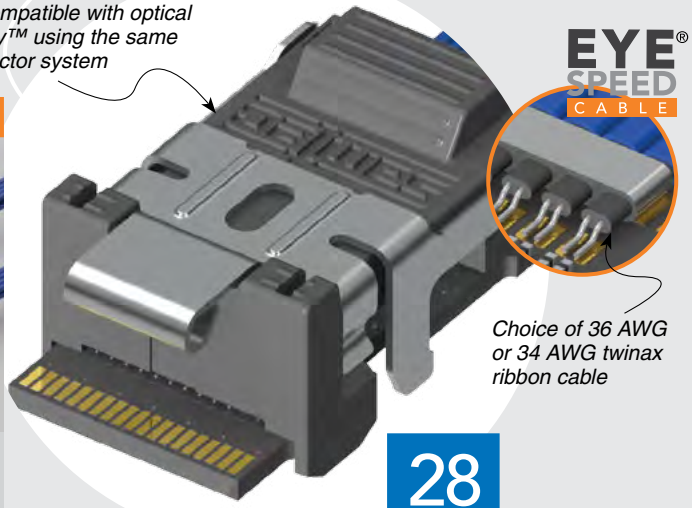
Mates with:
UEC5, UCC8

APPLICATION



The UEC5 and UCC8 connectors were designed to work specifically with the FireFly™ flyover system. They were not designed for use with mating cards other than those used with FireFly™. For other edge card options, please see samtec.com/edgecard or contact CustomerEngineeringSupport@samtec.com.

Pin compatible with optical FireFly™ using the same connector system



Choice of 36 AWG or 34 AWG twinax ribbon cable

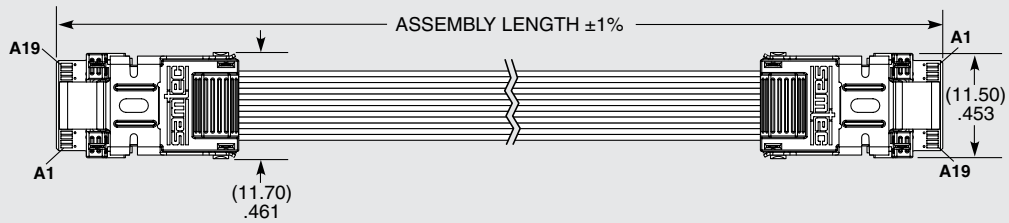
28 Gbps

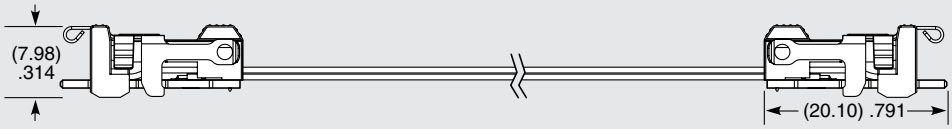
ALSO AVAILABLE (MOV Required)

- A selection of connectors for end 2 option

Contact Samtec.

TYPE	NO. OF PAIRS	ASSEMBLY LENGTH	CABLE TYPE	END 2 OPTION	WIRING OPTION	1	OPTION
ECUE = Rugged FireFly™ Cable Assembly	–08 = (T2 Cable only) –12 = (T1 Cable only)	–"XXX" = Assembly Length in Centimeters (007 cm to 999 cm)	–T1 = 36 AWG twinax (–12 pairs only) –T2 = 34 AWG twinax (–08 pairs only)	–FF = FireFly™ (Mates with UEC5/UCC8)	–01 = Pin A1 to Pin A19 –02 = Pin A1 to Pin B1 –B4 = Pin A1 to Pin B19 (–08 pair only)	–1 = Low Profile	Leave blank for standard FireFly™ –D1 = Decoupling Capacitors (only available with –02 & –B4 wire options)





ECUE–12–XXX–T1–FF–01–1 SHOWN

Notes:
Patents pending

All FireFly™ designs, specifications and components are preliminary and subject to change without notice.

Cable lengths longer than 150 cm (59.06") are not supported with S.I. test data.

FIREFLY™



PCUE–G3–04–009–FF

PCUE SERIES

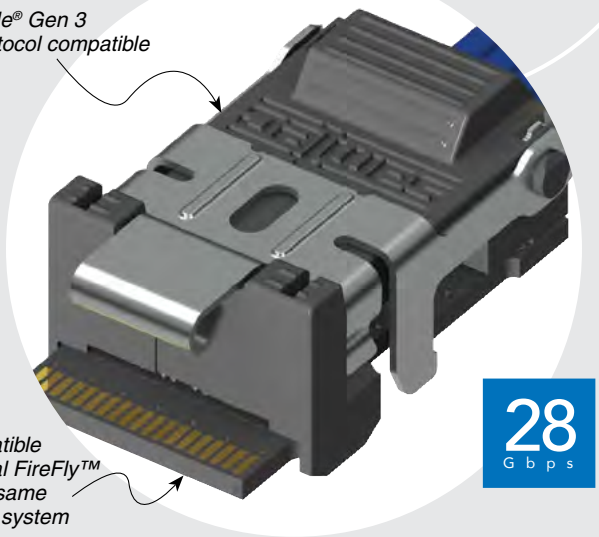
PCIe®-OVER-FIREFLY™ COPPER FLYOVER

SPECIFICATIONS

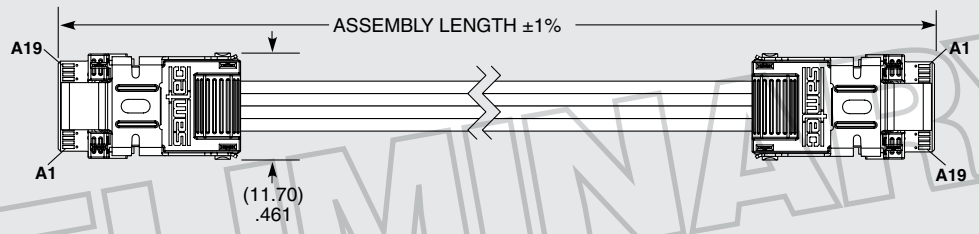
For complete specifications see www.samtec.com?PCUE

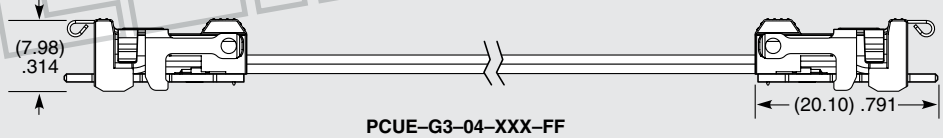
Cable:
Eye Speed® 34 AWG twinax
Signal Routing:
100 Ω
Bend Radius:
(3.18 mm) .125"
RoHS Compliant:
Yes

Mates with:
UEC5, UCC8



PCUE	–	SPEED	–	WIDTH	–	CABLE LENGTH	–	END 2
		–G3 = Gen 3 Speed		–04 = 8 pairs		–"XXX" = Overall Length in Centimeters (010 cm to 999 cm)		–FF = FireFly™ (Mates with UEC5/UCC8)





PCUE–G3–04–XXX–FF

PRELIMINARY

Notes:
Two additional low speed channels compatible with PCUO or custom usage

Decoupling capacitors in-line with signals on PCB.

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Some sizes, styles and options are non-standard, non-returnable.

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WWW.SAMTEC.COM

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FIREFLY™



UCC8–010–1–H–S–1–A

UEC5–019–2–H–D–RA–1



UEC5, UCC8 SERIES

RUGGED MICRO FLYOVER SOCKET SYSTEM

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?UEC5

Insulator Material: Black LCP
Contact Material: BeCu
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 1.8 A per pin (2 pins powered)
Operating Temp Range: -55° C to +125° C
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

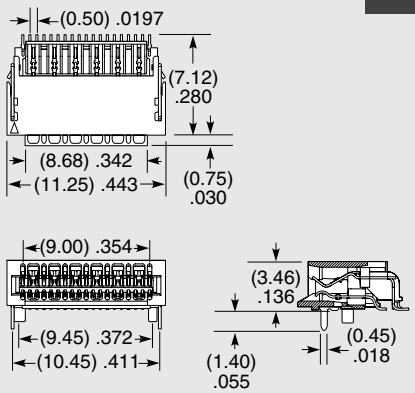
FILE NO. E111594

Note: Some lengths, styles and options are non-standard, non-returnable.

UEC5	–	NO. OF POSITIONS	–	2	–	PLATING OPTION	–	D	–	RA	–	WELD TAB
		–019 (Per Row)				–H = 30 µ" (0.76 µm) Gold on contact, Gold flash on tail				–1 = Through-hole		

Mates with:
ECUE, ECUO, PCUO, PCUE, ETUO

EDGE® RATE CONTACT



Patents: 8588562, 8588561 additional patents pending

APPLICATION



The UEC5 and UCC8 connectors were designed to work specifically with the FireFly™ flyover system. They were not designed for use with mating cards other than those used with FireFly™. Please see samtec.com/edgecard or contact the CustomerEngineeringSupport@samtec.com for other edge card options.

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?UCC8

Insulator Material: Black LCP
Contact Material: BeCu
Weld Tab: Copper Alloy
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 2.6 A per pin (1 pin powered)
Operating Temp Range: -55° C to +125° C
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max

RECOGNITIONS

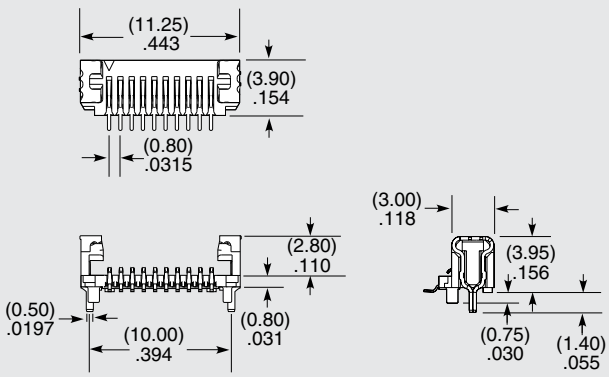
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note: Some lengths, styles and options are non-standard, non-returnable.

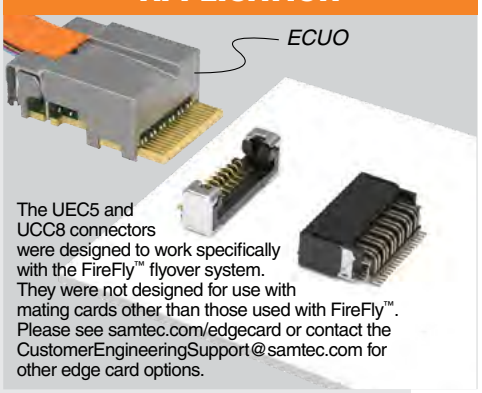
UCC8	–	NO. OF POSITIONS	–	1	–	PLATING OPTION	–	S	–	WELD TAB	–	A
		–010				–H = 30 µ" (0.76 µm) Gold on contact, Gold flash on tail				–1 = Through-hole		

Mates with:
ECUE, ECUO, PCUO, PCUE, ETUO



Patents: 8588562, 8588561 additional patents pending

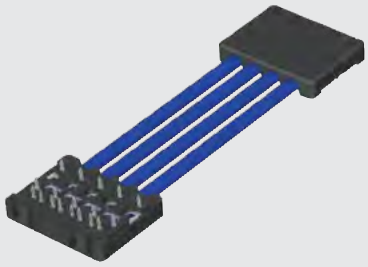
APPLICATION



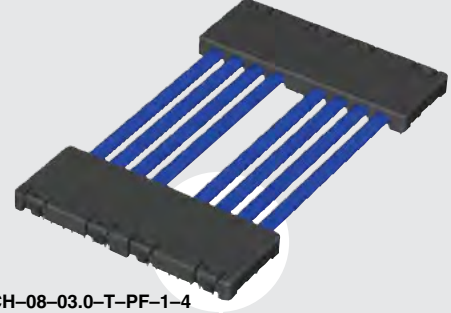
The UEC5 and UCC8 connectors were designed to work specifically with the FireFly™ flyover system. They were not designed for use with mating cards other than those used with FireFly™. Please see samtec.com/edgecard or contact the CustomerEngineeringSupport@samtec.com for other edge card options.

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DCH–04–03.0–T–PF–1–1



DCH–08–03.0–T–PF–1–4

DCH SERIES

HIGH-SPEED PRESS-FIT TO BOARD

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?DCH

Cable:
30 AWG solid core twinax cable
Signal Routing:
100 Ω
Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Copper Alloy
Operating Temp Range:
-25 °C to +105 °C
RoHS Compliant:
Yes

TOOLING

- Flat block is recommended as a mating tool.
- Extraction Tool: CAT-EX-DCC-01

Contact Samtec.

ALSO AVAILABLE (MOQ Required)

- Other cable lengths
- Other wiring options

Contact Samtec.

APPLICATION



HIGH-SPEED CHANNEL PERFORMANCE

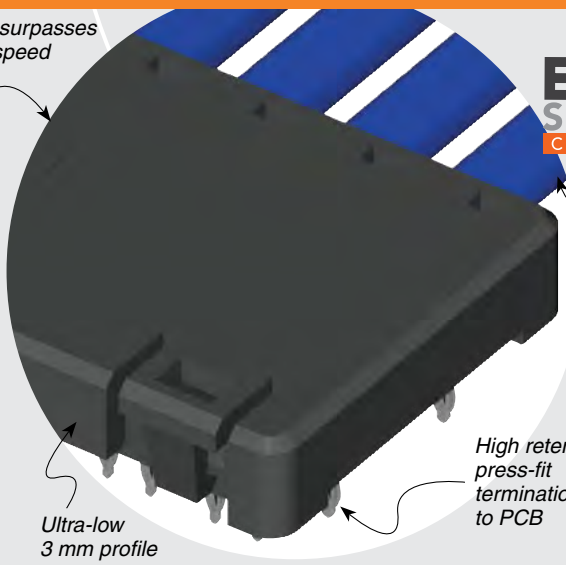
DCH

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

PAM4

56 Gbps

Supports and surpasses PCIe® Gen 3 speed at 2 meters



EYE® SPEED CABLE

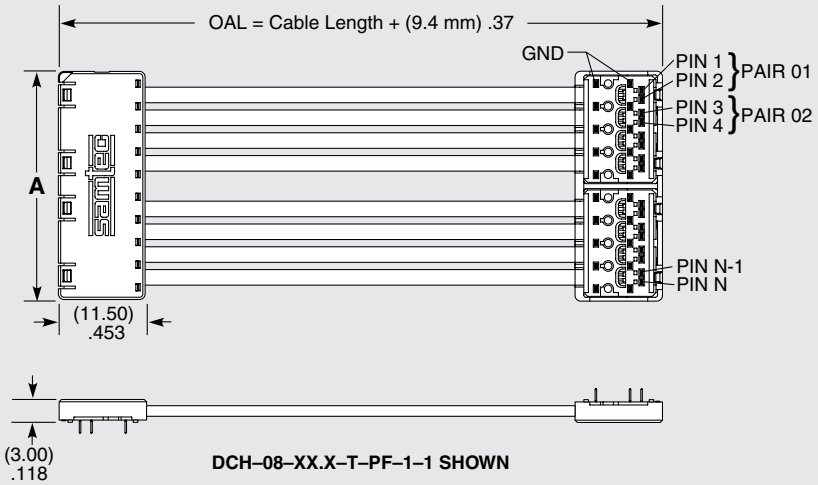
30 AWG solid core twinax cable

High retention press-fit termination to PCB

Ultra-low 3 mm profile

DCH	–	NO. OF PAIRS	–	CABLE LENGTH	–	PLATING OPTION	–	CONTACT STYLE	–	END 2 OPTION	–	WIRING OPTION
		–04, –08		–XX.X = Cable Length in Inches (50.8 mm) 02.0" minimum		–T = Matte Tin		–PF = Press-fit		–1 = DCH		–1 = Pin 1 to Pin 1 –4 = Pin 1 to Pin N (Contact Samtec for other options)

NO. OF PAIRS	A
–04	(15.25) .600
–08	(30.25) 1.191



DCH–08–XX.X–T–PF–1–1 SHOWN

Notes:
Patent Pending

Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Some lengths, styles and options are non-standard, non-returnable.

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FQSFP SERIES

FLYOVER QSFP28 CABLE ASSEMBLY

FEATURES

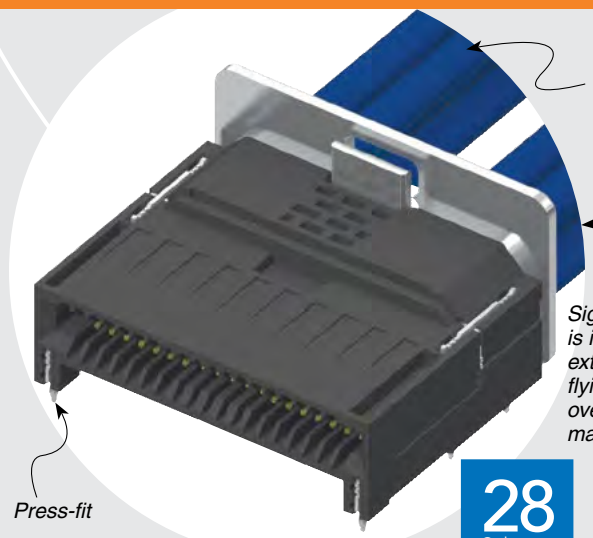
- 4 Channels (x4 Bidirectional, 8 Differential Pairs)
- 28 Gbps NRZ per channel
- Aggregate: 100 Gbps NRZ (200 Gbps PAM4)
- Backward compatible with all QSFP cable assemblies
- Signal integrity is improved and extended by flying critical data over lossy PCB materials
- Reduced PCB costs due to lower layer counts and increased material options
- Heat dissipation (~3.5 W / cable) is improved through power reduction and by freeing designers to place ICs in preferred locations

Mates with:
QSFP8

APPLICATION



Press-fit tails provide low speed signals and power to the PCB



SPECIFICATIONS

For complete specifications see www.samtec.com?FQSFP

Cable:
30 AWG twinax ribbon cable
Signal Routing:
100 Ω Differential
Operating Temp Range:
-25 °C to +105 °C
RoHS Compliant:
Yes

OTHER SOLUTIONS

- Cage comes separately: QSFPK-X-X-X-XX-X-XX-F

Contact FQSFP@samtec.com

IN DEVELOPMENT

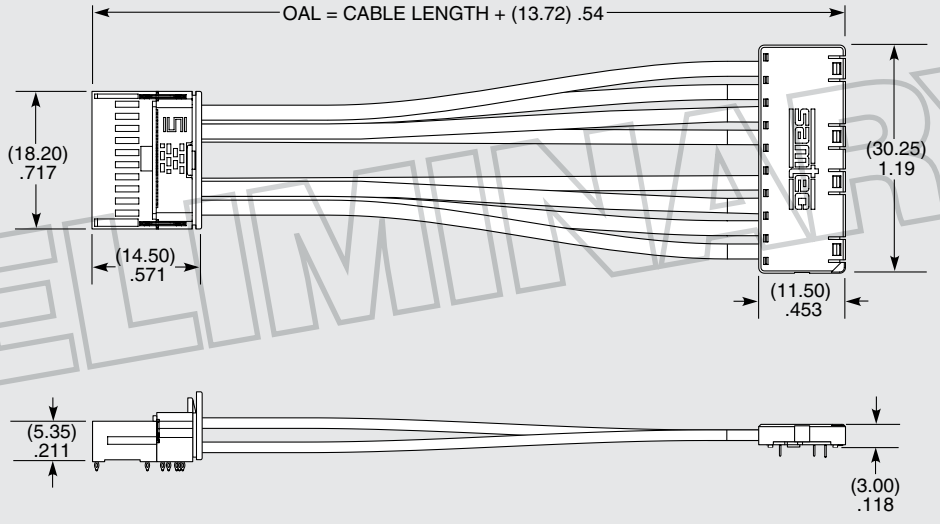
- Other end options

Call Samtec.

Notes:
Patent Pending

Some sizes, styles and options are non-standard, non-returnable.

FQSFP	LEAD STYLE	CABLE LENGTH	PLATING	CONTACT TYPE	END OPTION
	–01 = 10 Low-Speed, 8 Pairs High-Speed	–"XX.X" = Length in inches (152.4 mm) 06.0" minimum	–L = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact area, Matte Tin on tail	–PF = Press-fit	–1 = DCH-PF (1 X 8 Pair) –2 = DCH-PF (2 X 4 Pair)

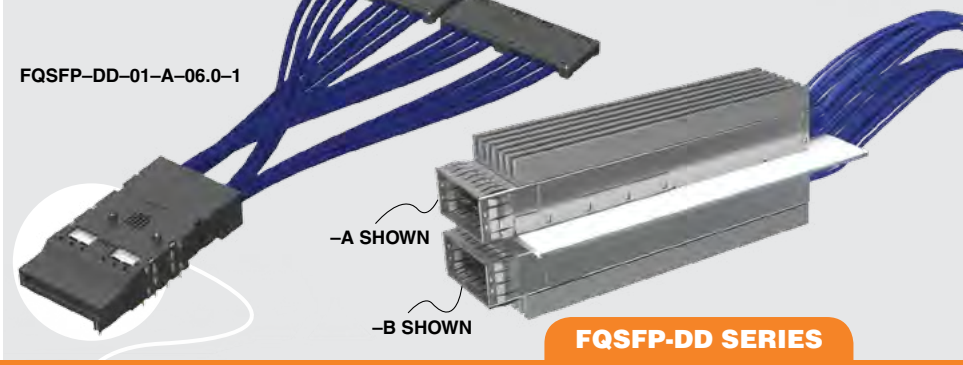


PRELIMINARY

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FQSFP-DD SERIES

FLYOVER QSFP28 DOUBLE DENSITY

FEATURES

- 8 Channels (x8 Bidirectional, 16 Differential Pairs)
- 28 Gbps NRZ per channel
- Compatible with MSA compliant transceivers
- Aggregate: 200 Gbps NRZ (400 Gbps PAM4)
- Heat dissipation: ~7 W / cable
- 2 rows of contact pads
- Backward compatible with QSFP modules
- Belly-to-Belly mating for maximum density
- Direct solder attach to connector contacts

SPECIFICATIONS

For complete specifications see www.samtec.com?FQSFP-DD

Cable:
34 AWG twinax ribbon cable
Signal Routing:
100 Ω Differential
Operating Temp Range:
-25 °C to +105 °C
RoHS Compliant:
Yes

OTHER SOLUTIONS

- Cage available separately with a variety of heat sinks: QSFPK-DD-X-X-X-XX-X-XX-F Contact FQSFP@samtec.com

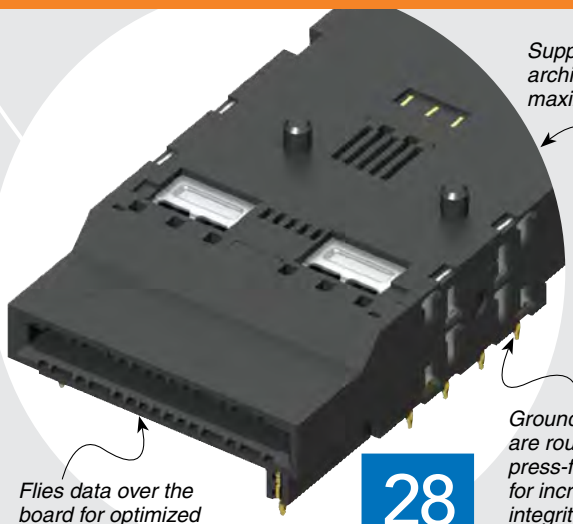
***Note:**
-2 End Option mates with FCDP Edge Card Socket; Contact Samtec.

Note:
Some sizes, styles and options are non-standard, non-returnable.

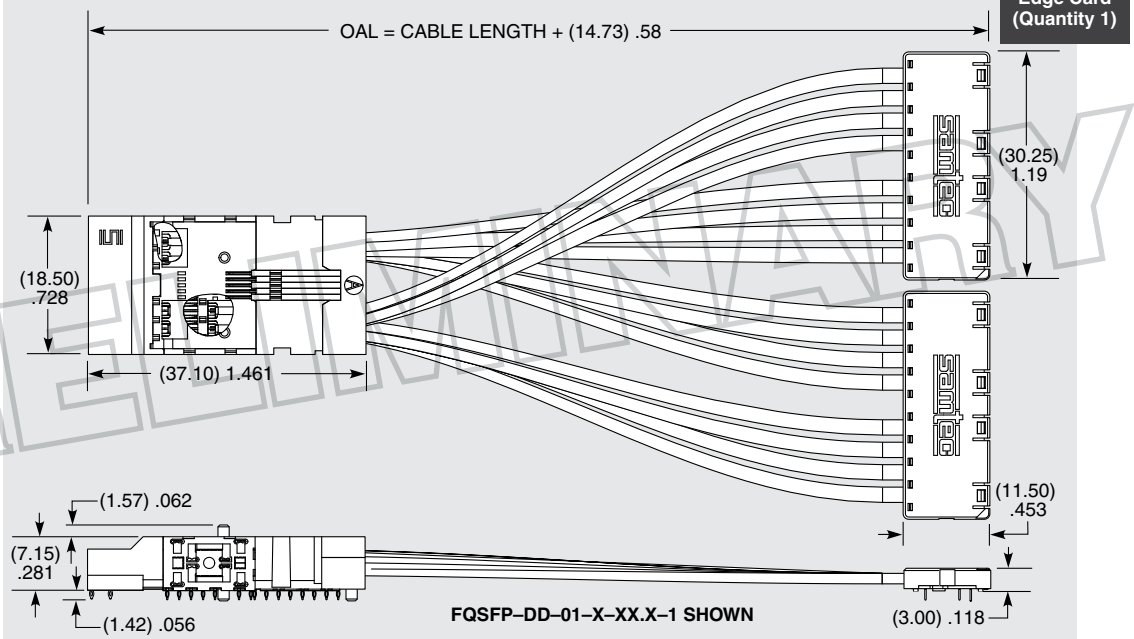
APPLICATION



Localized Press-Fit Control & Power Contacts
Direct Connect Sidebands = Increased Airflow & No Extra Cables Needed



FQSFP	DD	CABLE AWG/ OHM/PAIRS	FOOTPRINT	CABLE LENGTH	END 2 OPTION
		–01 = 8 channels (x8 Bidirectional), 16 Differental pairs	–A = Primary –B = Secondary (Belly-to-Belly only)	–"XX.X" = Length in inches (152.4 mm) 06.0" minimum	–1 = DCH-08 (Quantity 2) –2* = FEDP-40 Edge Card (Quantity 1)

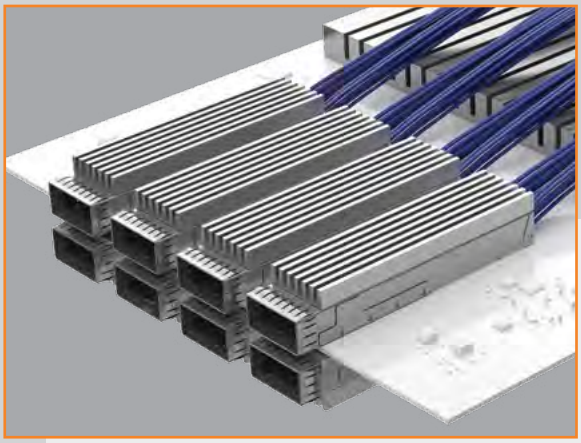


PRELIMINARY

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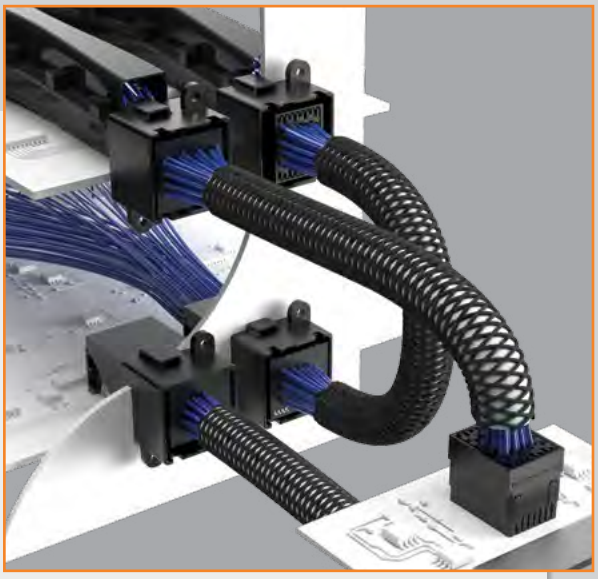
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NEW FLYOVER SOLUTIONS



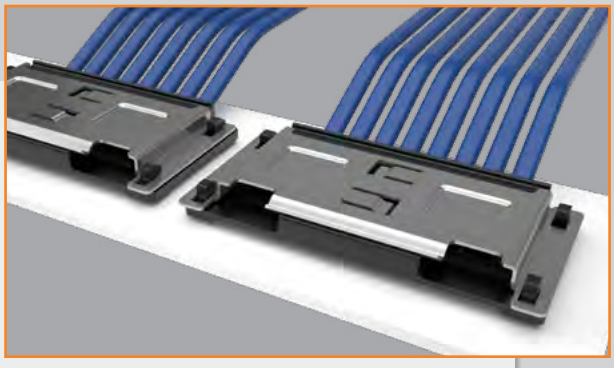
Flyover QSFP28-DD

- Press-fit sidebands increase system airflow and eliminate need for extra cables
- 28 Gbps NRZ per channel
- 8 channels
- Belly-to-belly mating for maximum density
- FQSFP-DD Series



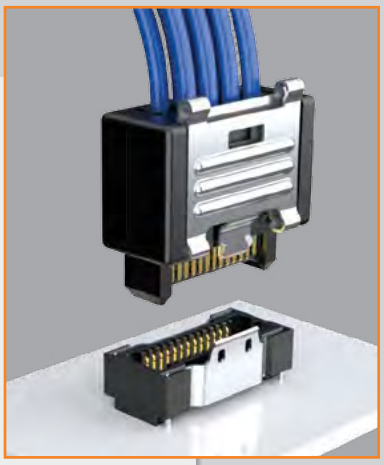
ExaMAX® Backplane Cable

- Requires fewer layer counts for reduced costs
- Highly customizable with modular flexibility
- 56 Gbps PAM4
- Intermateable with all ExaMAX® connectors
- EBCM/EBCF Series



Direct Pluggable Assembly

- Connect directly to the board
- Horizontal applications
- 56 Gbps PAM4
- DPH Series



0.635 mm Pitch Cable Assemblies

- Industry leading density with up to 92 pairs per square inch
- Slim 5.00 mm body width
- 56 Gbps NRZ performance
- ETC6/ETF6 Series

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(0.80 mm) .0315"

ECDP SERIES

TWINAX EDGE CARD CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications or www.samtec.com?ECDP

Cable:
30 AWG twinax cable
Plating:
Edge Card = ENIG, 3-10 microinches
Operating Temp Range:
-25 °C to +105 °C
Current Rating:
2.3 A per pin
(2 adjacent pins powered)
Impedance:
100 Ω Differential
Bend Radius:
(3.18 mm) .125"
Pinout Map:
See web address above
RoHS Compliant:
Yes

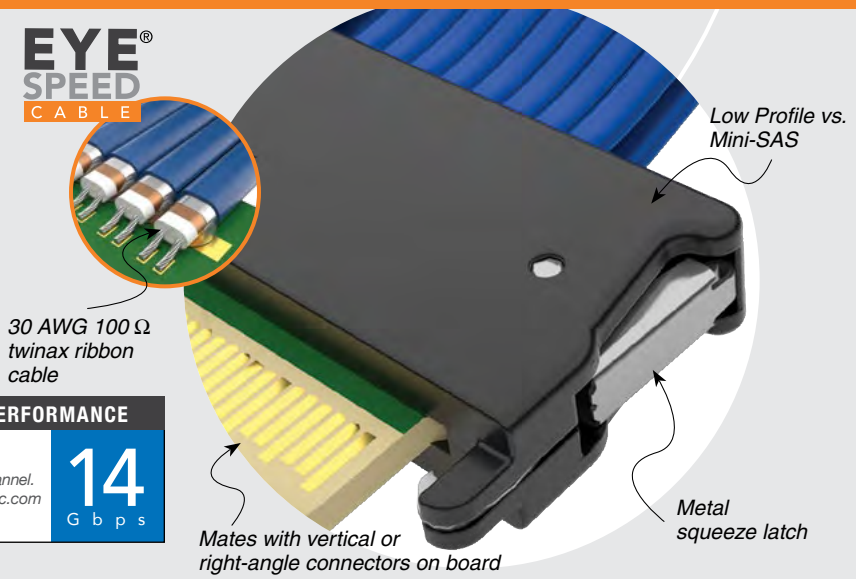
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Mates with:
HSEC8 (–L2 option),
HSEC8 (–BL option)

EYE® SPEED CABLE



HIGH-SPEED CHANNEL PERFORMANCE

ECDP

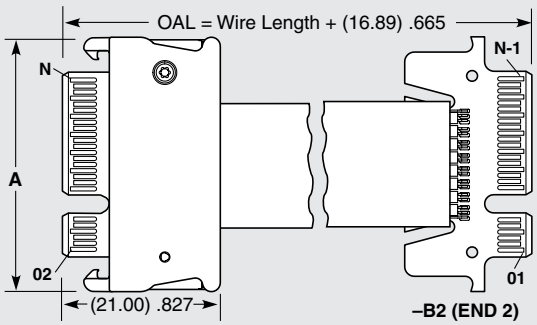
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

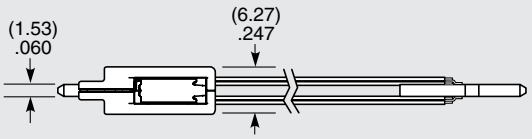
14 Gbps

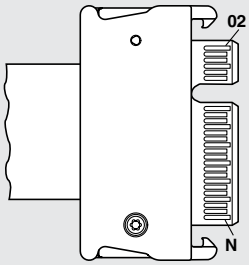
TYPE	NO. OF PAIRS	WIRE LENGTH	END 1	END 2	WIRING OPTION	CABLE TYPE
ECDP = Edge Card Cable	**–04, –08, –16, –32**	**–"XX.XX"** = Wire Length in Inches (95.3 mm) 03.75" minimum	**–L1** = Double Vertical with latches **–B1** = Board lock, No housing	**–L1** = Double Vertical with latches (Wiring option –3 & –4 only) **–L2** = Double Vertical with latches (Wiring option –1 & –2 only) **–B1** = Board lock, No housing (Wiring option –3 & –4 only) **–B2** = Board lock, No housing (Wiring option –1 & –2 only)	**–1** = Pin 1 to Pin 1 **–2** = Pin 1 to Pin 2 **–3** = Pin 1 to Pin N-1 **–4** = Pin 1 to Pin N	**–3** = 100 Ω Eye Speed®

NO. OF PAIRS	A
–04	(20.85) .821
–08	(24.05) .947
–16	(33.66) 1.325
–32	(52.86) 2.081

CABLE	CONNECTOR
ECDP–04	HSEC8–109–XX
ECDP–08	HSEC8–113–XX
ECDP–16	HSEC8–125–XX
ECDP–32	HSEC8–149–XX







–L1 (END 2)*

*Same pinout for –B1 end 2 and –L1 end 2.

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

Some lengths, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

QPAIRS®



HQDP–020–06.00–SEU–TTR–6–F

EQDP–028–06.00–STR–TTL–7–F

(0.50 mm) .0197"(HQDP) (0.80 mm) .0315"(EQDP)

HQDP, EQDP SERIES

Q PAIRS® TWINAX CABLE ASSEMBLIES

SPECIFICATIONS

For complete specifications see www.samtec.com?EQDP or www.samtec.com?HQDP

Cable:
30 AWG twinax micro ribbon
Signal Routing:
100 Ω Differential
Cable Bending Radius:
(3.18 mm) 1/8" min
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
EQDP = 500 mA per pin
HQDP = 400 mA per pin
(6 adjacent pins powered)
Propagation Delay:
4.67 nsec/meter
Operating Temp Range:
-25 °C to +105 °C
Skew (pair-to-pair):
<10 ps/ft
Skew (within a pair):
<5 ps/ft
EMI Performance:
FCC Class A
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

PROTOCOLS

- SAS
- SATA
- Fibre Channel
- Ethernet
- PCIe®
- InfiniBand™

ALSO AVAILABLE (MOV Required)

- Pairs
- Terminations

Contact Samtec.

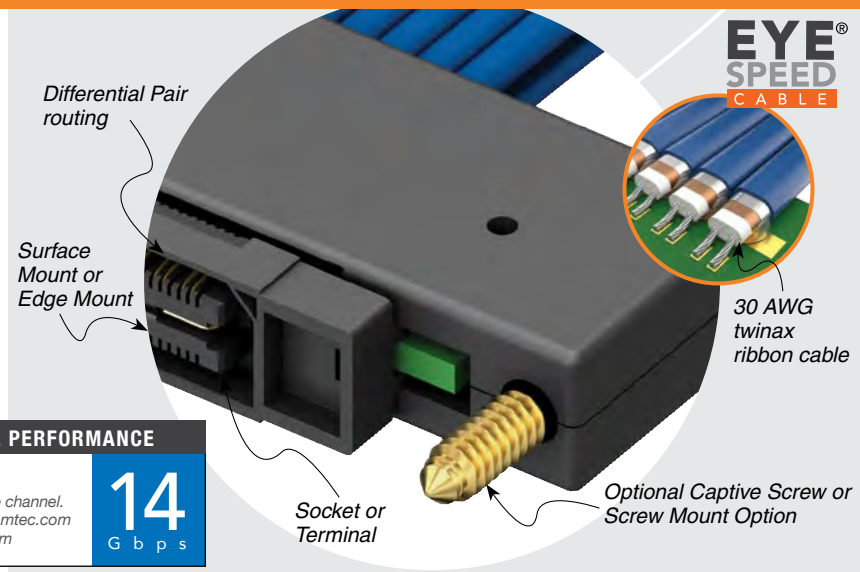
Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

This Series is non-standard, non-returnable.

EQDP Mates with:
QTE-DP, QSE-DP

HQDP Mates with:
QTH-DP, QSH-DP



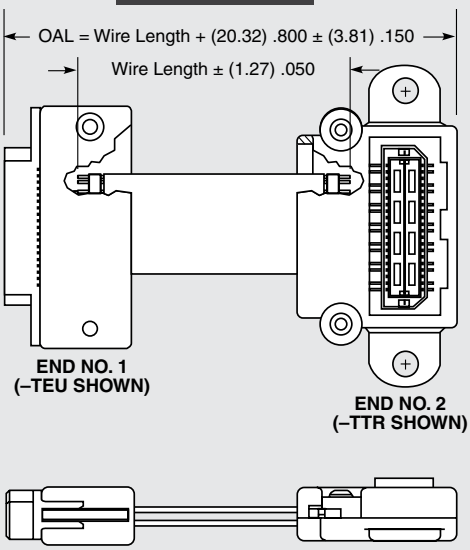
HIGH-SPEED CHANNEL PERFORMANCE

HQDP or EQDP

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

TYPE	NO. OF PAIRS	WIRE LENGTH	END NO. 1	END NO. 2	WIRING OPTION	SCREW OPTION
HQDP = (0.50 mm) .0197" pitch **EQDP** = (0.80 mm) .0315" pitch	–020, –040, –060 (20 pairs per bank) HQDP Series –014, –028, –042, –056 (14 pairs per bank) EQDP Series	–"XX.XX" = Wire Length in Inches (43.7 mm) 01.72" minimum	Specify END ASSEMBLIES from chart		–5 = Pin 1 to Pin 1 –6 = Pin 1 to Pin 2 –7 = Pin 1 to Second Last Pin –8 = Pin 1 to Last Pin	Leave blank for no Screw Option –F = End No. 1 –S = End No. 2 –B = Both Ends



END	SURFACE MOUNT
TTR	Terminal, Top, Notch Right
TTL	Terminal, Top, Notch Left
TBR	Terminal, Bottom, Notch Right
TBL	Terminal, Bottom, Notch Left
STR	Socket, Top, Notch Right
STL	Socket, Top, Notch Left
SBR	Socket, Bottom, Notch Right
SBL	Socket, Bottom, Notch Left

END	EDGE MOUNT (HQDP only)
TEU	Terminal, Edge, Notch Up
TED	Terminal, Edge, Notch Down
SEU	Socket, Edge, Notch Up
SED	Socket, Edge, Notch Down

WIRING REQUIREMENTS	
WIRING OPTION	END OPTIONS
5 or 6	TTR, TBL, STL, SBR, TEU, SED to TTR, TBL, STL, SBR, TED, SEU or TTL, TBR, STR, SBL, TED, SEU to TTL, TBR, STR, SBL, TEU, SED
7 or 8	TTR, TBL, STL, SBR, TEU, SED to TTL, TBR, STR, SBL, TEU, SED or TTL, TBR, STR, SBL, TED, SEU to TTR, TBL, STL, SBR, TED, SEU

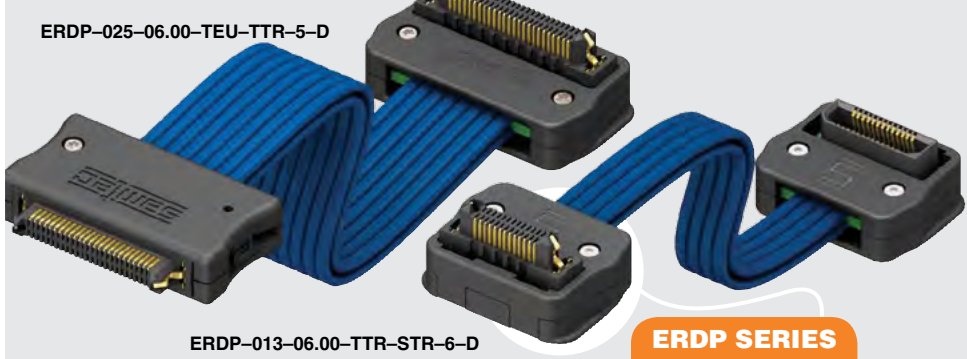
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EDGE® RATE CONTACT

(0.80 mm) .0315"



ERDP SERIES

EDGE RATE® TWINAX CABLE ASSEMBLIES

SPECIFICATIONS

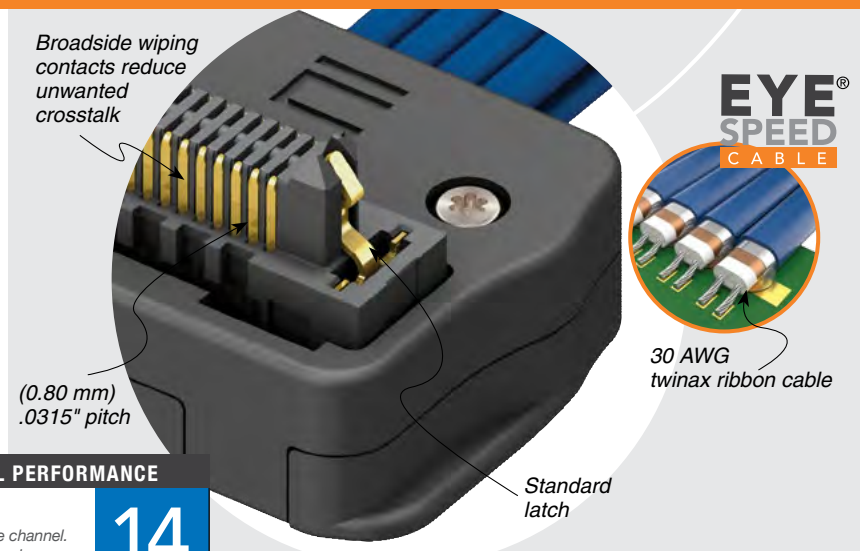
For complete specifications and recommended PCB layouts see www.samtec.com?ERDP

Cable:
30 AWG twinax ribbon cable
Signal Routing:
100 Ω Differential
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-25 °C to +105 °C
RoHS Compliant:
Yes

Mates with:
ERF8, ERM8

PROTOCOLS

- SAS
- SATA
- Fibre Channel
- Ethernet
- PCIe®
- InfiniBand™



HIGH-SPEED CHANNEL PERFORMANCE

ERDP

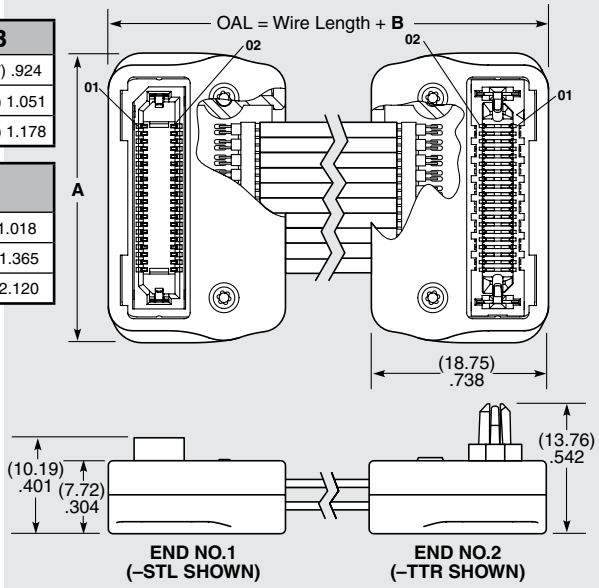
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

ERDP	– NO. POSITIONS PER ROW	– WIRE LENGTH	– END NO. 1	END NO. 2	– WIRING OPTION	– LATCH
	–013 = 8 Pair, –025 = 16 Pair, –049 = 32 Pair	–"XX.XX" = Wire Length in Inches (43. 7 mm) 01.72" minimum	–TTR = Terminal, Top Right –TTL = Terminal, Top Left –TBR = Terminal, Bottom Right –TBL = Terminal, Bottom Left –STR = Socket, Top Right –STL = Socket, Top Left –SBR = Socket, Bottom Right –SBL = Socket, Bottom Left –TEU = Terminal, Edge Mount Up –TED = Terminal, Edge Mount Down		–5 = Pin 1 to Pin 1 –6 = Pin 1 to Pin 2 –7 = Pin 1 to Pin N -1 –8 = Pin 1 to Pin N	Specify LATCH from chart (Required callout)

END TO END	B
DV to DV	(23.47) .924
DV to Edge Mount (-TEX)	(26.69) 1.051
Edge Mount (-TEX)	(29.92) 1.178

POSITIONS PER ROW	A
–013	(25.86) 1.018
–025	(34.67) 1.365
–049	(53.85) 2.120



LATCH	ASSEMBLY
† –L	End No. 1 Standard Latch, End No. 2 Squeeze Latch
♦ –R	End No. 1 Squeeze Latch, End No. 2 Standard Latch
–D	Both Ends Standard Latch
–N	No Housing Both Ends Standard Latch
* –B	Both Ends Squeeze Latch
♦ –F	End No. 1 Screw Option, End No. 2 Friction Latch
† –S	End No. 1 Friction Latch, End No. 2 Screw Option
* –C	Both Ends Screw Option
* –G	End No. 1 Screw Option, End No. 2 Squeeze Latch
* –T	End No. 1 Squeeze Latch, End No. 2 Screw Option

* –B, –C, –G & –T option only available with –TEX on both ends.
† –L & –S option only available with –TEX on second end.
♦ –R & –F option only available with –TEX on first end.

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

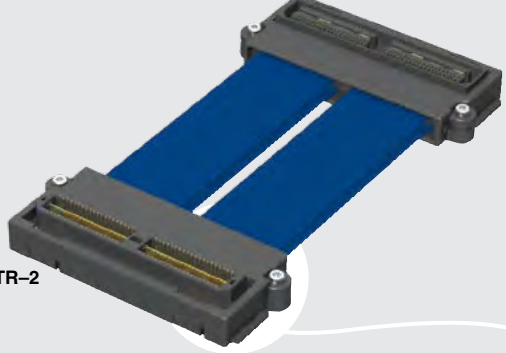
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QSTRIP®



EQCD–040–04.00–TTL–STR–2

(0.50 mm) .0197"(HQCD) (0.80 mm) .0315"(EQCD)

Q STRIP® COAX CABLE ASSEMBLIES

SPECIFICATIONS

For complete specifications see www.samtec.com?HQCD or www.samtec.com?EQCD

Cable:
38 AWG micro ribbon coax cable
Signal Routing:
50 Ω Single-Ended
Overall Length:
(95.3 mm) 03.75" to
(1 m) 40" standard
Cable Flexing Life:
>10,000 cycles
Cable Bending Radius:
<2.5mm
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
EQCD: 500 mA per pin
HQCD: 300 mA per pin
(6 adjacent pins powered)
Cable Propagation Delay:
4.79 nsec/meter
Operating Temp Range:
-25 °C to +105 °C
Unmating Force (-RT1 option):
-RT1 option increases unmating force up to 50%
RoHS Compliant:
Yes

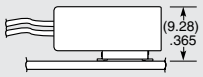
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

APPLICATIONS



Processing conditions will affect mated height.

ALSO AVAILABLE
(MOV Required)

- Other sizes and lengths
- Other terminations
- Other wire AWG
- Retention pin

Contact Samtec.

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

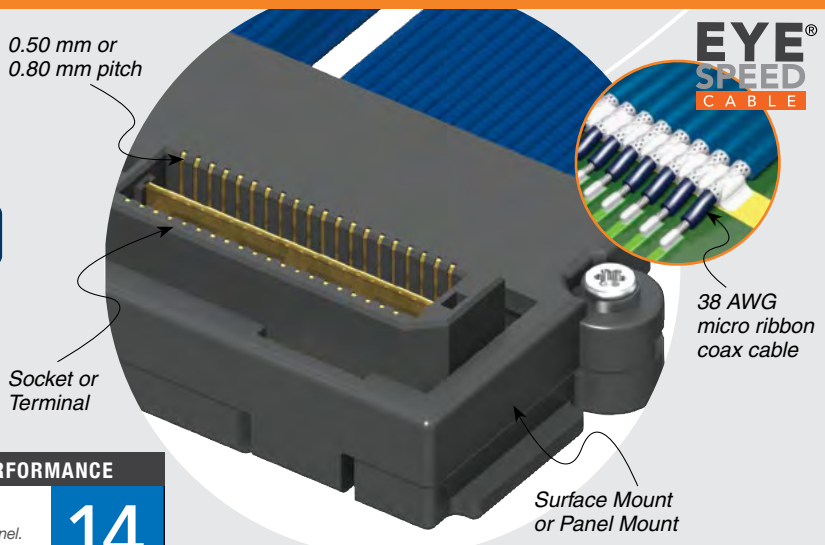
This Series is non-standard, non-returnable.

HQCD Mates with:
QTH, QSH

EQCD Mates with:
QTE, QSE

RUGGEDIZED BY SAMTEC

- Screw & panel mount options
- Retention pins



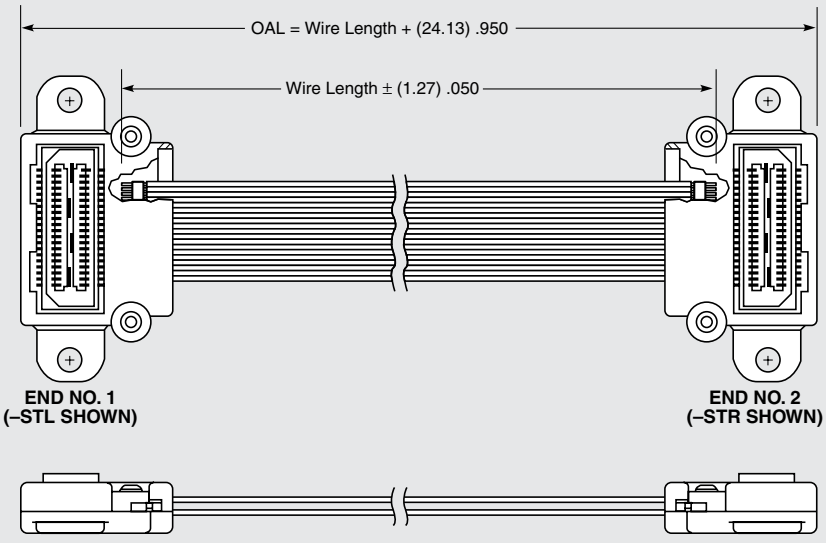
HIGH-SPEED CHANNEL PERFORMANCE

HQCD or EQCD

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

TYPE	NO. OF POSITIONS PER ROW	WIRE LENGTH
HQCD = (0.50 mm) .0197" pitch **EQCD** = (0.80 mm) .0315" pitch	–030, –060, –090 (HQCD Series) –020, –040, –060 (EQCD Series)	–"XX.XX" = Wire Length in Inches (43.7 mm) 01.72" minimum



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EQCD–020–40.00–TPU–TTR–1



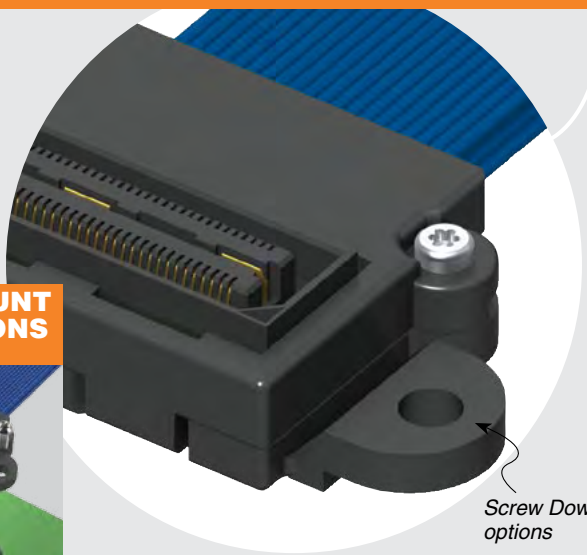
HQCD–030–06.00–STL–TTR–1–B



SCREW MOUNT APPLICATIONS
(–F, –S, –B)



SO–0318–04–01–02



END NO. 1

Specify
END ASSEMBLIES
from chart

PANEL MOUNT END OPTION APPLICATIONS
(–TPU, –TPD, –SPU, SPD)



END 1 ONLY	PANEL MOUNT
TPU	Terminal, Panel Mount, Notch Up
TPD	Terminal, Panel Mount, Notch Down
SPU	Socket, Panel Mount, Notch Up
SPD	Socket, Panel Mount, Notch Down

END NO. 2

END 1 or END 2	SURFACE MOUNT
TTR	Terminal, Top Mount, Notch Right
TTL	Terminal, Top Mount, Notch Left
TBR	Terminal, Bottom Mount, Notch Right
TBL	Terminal, Bottom Mount, Notch Left
STR	Socket, Top Mount, Notch Right
STL	Socket, Top Mount, Notch Left
SBR	Socket, Bottom Mount, Notch Right
SBL	Socket, Bottom Mount, Notch Left

WIRING OPTION

–1
= Pin 1 to Pin 1

–2
= Pin 1 to Pin 2

–3
= Pin 1 to Second to Last Pin

–4
= Pin 1 to Last Pin

END OPTIONS

Leave blank for no Screw Mount & Retention End Option

–F
= Screw Mount End No. 1 only
(Not available with XPX options)

–S
= Screw Mount End No. 2 only

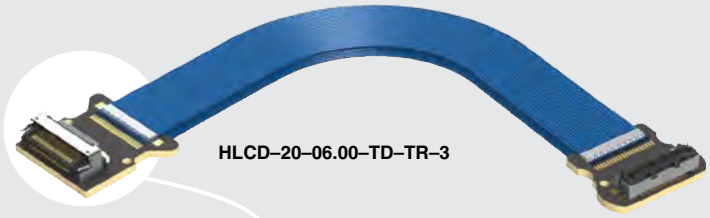
–B
= Screw Mount Both Ends
(Not available with XPX options)

–1
= End No. 1 Screw Mount.
End No. 2 Retention Pin or Socket

–2
= End No. 1 Retention Pin or Socket.
End No. 2 Screw Mount Option

samtec

RAZOR™ BEAM SYSTEM



(0.50 mm) .0197"

HLCD SERIES

HIGH-SPEED HERMAPHRODITIC CABLE

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HLCD

Cable:
38 AWG 50 Ω coax cable
Signal Routing:
50 Ω Single-Ended
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-25 °C to +105 °C
Current Rating:
0.9 A per pin
(2 pins powered)
SI Performance:
Testing Now!
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

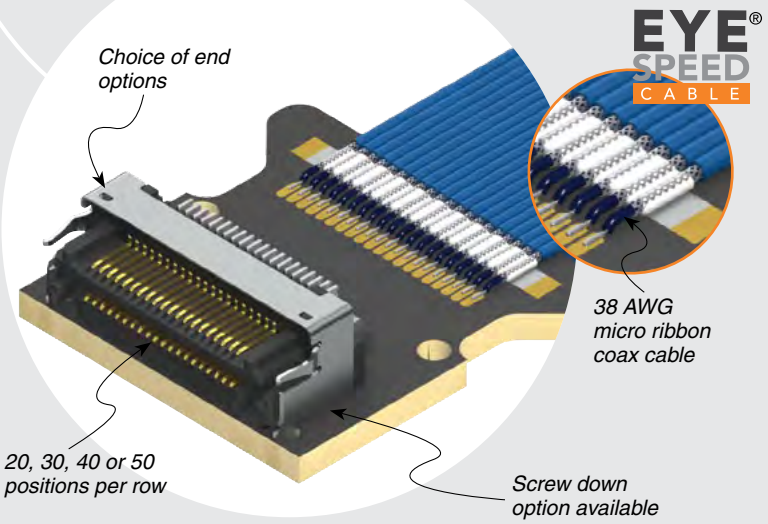
Notes:
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Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

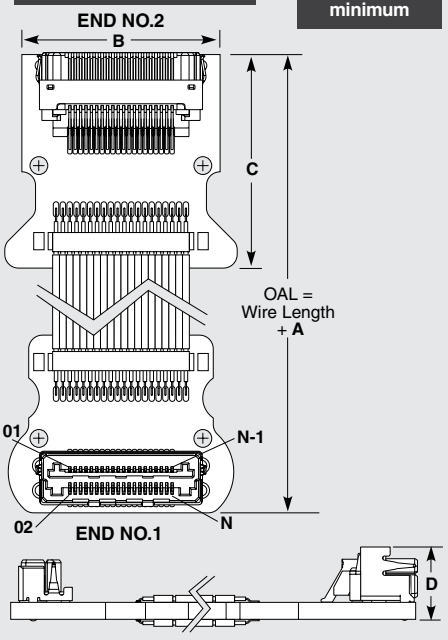
Some lengths, styles and options are non-standard, non-returnable.

Mates with:
LSHM

RUGGEDIZED BY SAMTEC
• Screw downs



HLCD	POSITIONS PER ROW	WIRE LENGTH	END NO. 1	END 1 OPTION	END NO. 2	END 2 OPTION	WIRING OPTION
	–20, –30, –40, –50 (Standard sizes)	–"XX.XX" = Wire Length in Inches (43.7 mm) 01.72" minimum	–TR = Vertical, Top Right –TL = Vertical, Top Left –BR = Vertical, Bottom Right –BL = Vertical, Bottom Left –TD = Right-angle, Top –TH = Reversed Right-angle, Top –BD = Right-angle, Bottom –BH = Reversed Right-angle, Bottom	Leave blank for no screw down. Screw down not available for –TD TH, –BD & –BH options. S = Screw down in PCB	–TR = Vertical, Top Right –TL = Vertical, Top Left –BR = Vertical, Bottom Right –BL = Vertical, Bottom Left –TD = Right-angle, Top –TH = Reversed Right-angle, Top –BD = Right-angle, Bottom –BH = Reversed Right-angle, Bottom	Leave blank for no screw down. Screw down not available for –TD TH, –BD & –BH options. S = Screw down in PCB	–1 = Pin 1 to Pin 1 –2 = Pin 1 to Pin 2 –3 = Pin 1 to Pin N-1 –4 = Pin 1 to Pin N



END NO. 1 (–TR SHOWN)

END NO. 2 (–TD SHOWN)

END TO END	A
Vertical to Vertical	(21.84) .860
Vertical to Right-angle	(25.35) .998
Vertical to Reverse Right-angle	
Right-angle to Right-angle	(28.85) 1.136
Right-angle to Reverse Right-angle	
Reverse Right-angle to Reverse Right-angle	

NO. OF POSITIONS	B	
	XR, XL	XH, XD
–020	(22.23) .875	(18.42) .725
–030	(24.77) .975	(26.04) 1.025
–040	(32.39) 1.275	(33.66) 1.325
–050	(40.01) 1.575	(41.28) 1.625

END OPTION	C	D
XL, XR	(16.51) .650	(6.02) .237
XD	(20.02) .788	(6.71) .264
XH		

samtec

QRATE®



EQRD–026–04.00–TTL–STL–3

(0.80 mm) .0315"

EQRD SERIES

Q RATE® COAX CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?EQRD

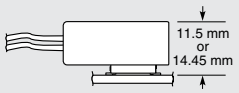
Cable:
34 AWG micro ribbon coax cable
Signal Routing:
50 Ω Single-Ended
Overall Length:
(95.3 mm) 03.75" to (1 m) 40" standard
Cable Flexing Life:
>10,000 cycles
Cable Bending Radius:
<2.5 mm
Plating:
Au over 50 µ" (1.27 µm) Ni
Cable Propagation Delay:
4.4 nsec/meter
Operating Temp Range:
-25 °C to +105 °C
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATIONS



Processing conditions will affect mated height.

ALSO AVAILABLE
(MOV Required)

- Other sizes and lengths
- Other terminations
- Other wire AWG

Contact Samtec.

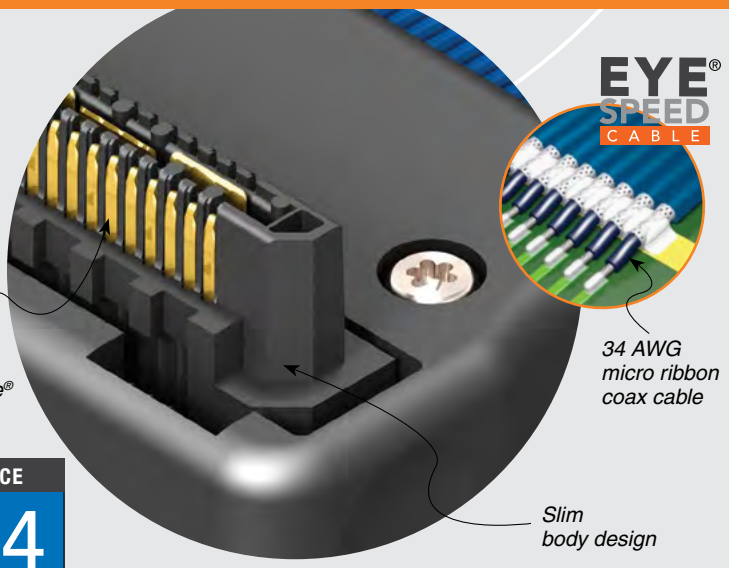
Notes:
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Some lengths, styles and options are non-standard, non-returnable.

Mates with:
QRF8, QRM8

EDGE® RATE CONTACT

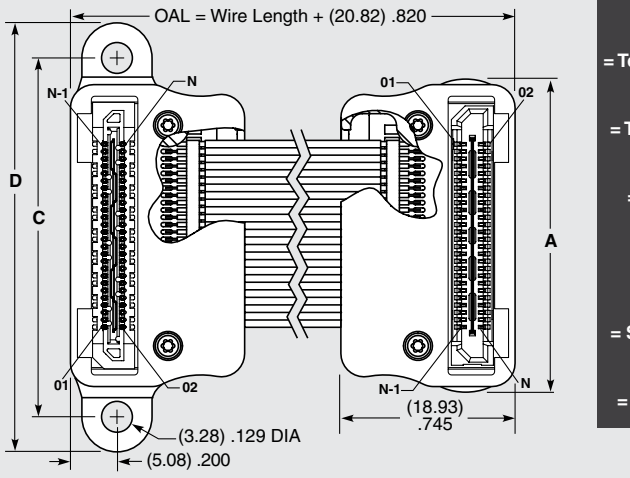


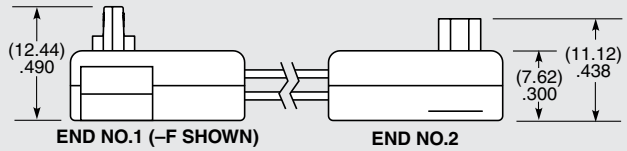
HIGH-SPEED CHANNEL PERFORMANCE

EQRD
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

EQRD	NO. OF POSITIONS	WIRE LENGTH	END NO. 1	END NO. 2	WIRING OPTION	SCREW OPTION
	–026, –052, –078 (Per Row)	–"XX.XX" = Wire Length in Inches (43.7 mm) 01.72" minimum		–TTR = Terminal, Top Right –TTL = Terminal, Top Left –TBR = Terminal, Bottom Right –TBL = Terminal, Bottom Left –STR = Socket, Top Right –STL = Socket, Top Left –SBR = Socket, Bottom Right –SBL = Socket, Bottom Left	–1 = Pin 1 to Pin 1 –2 = Pin 1 to Pin 2 –3 = Pin 1 to Pin N-1 –4 = Pin 1 to Pin N	Leave blank for no Screw Option –F = Screw option (First end only) –S = Screw option (Second end only) –B = Screw option (Both ends)





NO. OF POSITIONS	A	C	D
–026	(33.02) 1.300	(39.12) 1.540	(46.74) 1.840
–052	(57.81) 2.276	(63.91) 2.516	(71.53) 2.816
–078	(82.63) 3.253	(88.70) 3.492	(96.32) 3.792

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EDGE® RATE CONTACT

(0.80 mm) .0315"



ERCD–050–08.00–SBR–STR–3–D

ERCD–020–10.00–TEU–STR–3–R

ERCD SERIES

EDGE RATE® COAX CABLE ASSEMBLIES

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERCD

Cable:
34 AWG coax ribbon cable
Signal Routing:
50 Ω Single-Ended
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-25 °C to +105 °C
Current Rating:
1.3 A per pin
(2 pins powered)
RoHS Compliant:
Yes

Mates with:
ERF8, ERM8

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594



HIGH-SPEED CHANNEL PERFORMANCE

ERCD

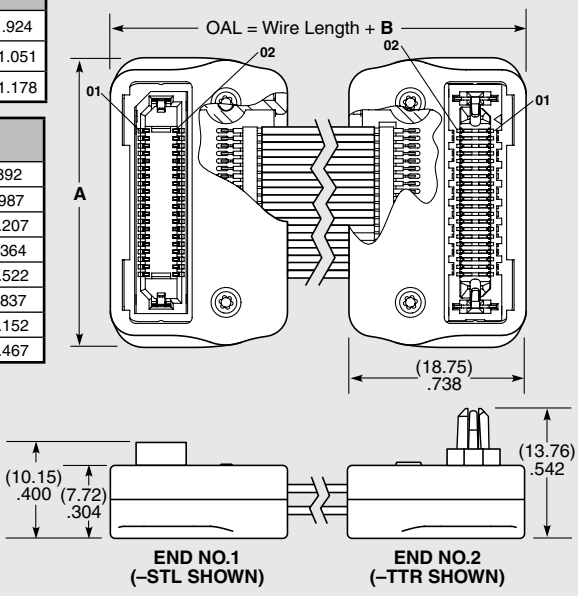
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

ERCD	NO. POSITIONS PER ROW	WIRE LENGTH	END NO. 1	END NO. 2	WIRING OPTION	LATCH
	–010, –013, –020, –025, –030, –040, –050, –060	–"XX.XX" = Wire Length in Inches (43.7 mm) 01.72" minimum	–TTR = Terminal, Top Right –TTL = Terminal, Top Left –TBR = Terminal, Bottom Right –TBL = Terminal, Bottom Left –STR = Socket, Top Right –STL = Socket, Top Left –SBR = Socket, Bottom Right –SBL = Socket, Bottom Left –TEU = Terminal, Edge Mount Up –TED = Terminal, Edge Mount Down		–1 = Pin 1 to Pin 1 –2 = Pin 1 to Pin 2 –3 = Pin 1 to Pin N -1 –4 = Pin 1 to Pin N	Specify LATCH from chart (Required callout)

END TO END	B
DV to DV	(23.47) .924
DV to Edge Mount (-TEX)	(26.69) 1.051
Edge Mount (-TEX)	(29.92) 1.178

POSITIONS PER ROW	A
–010	(22.66) .892
–013	(25.06) .987
–020	(30.66) 1.207
–025	(34.65) 1.364
–030	(38.66) 1.522
–040	(46.66) 1.837
–050	(54.66) 2.152
–060	(62.66) 2.467



LATCH	ASSEMBLY
† –L	End No. 1 Standard Latch, End No. 2 Squeeze Latch
♦ –R	End No. 1 Squeeze Latch, End No. 2 Standard Latch
–D	Both Ends Standard Latch
–N	No Housing Both Ends Standard Latch
* –B	Both Ends Squeeze Latch
–F	End No. 1 Screw Option, End No. 2 Friction Latch
–S	End No. 1 Friction Latch, End No. 2 Screw Option
–C	Both Ends Screw Option
† –G	End No. 1 Screw Option, End No. 2 Squeeze Latch
♦ –T	End No. 1 Squeeze Latch, End No. 2 Screw Option

* –B option only available with –TEX on both ends.
† –L & –G option only available with –TEX on second end.
♦ –R & –T option only available with –TEX on first end.

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

Some lengths, styles and options are non-standard, non-returnable.

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SEARAY™ .8mm

(0.80 mm) .0315"



ESCA SERIES

SEARAY™ MICRO COAX CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ESCA

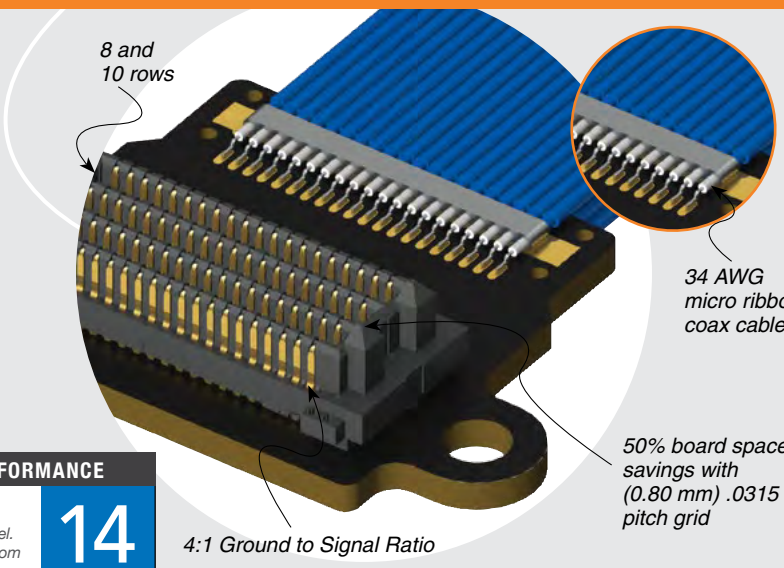
Cable:
34 AWG micro ribbon coax cable
Signal Routing:
50 Ω Single-Ended
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-25 °C to +105 °C
RoHS Compliant:
Yes

Mates with:
SEAM8. SEAF8

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594



HIGH-SPEED CHANNEL PERFORMANCE

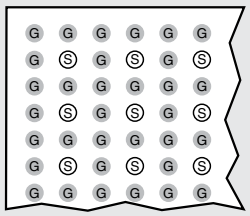
ESCA

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

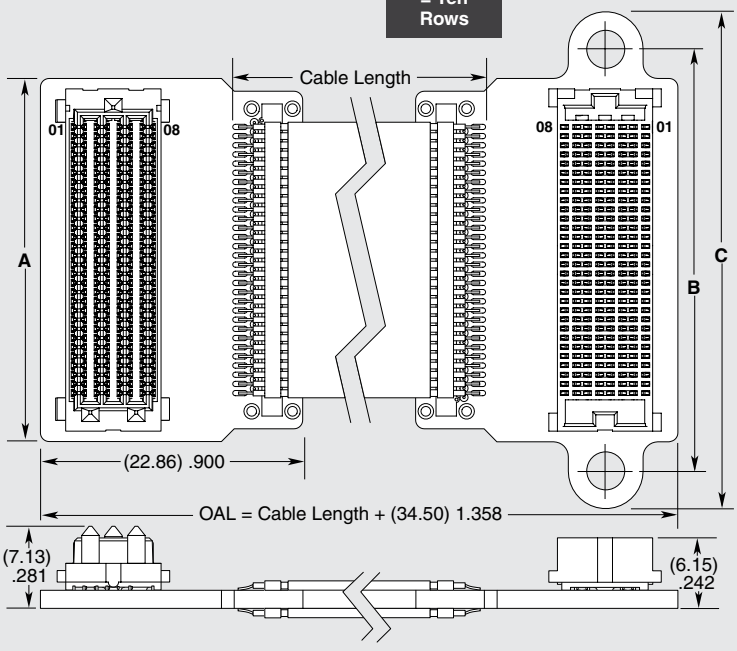
14 Gbps

ESCA	– NO. PINS PER ROW	– NO. OF ROWS	– CABLE LENGTH	– END 1	– END 2
	–20, –30	–08 = Eight Rows –10 = Ten Rows	–"XX.X" = Overall Length in Inches (50.8 mm) 02.0" minimum	–1 = SEAM without Screw Down –2 = SEAM with Screw Down –3 = SEAF without Screw Down –4 = SEAF with Screw Down	–1 = SEAM without Screw Down –2 = SEAM with Screw Down –3 = SEAF without Screw Down –4 = SEAF with Screw Down

SIGNAL MAPPING



For complete signal mapping, see www.samtec.com?ESCA
For other alternative mapping options, contact hdr@samtec.com.



NO. PINS PER ROW	A	B	C
–20	(23.65) .931	(28.73) 1.131	(35.20) 1.386
–30	(31.65) 1.246	(36.73) 1.446	(43.20) 1.701

ESCA–30–08–XX.XX–1–4 SHOWN

Notes:
Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

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SEARAY™



SEAC–030–06–06.0–TU–TU–N

(1.27 mm) .050"

SEAC SERIES

HIGH-SPEED/HIGH-DENSITY JUMPER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEAC

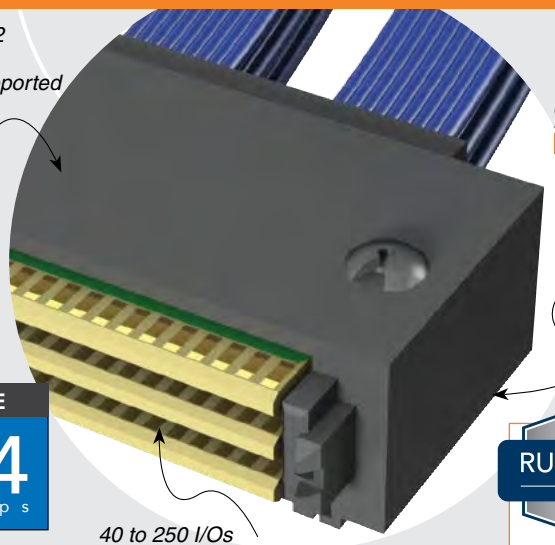
Cable:
36 AWG 50 Ω coax, or
32 AWG 100 Ω twinax
Signal Routing:
50 Ω Single-Ended, or
100 Ω Differential Pair
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-40 °C to +125 °C
RoHS Compliant:
Yes

SEAC-N Mates with:
SEAF, SEAF-RA, SEAFP, SEAFC (In development)

SEAC-T Mates with:
SEAF-RA (–T option)

SEAC with latch posts, Mates with:
SEAF-LP, SEAF-RA-LP, SEAFC-LP (In development)

PCIe® GEN 2 and Gen 3 Protocol Supported



EYE® SPEED CABLE

No latch, top latch or rugged latch post designs available

40 to 250 I/Os (½ pins are dedicated to ground)

HIGH-SPEED CHANNEL PERFORMANCE

SEAC

Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

RUGGEDIZED BY SAMTEC

- Positive latching
- Top latch

SIGNAL ROUTING

Product has some lines dedicated to ground. For single-ended and differential pair signal/ground assignments see signal routing information on the assembly print at the web address above.

Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

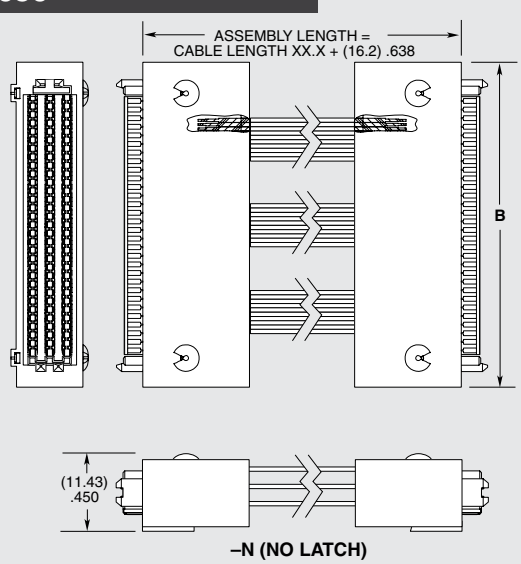
OTHER SOLUTIONS

- Optimized connector (SEAFC) for cable application
- Other end options
- Mixed SEAC end types
- 300 positions or greater

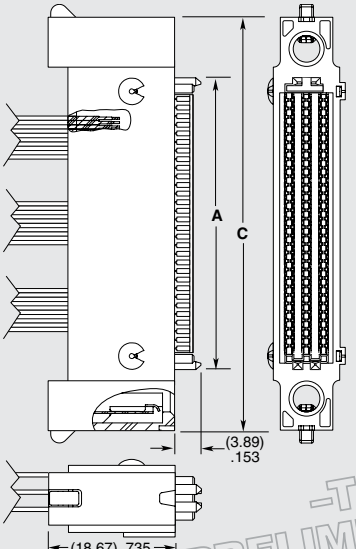
Contact Samtec.

SEAC	NO. OF POSITIONS PER ROW	NO. OF ROWS	CABLE LENGTH	TU	TU	CABLE TYPE	LATCH OPTION
	–020 = –04, –06, –08 & –10 row only –030 = –04, –06 & –08 row only –040 = –04 & –06 row only –050 = –04 row only	–04, –06, –08, –10	–"XX.X" = Cable Length in Inches (152.4 mm) 06.0" minimum		Leave Blank for 36 AWG 50 Ω coax –2 = 32 AWG 100 Ω twinax		Leave Blank for latch post –N = No Latch (Not available with –04) –T = Top Latch (Not available with –04)

POSITIONS PER ROW	A	B	C
–020	(30.38) 1.196	(33.53) 1.320	(48.26) 1.900
–030	(43.08) 1.696	(46.23) 1.820	(60.96) 2.400
–040	(55.78) 2.196	(58.93) 2.320	(73.66) 2.900
–050	(68.48) 2.696	(71.63) 2.820	(86.36) 3.400



–N (NO LATCH)



LATCH POST

–T PRELIMINARY

Notes:
Mixed latch styles not available

Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Some lengths, styles and options are non-standard, non-returnable.

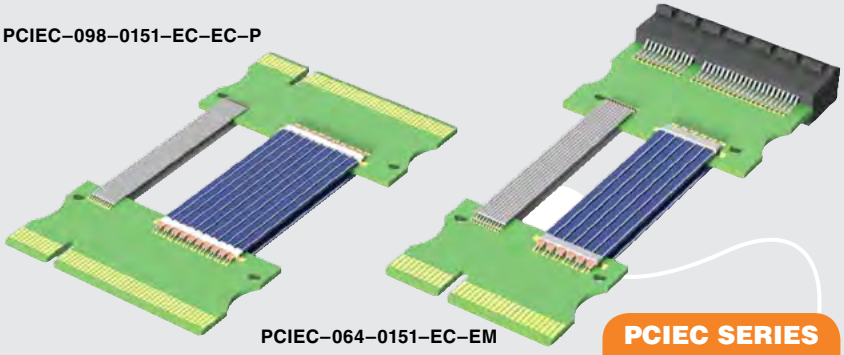
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PCI EXPRESS®
PCIe® Gen 2 and Gen 3 protocol supported

(1.00 mm) .0394"



PCIEC SERIES

PCI EXPRESS® JUMPERS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?PCIEC

CONNECTOR

Insulator Material:
Black Nylon
Contact:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp:
-55 °C to +125 °C
Card Insertion Depth:
(8.00 mm) .315" nominal
RoHS Compliant:
Yes

CARD

Conductor:
1 oz. Copper
Contact Area:
Hard Gold (Contact area)
Insulator:
Nelco 4000-13
RoHS Compliant:
Yes

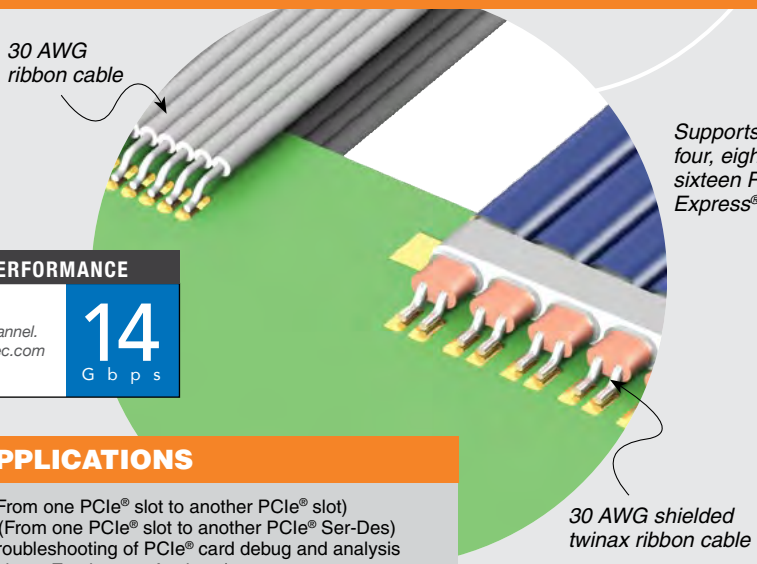
CABLE

Conductor:
30 AWG shielded twinax
30 AWG standard ribbon
Bend Radius:
(3.18 mm) .125"
Pinout Map:
See web address above
RoHS Compliant:
Yes

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Note:
This Series is non-standard, non-returnable.

Mates with:
PCIE, PCIE-LP



HIGH-SPEED CHANNEL PERFORMANCE

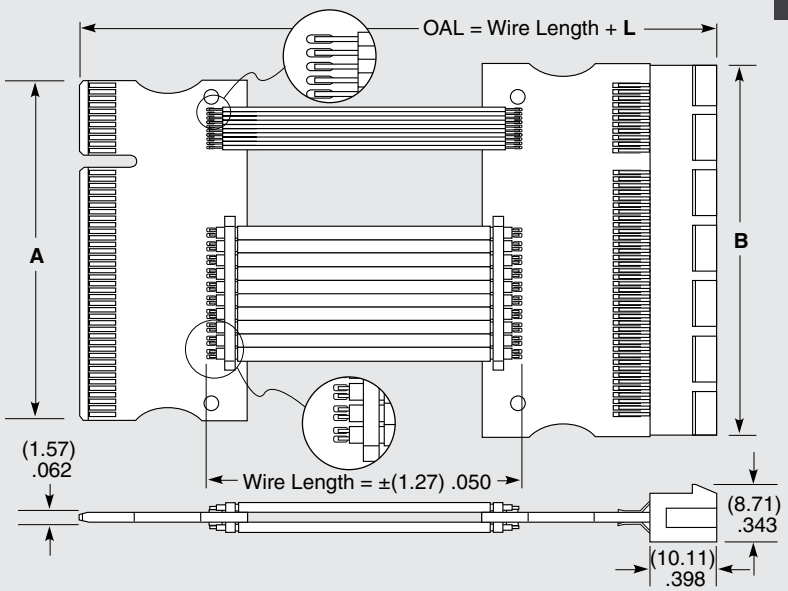
PCIEC
Rating based on Samtec reference channel. For full SI performance data visit Samtec.com or contact SIG@samtec.com

14 Gbps

APPLICATIONS

Loop back Extender (From one PCIe® slot to another PCIe® slot)
Ser-Des Physical Extender (From one PCIe® slot to another PCIe® Ser-Des)
Physical Extender for easy troubleshooting of PCIe® card debug and analysis (PCIe® slot to Emulator or Analyzer)

PCIEC	NO. OF POSITIONS	WIRE LENGTH	END NO. 1	END NO. 2	CABLE OPTION	IMPEDANCE
	–036 (x1), –064 (x4), –098 (x8), –164 (x16)	–"XXXX" = Wire Length in millimeters 0050 mm minimum	–EC = Edge Card	–EC = PCIe® Edge Card –EM = PCIe® Edge Mount Connector	Leave blank for Eye Speed® cable and no Power Lines –P = Eye Speed® cable and Power Lines	Leave blank for 100 Ω –85 = 85 Ω



END TO END	L
–EC to –EC	(39.6) 1.56
–EC to –EM	(49.6) 1.95

NO. OF POSITIONS	A	B
–036 (x1)	(20.30) .800	(25.40) 1.00
–064 (x4)	(34.30) 1.35	(39.40) 1.55
–098 (x8)	(51.30) 2.02	(56.40) 2.22
–164 (x16)	(84.30) 3.32	(89.40) 3.52

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(0.80 mm) .0315"

FCF8, FCS8 SERIES

HIGH-SPEED COST EFFECTIVE COAX CABLE

SPECIFICATIONS

For complete specifications see www.samtec.com?FCF8

Cable: 38 AWG coax
Overmold: Nylon
Terminal Material: Phosphor Bronze
Contact Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range: -25 °C to +105 °C
Current Rating: 1.8 A per pin (1 pin powered)
RoHS Compliant: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Notes:
Design your High-Speed Cable with Samtec's High-Speed Cable Solutionator® at www.samtec.com/hdr

Cable lengths longer than 40.00" (1 meter) are not supported with S.I. test data.

Some lengths, styles and options are non-standard, non-returnable.

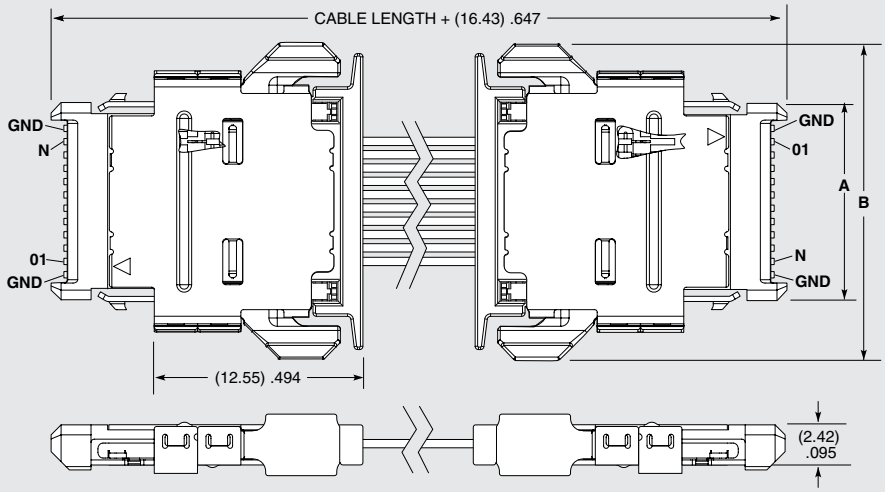
FCF8	–	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	CABLE LENGTH	–	S

Mates with: FCS8

–10, –20, –30

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–"XX.XX"
= Length in Inches
03.00" (76.2 mm) minimum



NO. OF POSITIONS	A	B
–10	(11.85) .467	(19.00) .748
–20	(19.85) .781	(27.00) 1.063
–30	(27.85) 1.096	(35.00) 1.378

ALSO AVAILABLE
(MOV Required)

- Other sizes and lengths Contact Samtec.

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FCS8

Insulator Material: Black LCP
Contact Material: BeCu
Contact Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Shield: Nickel Plated Phosphor Bronze
Operating Temp Range: -55 °C to +125 °C
Current Rating: 1.8 A per pin (1 pin powered)
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity: (0.15 mm) .006" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

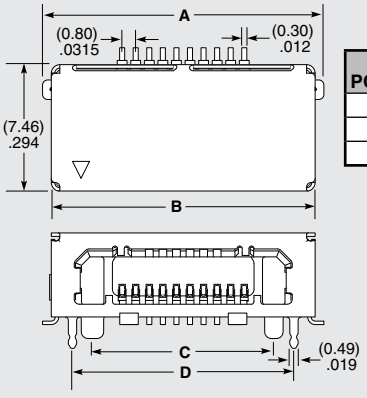
FCS8	–	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	S	–	A	–	TR

Mates with: FCF8

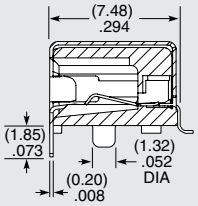
–10, –20, –30

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–TR
= Tape & Reel



NO. OF POSITIONS	A	B	C	D
–10	(16.59) .653	(15.56) .613	(10.70) .421	(13.06) .514
–20	(24.59) .968	(23.56) .928	(18.70) .736	(21.06) .829
–30	(32.59) 1.283	(31.56) 1.243	(26.70) 1.051	(29.06) 1.144



RUGGEDIZED BY SAMTEC

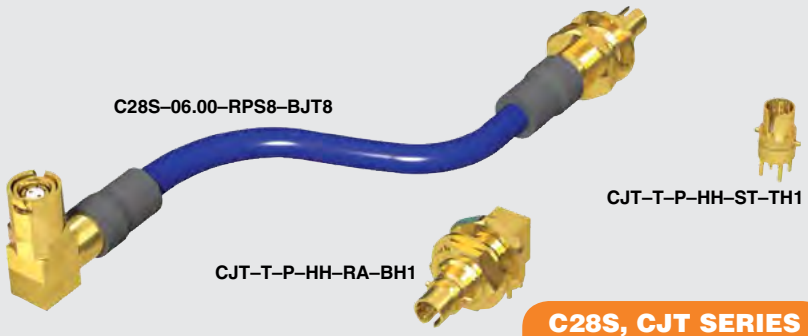
- Weld tabs
- Positive latching
- Shielded for EMI protection

Note: Some lengths, styles and options are non-standard, non-returnable.

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C28S, CJT SERIES

100 Ω SHIELDED TWISTED PAIR SYSTEM

Mates with:
CJT, C28S

SPECIFICATIONS

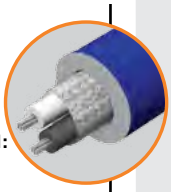
For complete specifications see www.samtec.com?C28S

RF CONNECTOR

Outer Contact Material: Phosphor Bronze (Plug), Brass (Jack)
Center Contact Material: Phosphor Bronze (Terminals), BeCu (Sockets)
Insulator Material: PTFE
Operating Temperature: -40 °C to +85 °C
Voltage Rating: 200 VAC
Frequency Range: 0 - 4 GHz
Impedance: 100 Ω
RoHS Compliant: Yes

CABLE

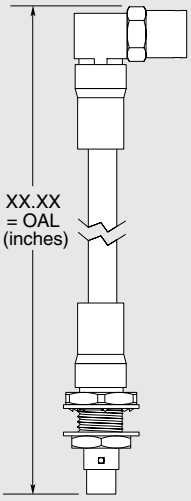
Cable: 28 AWG shielded twisted pair
Signal Routing: 100 Ω Differential
Jacket Material: PVC
Insulator Material: PTFE
RoHS Compliant: Yes



TYPE	OVERALL LENGTH	END 1 CONNECTOR	END 2 CONNECTOR
C28S = 28 AWG shielded twisted pair	–"XX.XX" = Overall Length in Inches (101.6 mm) 04.00" minimum	Specify END OPTIONS from chart	

END OPTIONS	
–SPS8 = Straight Plug with Sockets (30 µ" (0.76 µm) Gold on Center and Outer Contact, Gold Flash on Shell)	
–RPS8 = Right-angle Plug with Sockets (30 µ" (0.76 µm) Gold on Center and Outer Contact, Gold Flash on Shell)	
–BJT8 = Bulkhead Jack with Terminals (30 µ" (0.76 µm) Gold on Center and Outer Contact, Gold Flash on Shell)	
–SING = Single Ended (End 2 callout)	
–XXXXXX = Stripped & Tinned (End 2 callout) (See chart for callout)	C B A

Note: Cable lengths longer than 36.00" (0.92 meter) are not supported with S.I. test data.



–RPS8–BJT8 SHOWN

ALSO AVAILABLE
(MOQ Required)

- Additional stripping and tinning options

Contact Samtec.

STRIPPED & TINNED (Dimensions in inches)

CALLOUT	A	B	C
–303030	.30	.30	.30
–303040	.30	.30	.40
–403030	.40	.30	.30
–403040	.40	.30	.40

Both center conductors and braid shield are stripped, only the center conductors are tinned.

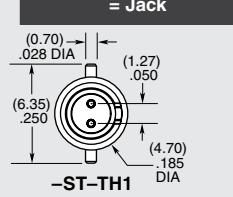
Mates with:
C28S

SPECIFICATIONS

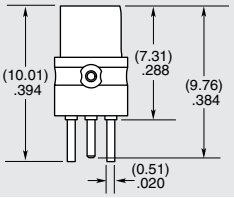
For complete specifications and recommended PCB layouts see www.samtec.com?CJT-TH or www.samtec.com?CJT-BH

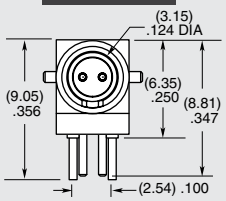
Shell Material: Brass
Insulator Material: PTFE
Contact Material: Phosphor Bronze
Operating Temperature: -20 °C to +105 °C
Frequency Range: 0 - 4 GHz
Working Voltage: 200 VAC
Impedance: 100 Ω
RoHS Compliant: Yes
Lead-Free Solderable: Yes

CJT	GENDER	TYPE	PLATING	ORIENTATION	TERMINATION
	–T = Jack	–P = PCB Mount	–HH = 30 µ" (0.76 µm) Gold on pins and outer contact	–ST = Straight –RA = Right-angle	–TH1 = Standard Through-hole –BH1* = Standard Bulkhead Through-hole (–RA only)

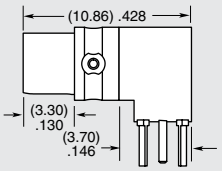


–ST–TH1

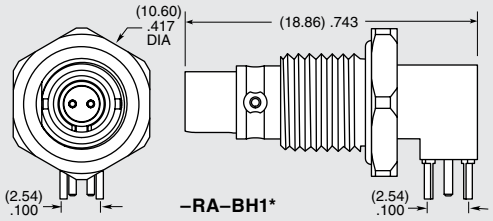




–RA–TH1



* Lock washer, nut and gasket supplied unassembled with Bulkhead option.

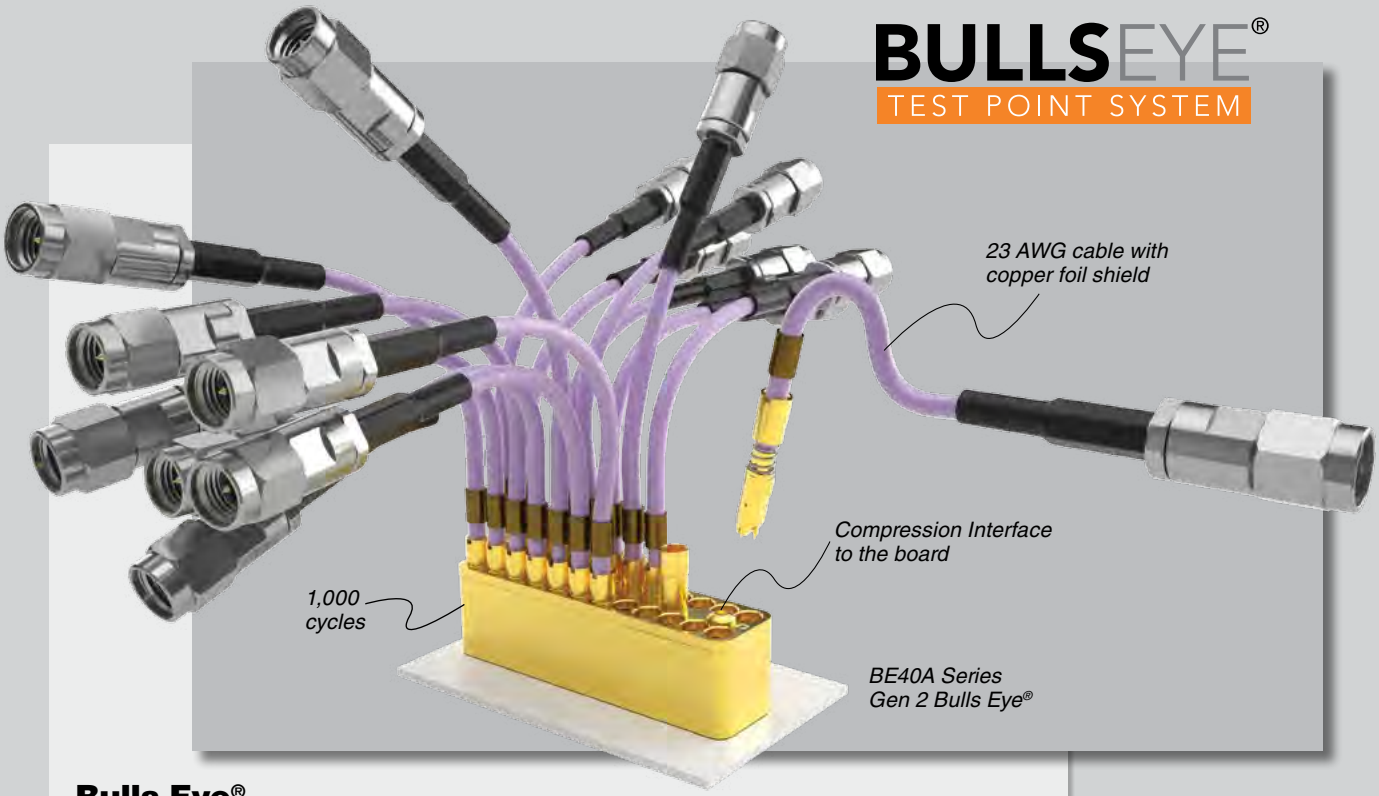


–RA–BH1*

Due to technical progress, all designs, specifications and components are subject to change without notice.

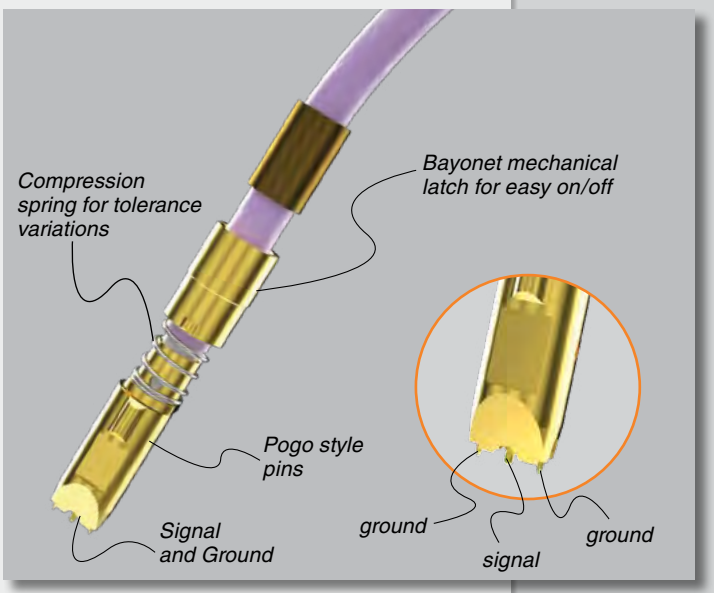
All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

HIGH-SPEED TEST SYSTEMS



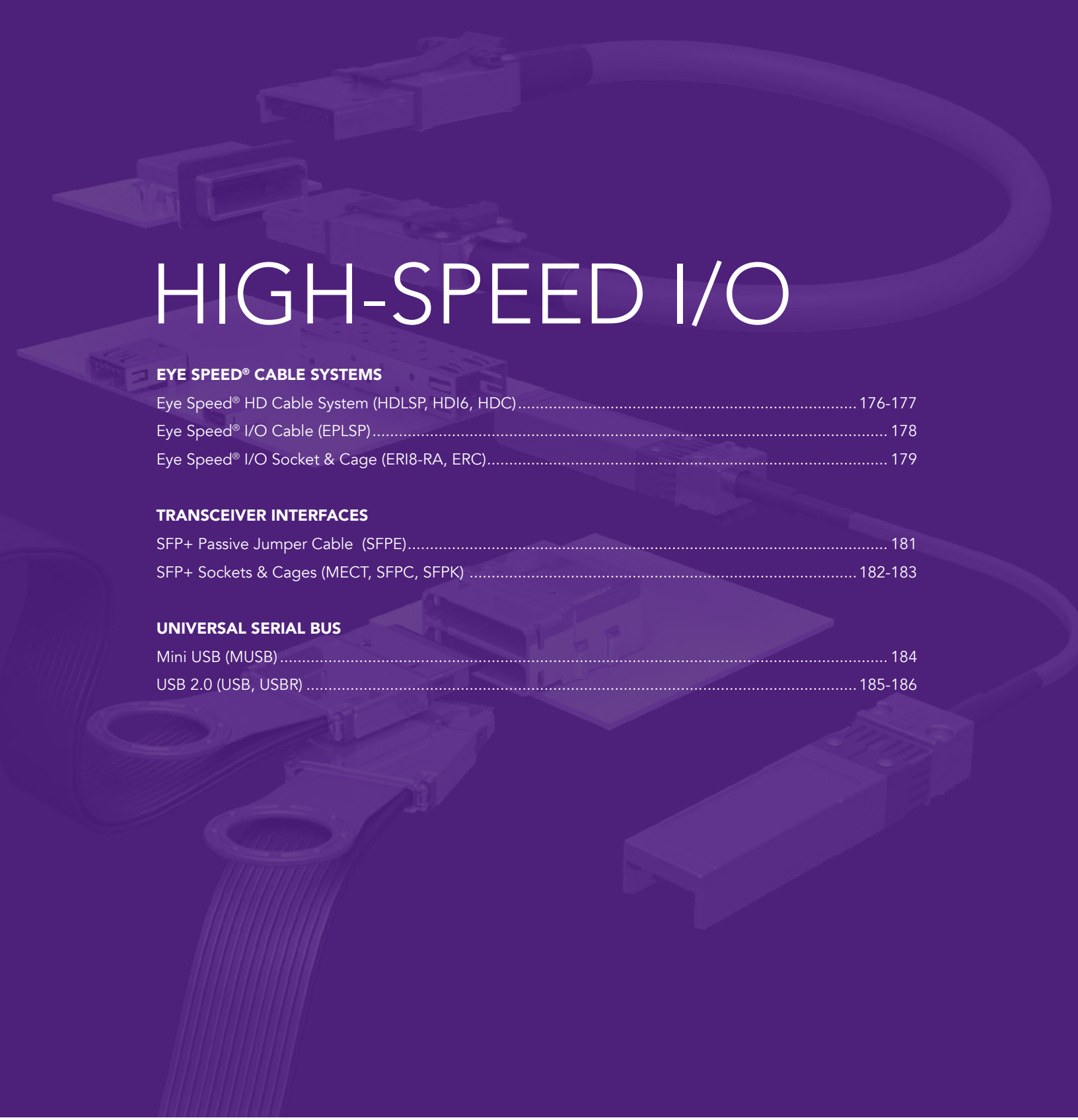
Bulls Eye® Test Point Systems

- Gen 2 up to 40 GHz and Gen 1 up to 20 GHz; 50 and 65 GHz in development
- 2.92 mm, 2.4 mm and 3.5 mm precision SMA end options
- Significantly saves space on the board compared to traditional test solutions
- High frequency 23 AWG microwave cable
- 50 Ω impedance
- Phase matched pairs
- Compression mount allows for re-use and eliminates soldering costs
- Microstrip or stripline PCB transmission
- Gen 2 is backward compatible with Gen 1 (BDRA Series Only)
- Gen 1 Bulls Eye® features a fixed pin design and requires an elastomer for grounding



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HIGH-SPEED I/O

EYE SPEED® CABLE SYSTEMS

Eye Speed® HD Cable System (HDLSP, HDI6, HDC) 176-177

Eye Speed® I/O Cable (EPLSP) 178

Eye Speed® I/O Socket & Cage (ERI8-RA, ERC) 179

TRANSCEIVER INTERFACES

SFP+ Passive Jumper Cable (SFPE) 181

SFP+ Sockets & Cages (MECT, SFPC, SFPK) 182-183

UNIVERSAL SERIAL BUS

Mini USB (MUSB) 184

USB 2.0 (USB, USBR) 185-186

APPLICATIONS

High-Speed I/O 29

samtec

EYE® SPEEDHD I/O SYSTEM



HDLSP–035–1000

(0.635 mm) .025"

HDLSP SERIES

HIGH-DENSITY/HIGH-SPEED CABLE SYSTEM

SPECIFICATIONS

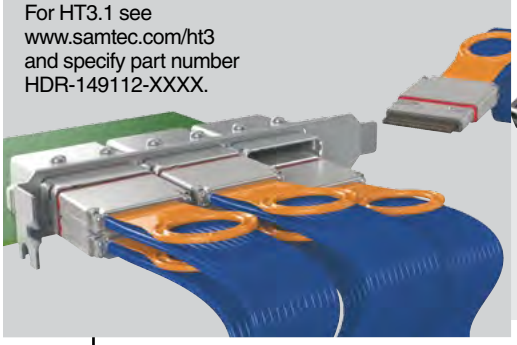
Mates with:
HDI6

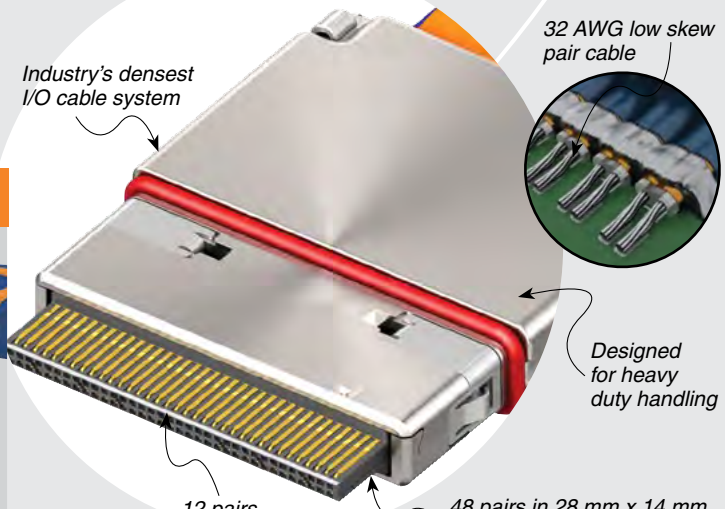
For complete specifications and recommended PCB layouts see www.samtec.com?HDLSP

Cable:
32 AWG low skew pair cable
Insulator Material:
LCP
Terminal Material:
Phosphor Bronze
Jacket Material:
PVC
Insulator:
Dielectric
Conductors:
Copper
Braid:
Tinned Copper
Covers:
Diecast Zinc Alloy
Current Rating:
1.5 A per pin
(4 adjacent pins powered)

OTHER SOLUTIONS

For HT3.1 see www.samtec.com/ht3 and specify part number HDR-149112-XXXX.

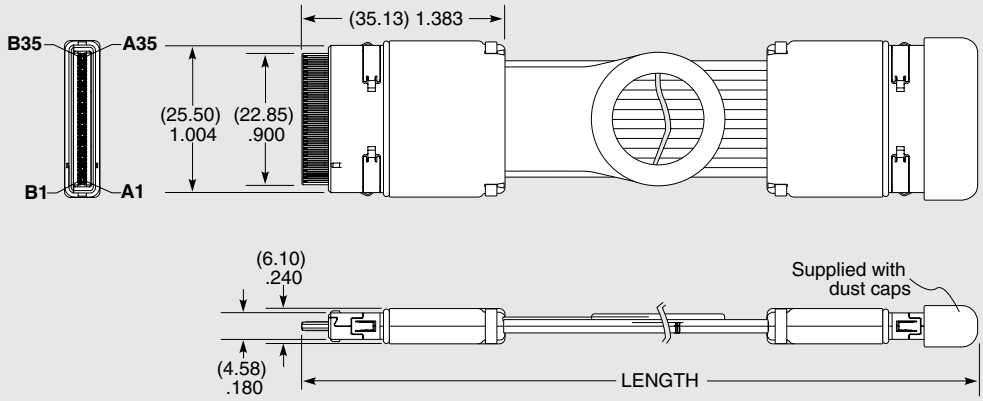




ALSO AVAILABLE
(MOQ Required)

- Other lengths
  Contact Samtec.

TYPE	NO. OF POSITIONS	LENGTH
HDLSP = High-density Low Skew Pair Cable	**–035** (Per Row) = 12 Pairs per side	**–"XXXX"** = Length in millimeters –1000, –2000 (Standard lengths)



Note: Some lengths, styles and options are non-standard, non-returnable.

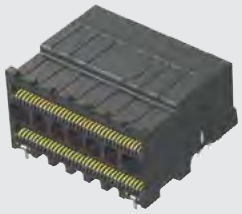
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EYE® SPEEDHD I/O SYSTEM

HDI6–035–01–RA–TR





HDC–035–01

(0.635 mm) .025"

HDI6, HDC SERIES

HIGH-DENSITY HIGH-SPEED I/O SYSTEM

Mates with:
HDLSP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HDI6

Insulator Material: Black LCP
Terminal Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 1.5 A per pin (4 adjacent pins powered)
Operating Temp Range: -25 °C to +105 °C
Voltage Rating: 150 VAC

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

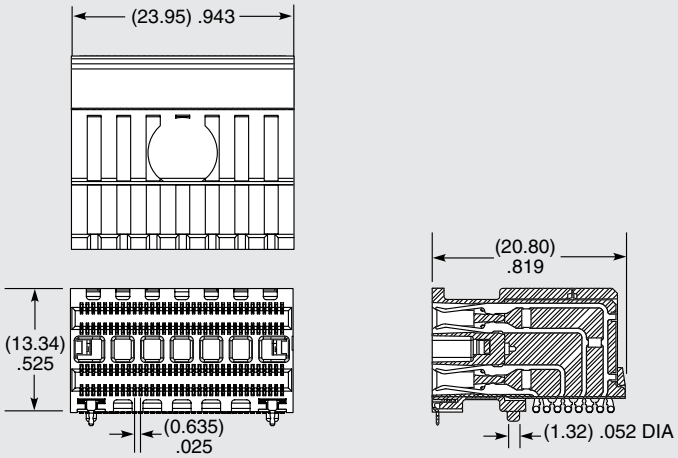
FILE NO. E111594

Notes:
Patented

For HT3.1 see www.samtec.com/ht3 and specify part number ASP-149117-01

Some lengths, styles and options are non-standard, non-returnable.

HDI6	NO. OF POSITIONS	01	RA	TR
	–035 (Per Row)			–TR = Tape & Reel Packaging

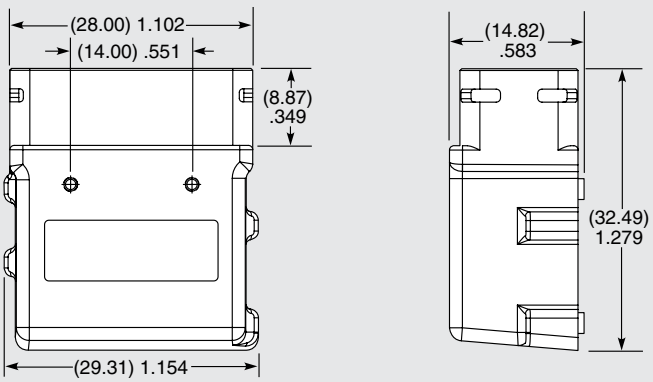


SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HDC

Note: For HT3.1 see www.samtec.com/ht3 and specify part number ASP-149118-01

TYPE	NO. OF POSITIONS	01
HDC = Cage	–035 = Number of Positions	



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EYE® SPEED I/O SYSTEM



(0.80 mm) .0315"

EPLSP SERIES

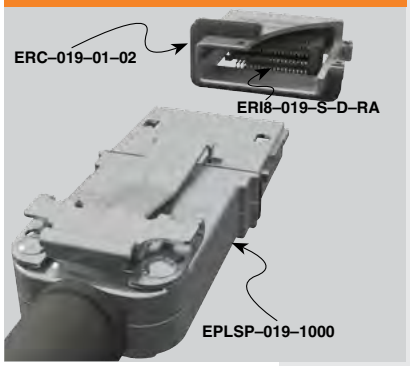
RUGGED LATCHING HIGH-SPEED SYSTEM

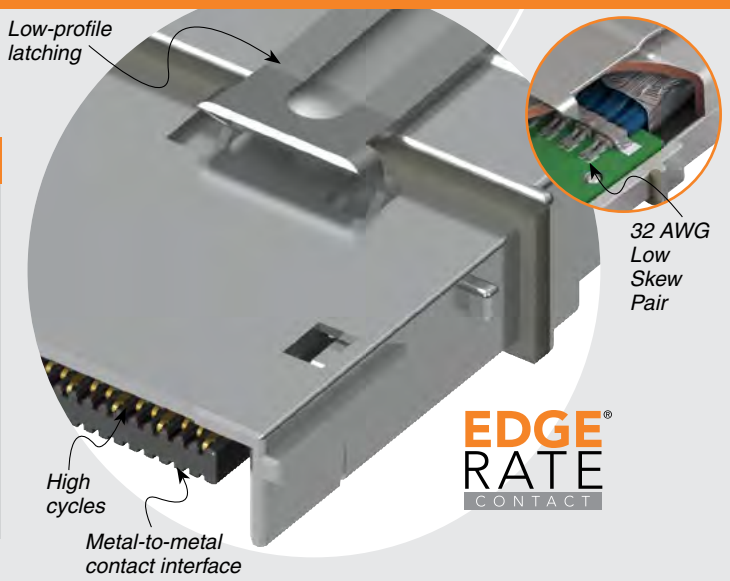
FEATURES

- Rugged external cable
- Small form factor
- Low profile latching
- Metal-to-metal two-piece contact system
- High mating cycles
- High cable flex life (500 cycles 180° bend)
- Small bend radius

Mates with:
ERI8

APPLICATION





SPECIFICATIONS

For complete specifications see www.samtec.com?EPLSP

Cable:
32 AWG Low Skew Pair/
28 AWG Power
Bend Radius:
(25.40 mm) 1.00"
Signal Routing:
100 Ω Differential
Pinout Map:
1:1 Map Standard
(See web address above for additional information)
Operating Temp Range:
-20 °C to +105 °C
Current Rating:
1.7 A per pin
(2 pins powered)
RoHS Compliant:
Yes

PROTOCOLS

- SAS
- SATA
- Fibre Channel
- Ethernet
- PCIe®
- InfiniBand™

ALSO AVAILABLE (MOQ Required)

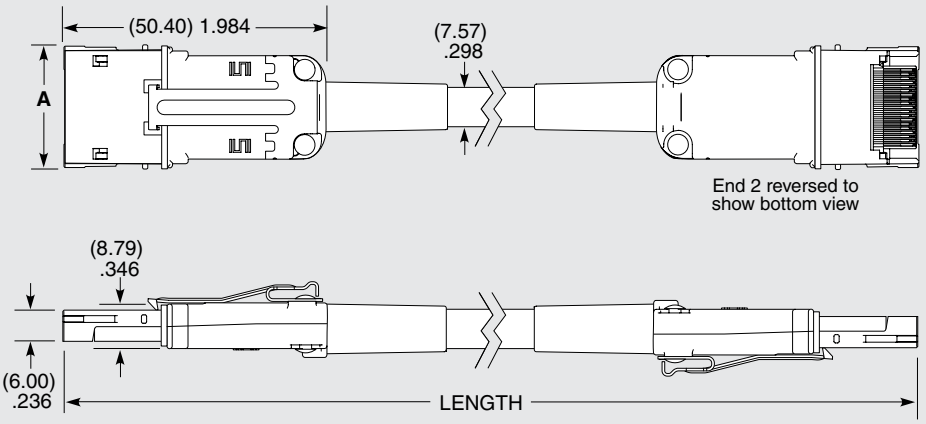
- Other lengths

Contact Samtec.

Note:
This Series is non-standard, non-returnable.

TYPE	NO. OF POSITIONS	LENGTH
EPLSP = Eye Speed® I/O Cable	**–019** = 9 Pairs, 5 Power, 19 positions **–031** = 17 Pairs, 5 Power, 31 positions	**–"XXXX"** = Length in millimeters –1000, –2000, –3000 (Standard lengths)

NO. OF POSITIONS	A
–019	(23.85) .939
–031	(32.95) 1.30



Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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EYE® SPEED I/O SYSTEM

ERI8–019–S–D–RA





ERC–019–01–02

(0.80 mm) .0315"

ERI8, ERC SERIES

HIGH-SPEED I/O SYSTEM

ERI8 Mates with:
EPLSP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERI8

Insulator Material:
Black LCP
Terminal Material:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
1.7 A per pin
(2 pins powered)
Voltage Rating:
225 VAC/320 VDC
Operating Temp Range:
-55 °C to +125 °C
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
RoHS Compliant:
Yes

Notes:
Active equalization reference design for Eye Speed® I/O system see www.samtec.com?EPLSP

Some lengths, styles and options are non-standard, non-returnable.

EDGE® RATE CONTACT

ERI8	–	NO. OF POSITIONS	–	PLATING OPTION	D	RA	–	OTHER OPTION

NO. OF POSITIONS
–019 = 8 Pairs, 5 Power, 2 Clock, 19 positions
–031 = 16 Pairs, 5 Power, 2 Clock, 31 positions

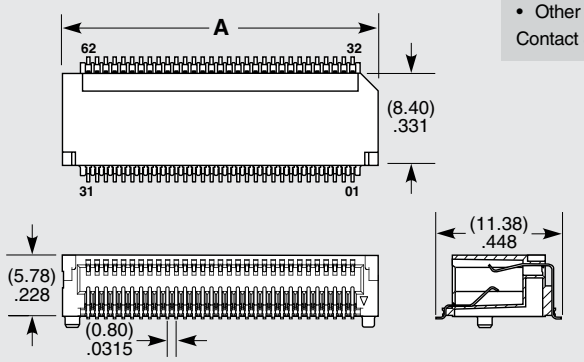
PLATING OPTION
–S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail

OTHER OPTION
–TR = Tape & Reel Packaging

ALSO AVAILABLE (MOQ Required)
- Other platings

Contact Samtec.

NO. OF POSITIONS	A
–019	(19.08) .751
–031	(28.68) 1.13



SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ERC

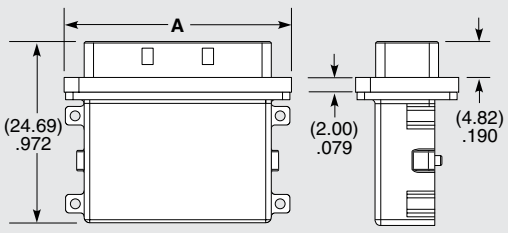
TYPE	–	NO. OF POSITIONS	–	01	–	OPTION

TYPE
ERC = Cage

NO. OF POSITIONS
–019, –031 = Number of Positions

OPTION
–01 = Without Gasket
–02 = With Gasket

NO. OF POSITIONS	A
–019	(30.55) 1.203
–031	(40.15) 1.58



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ONLINE TOOLS

Innovative design tools, resources and support make the design and implementation of your specific high-speed, rugged or other ultra micro application simple.

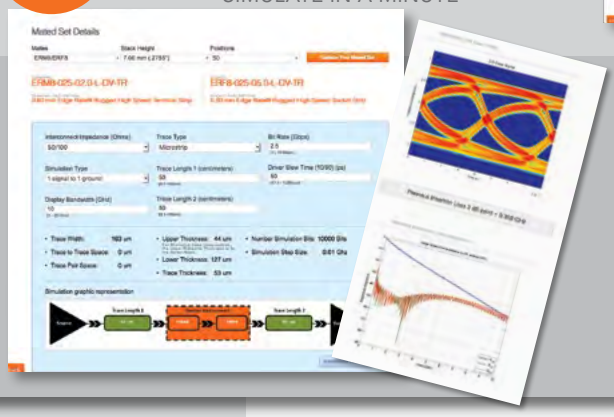
Solutionator®
DESIGN IN A MINUTE

Quickly Build Mated Connector Sets Online

- Wide variety of search parameters and filters: pitch, signaling, stack height, pin count, etc.
- Easily sort search results to find the right mated set
- Live chat with engineers for custom options
- Immediately download models and open Specs Kit
- **samtec.com/solutionator**



Simulator™
SIMULATE IN A MINUTE



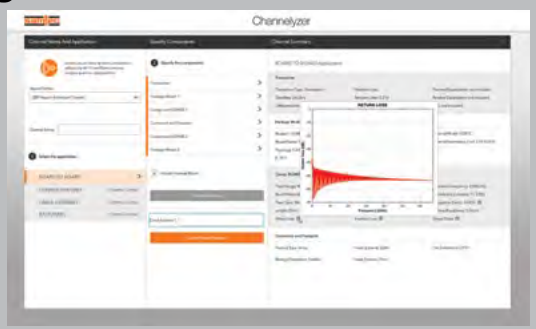
Real-time High-Speed Performance Simulations

- Integrates and blends data from models to project performance in the user-defined system
- Outputs include:
  - — Insertion and return loss
  - — Crosstalk (NEXT and FEXT)
  - — Eye diagrams
- **samtec.com/simulator**

Channelyzer™

Online Full Channel Simulation & Analysis

- Channel modeling based on inputs provided by the user
- Results for standards and transceivers at varying equalization levels and data rates
- Produces results for standards and transceivers at varying equalization levels and data rates
- Channel overview and strategies for improved performance
- **samtec.com/channelyzer**



samtec

EYE® SPEED I/O SYSTEM





SFPE SERIES

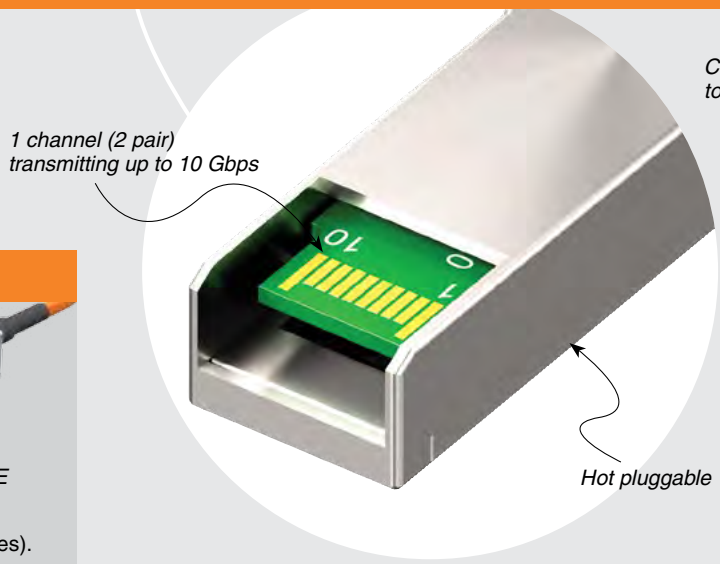
SFP+ PASSIVE JUMPER CABLE

SPECIFICATIONS

Mates with:
MECT, SFPC

For complete specifications see www.samtec.com?SFPE

Impedance:
100 Ω
Signal Routing:
Differential



APPLICATION



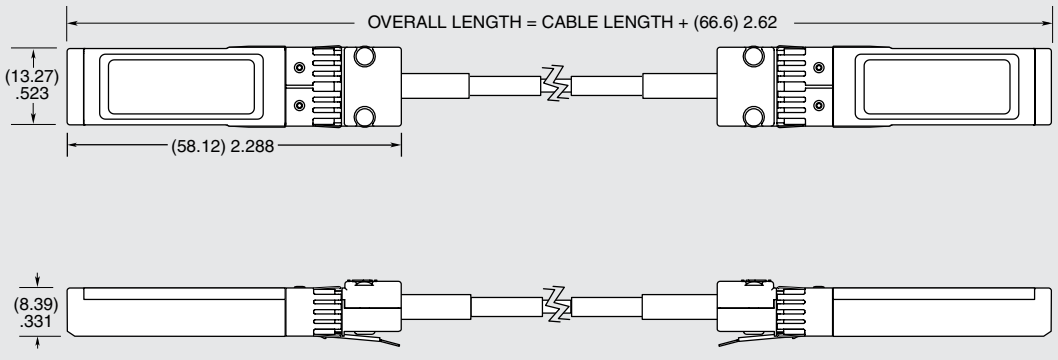
SFPC/MECT cage & connector kit available (SFPK Series).

ALSO AVAILABLE (MOQ Required)

- Other lengths available. Cable assemblies longer than 3 m are not supported with S.I. test data.

Contact Samtec.

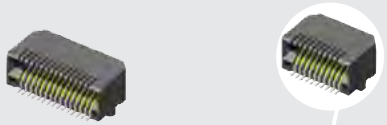
SFPE	–	NO. OF PAIRS	–	CABLE LENGTH	–	EQUALIZATION	–	WIRE GAUGE
		–010 = 2 Pairs		–XXXX = Length in millimeters –1000, –2000, –3000 (Standard lengths)		–NE = Non Equalized		–32 = 32 AWG



Note: Some sizes, styles and options are non-standard, non-returnable.

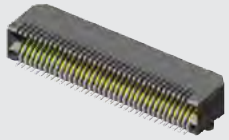
samtec

MECT–110–01–M–D–RA1





MECT–115–01–M–D–RA1



MECT–135–01–M–D–RA1

(0.80 mm) .0315"

MECT SERIES

SFP & SFP+ TRANSCEIVER INTERFACES

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MECT

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
100 µ" (2.54 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
2 A per pin
(6 pins powered)
Voltage Rating:
265 VAC
RoHS Compliant:
Yes

Mates with:
SFP, SFP+, XFP or XENPAK transceivers

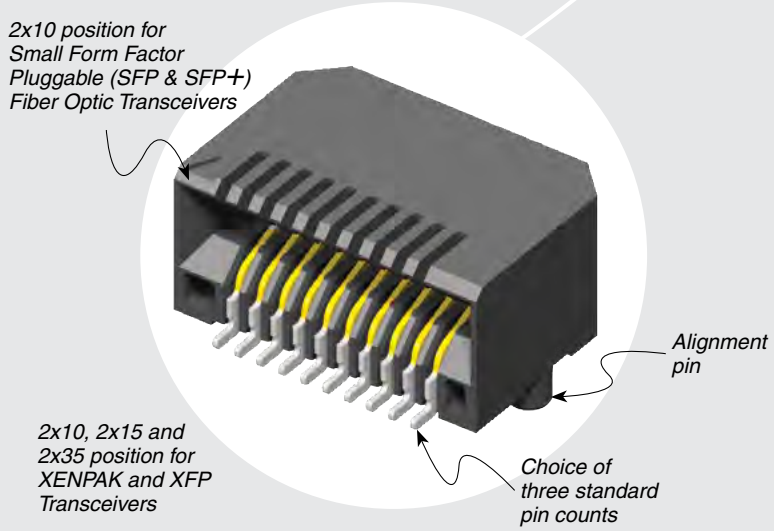
PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-35)

RECOGNITIONS

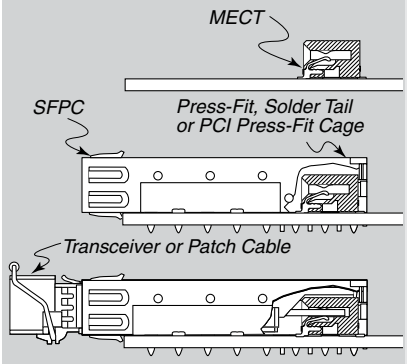
For complete scope of recognitions see www.samtec.com/quality

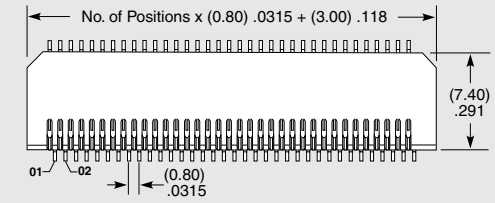
FILE NO. E111594

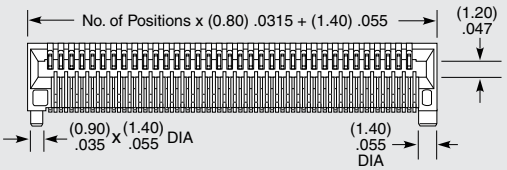


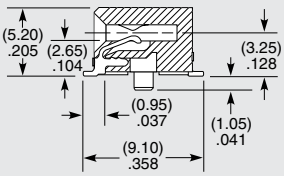
MECT	1 POSITIONS PER ROW	CARD THICKNESS	PLATING OPTION	D	RA1	OTHER OPTION
	10, 15, 35	–01 = (1 mm) .039" thick board	–M = 15 µ" (0.38 µm) Gold on contact, Matte Tin on tail			–TR = Tape & Reel Packaging

APPLICATION





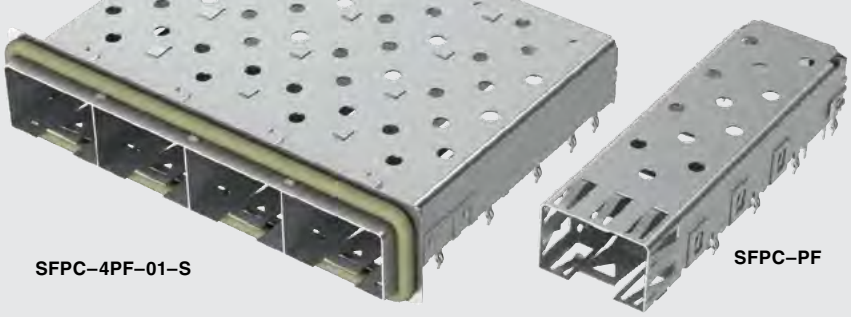




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SFPC, SFPK SERIES

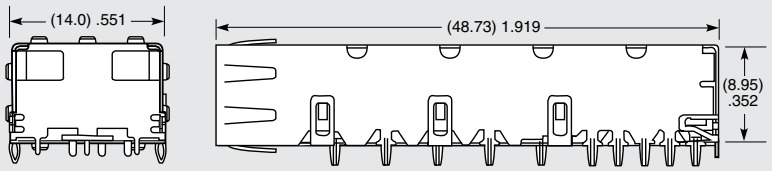
SFP CAGES & CAGE/CONNECTOR KITS

Use with:
MECT

SPECIFICATIONS

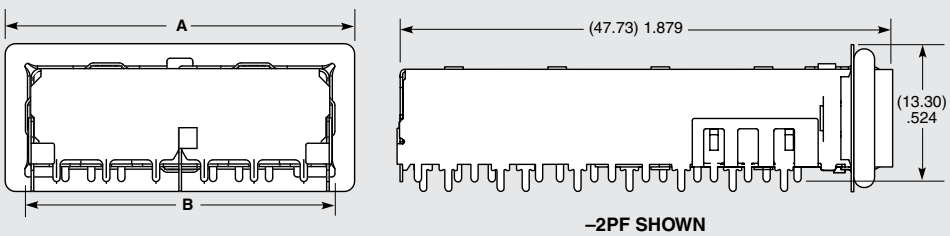
For complete specifications see www.samtec.com?SFPC or www.samtec.com?SFPK

TYPE	TERMINATION	CONNECTOR PACKAGE
SFPC = Cage **SFPK** = Cage and Connector Kit (SFPC & MECT–110–01–M–D–RA1)	**–PF** = Press-Fit **–SL** = Solder Lead **–PC** = PCI Press-Fit (1° slope for PCI specifications)	SFPK only **–TR** = Tape & Reel (Leave blank for tube packaging)



TYPE	NO. OF PORTS	TERMINATION	PANEL MOUNT OPTION	S
SFPC = Cage **SFPK** = Cage and Connector Kit (SFPC & MECT–110–01–M–D–RA1)	**–2** = 1x2 **–4** = 1x4	**PF** = Press-Fit **SL** = Solder Lead **PC** = PCI Press-Fit (1° slope for PCI specifications)	**–01** = Solid Gasket **–02** = Hollow Gasket	**–S** = Single Row

NO. OF PORTS	A	B
–2	(33.70) 1.33	(28.25) 1.11
–4	(62.20) 2.45	(56.50) 2.22



–2PF SHOWN

Note: Some sizes, styles and options are non-standard, non-returnable.

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MUSB–05–S–AB–SM–A



MUSB–05–F–B–SM–A



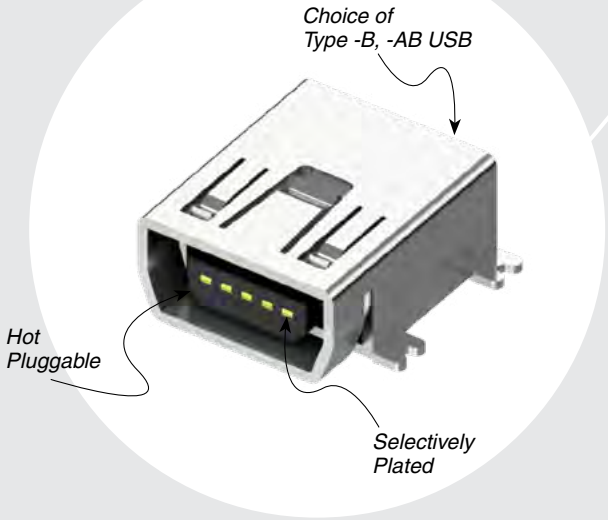
MUSB SERIES

MINI USB 2.0 INTERFACES

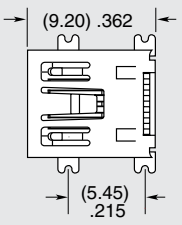
SPECIFICATIONS

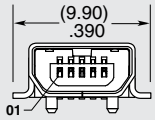
For complete specifications and recommended PCB layouts see www.samtec.com?MUSB,

Insulator Material:
High Temperature Thermoplastic
Contact Material:
Phosphor Bronze
Shell Material:
Brass
Plating:
Gold on Mating Area, Nickel on Shell, Tin on Tails
Operating Temp Range:
-50 °C to +85 °C
Voltage Rating:
30 VRMS
Minimum Cycles:
1500
Packaging:
Packaged and shipped in Bulk Packaging Trays; Trays suitable for automation are available upon request.
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

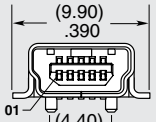


TYPE	NO. OF CONTACTS	PLATING	TYPE	SM	A
MUSB = Mini USB 2.0	–05	–F = Gold Flash on Mating Area, Tin on Tails –S = 30 µ" (0.76 µm) Gold on Mating Area, Tin on Tails	–B = B Type –AB = AB Type		

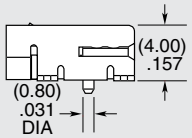




–AB TYPE



–B TYPE



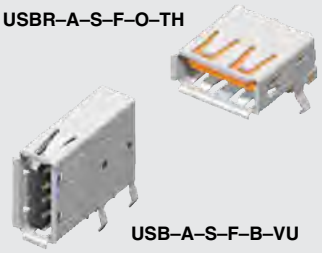
Due to technical progress, all designs, specifications and components are subject to change without notice.

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samtec



USB–A–D–S–B–TH



USBR–A–S–F–O–TH

USB–A–S–F–B–VU



USB–AM–S–F–W–TH

USB-A, USBR-A, USB-AM SERIES

STANDARD & RUGGED USB 2.0

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?USB-A, www.samtec.com?USBR-A or www.samtec.com?USB-AM

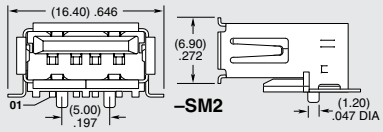
Insulator Material:
High Temperature Thermoplastic
Contact Material:
Phosphor Bronze
Plating:
Gold on Contacts, Nickel on Shell, Tin on Tails
Operating Temp Range:
-50 °C to +85 °C
Voltage Rating:
30 VAC
Cycles:
1500 (max tested)
Packaging:
Packaged and shipped in Bulk Packaging Trays; Trays suitable for automation available
RoHS Compliant:
Yes
Lead–Free Solderable
–TH & –VU=Yes
(Wave Solder only)
TID Numbers (USB-A):
USB-A-D-X-X-TH (61001199)
USB-A-S-X-X-TH (61001180)
USB-A-S-X-X-SM2 (61001152)
TID Number (USB-AM):
USB-AM-S-X-X-SM (61001154)

RECOGNITIONS

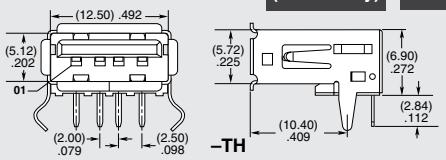
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

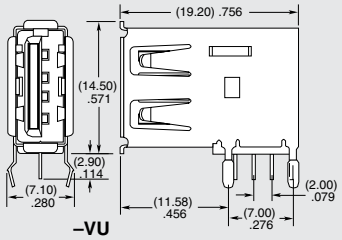
TYPE	A	SHELL TYPE	PLATING	COLOR	TERMINATION
USB = Standard Connector USBR = Increased Retention Connector (Complies with Class 1, DIV II minimum withdrawal requirement of 15N.)		–S = Single –D = Double (–TH option only)	–F = Gold Flash on Mating Area, Tin on Tails –S = 30 µ" (0.76 µm) Gold on Mating Area, Tin on Tails	–B = Black (USB only) –W = White (USB only) –O = Orange (USBR only)	–TH = Through-hole –SM2 = Surface Mount (USB only) –VU = Upright, Through-hole



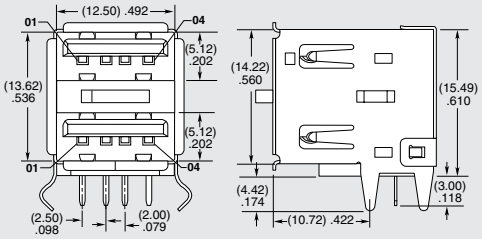
–SM2



–TH

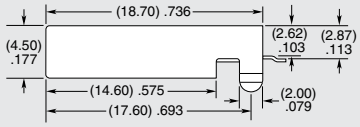


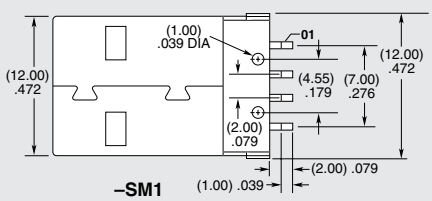
–VU



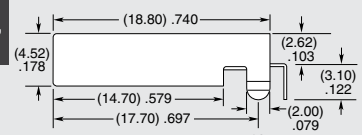
–D (Requires –TH)

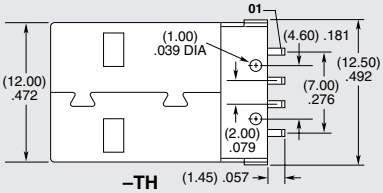
USB	TYPE	SHELL TYPE	PLATING	COLOR	TERMINATION
	–AM = A Type (Plug)	–S = Single	–F = Gold Flash on Mating Area, Tin on Tails –S = 30 µ" (0.76 µm) Gold on Mating Area, Tin on Tails	–B = Black –W = White	–TH = Through-hole –SM1 = Surface Mount





–SM1





–TH

USBR–B–S–F–O–TH





USB–B–S–S–B–SM

USB-B, USBR-B SERIES

STANDARD & RUGGED USB 2.0

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?USB-B or www.samtec.com?USBR-B

Insulator Material:
High Temperature Thermoplastic
Contact Material:
Phosphor Bronze
Plating:
Gold on Contacts, Nickel on Shell, Tin on Tails
Operating Temp Range:
-50 °C to +85 °C
Voltage Rating:
30 VAC
Cycles:
1500 (maximum number of cycles tested)
Packaging:
Packaged and shipped in Bulk Packaging Trays; Trays suitable for automation are available upon request.
RoHS Compliant:
Yes
Lead–Free Solderable:
USB-SM=Yes
USB-TH= Yes (Wave Solder only)
USBR=Yes (Wave Solder only)
TID Number:
USB-B-S-X-X-TH (61001155)

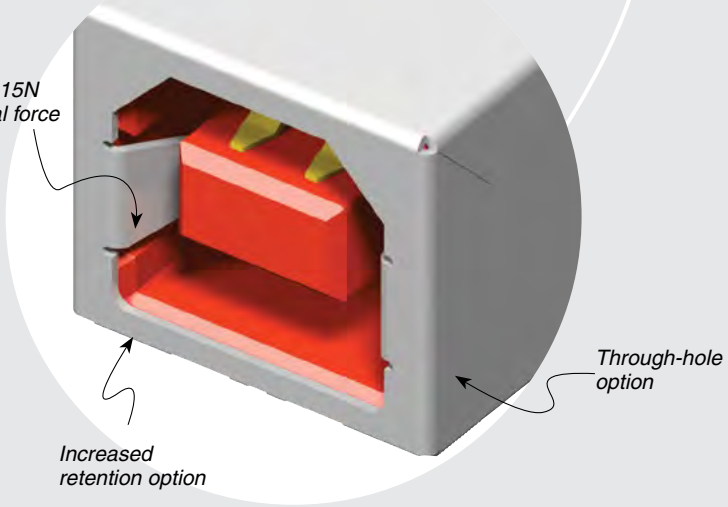
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594 (USB only)
FILE NO. E225096 (USBR only)

RUGGEDIZED BY SAMTEC

- High retention option



TYPE	B	S	PLATING	COLOR	TERMINATION	OTHER OPTION

USB
= Standard Connector

USBR
= Increased Retention Connector (Complies with Class 1, DIV II minimum withdrawal requirement of 15N)

–F
= Gold Flash on Mating Area, Tin on Tails

–S
= 30 µ" (0.76 µm) Gold on Mating Area, Tin on Tails

–B
= Black (USB only)

–W
= White (USB only)

–O
= Orange (USBR only)

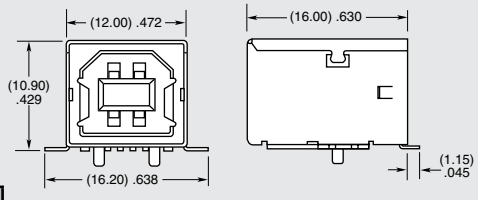
–TH
= Through-hole

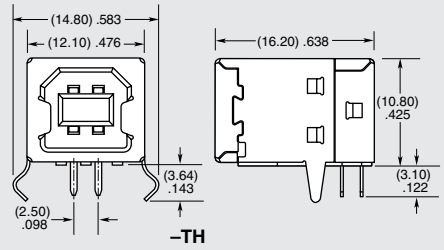
–SM
= Surface Mount (USB only)

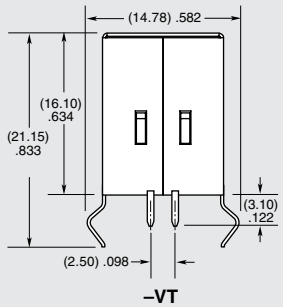
–VT
= Vertical Top Entry

–TR
= Tape and Reel Packaging (–SM only)

MATING / UNMATING FORCE (100 CYCLES)		
SERIES	MATING	UNMATING
USB	5.3 (23.59 N)	6.1 (27.15 N)
USBR	11.8 (52.51 N)	11.5 (51.18 N)





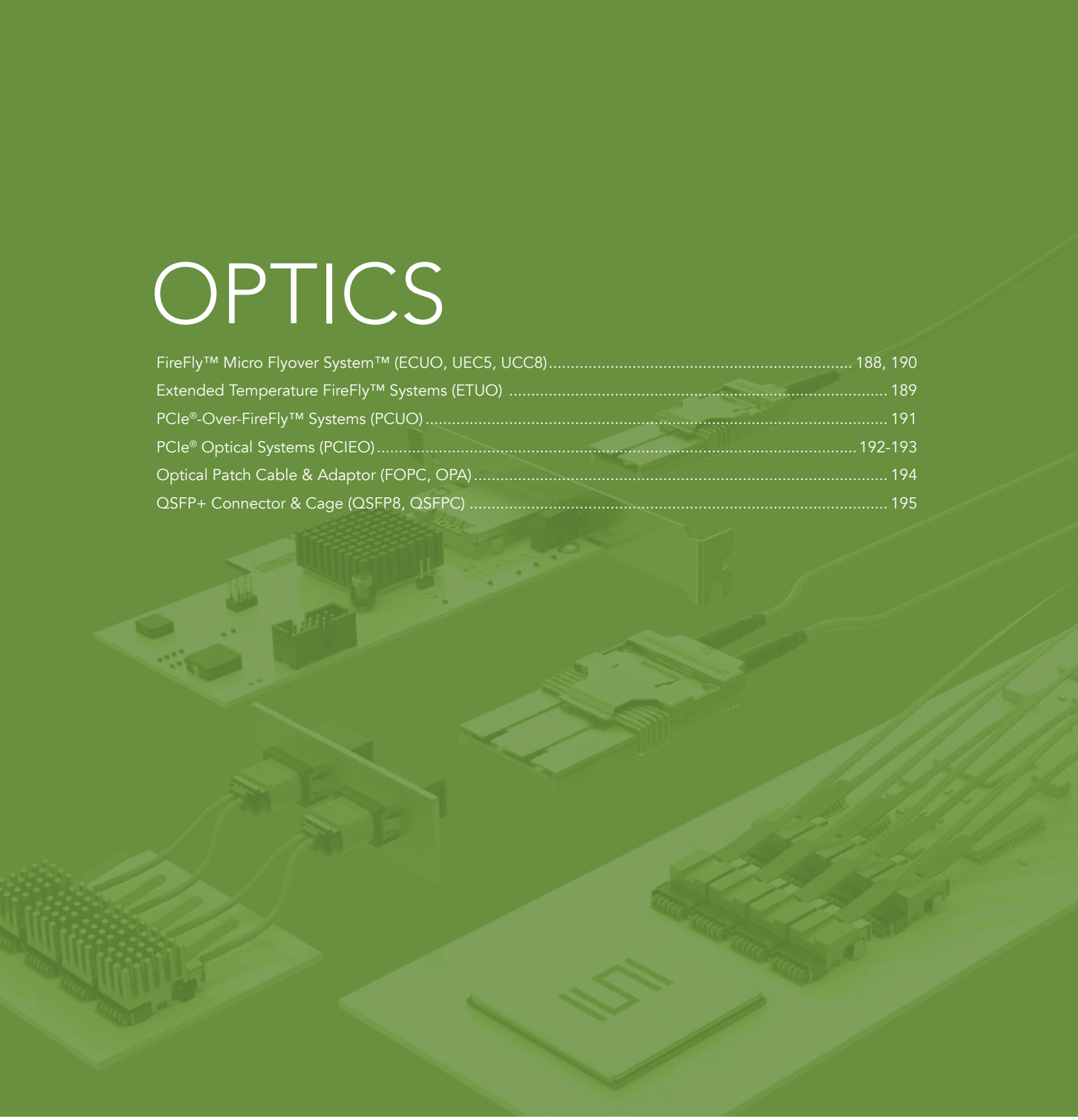


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OPTICS

FireFly™ Micro Flyover System™ (ECUO, UEC5, UCC8) 188, 190
Extended Temperature FireFly™ Systems (ETUO) 189
PCIe®-Over-FireFly™ Systems (PCUO) 191
PCIe® Optical Systems (PCIEO) 192-193
Optical Patch Cable & Adaptor (FOPC, OPA) 194
QSFP+ Connector & Cage (QSFP8, QSFPC) 195

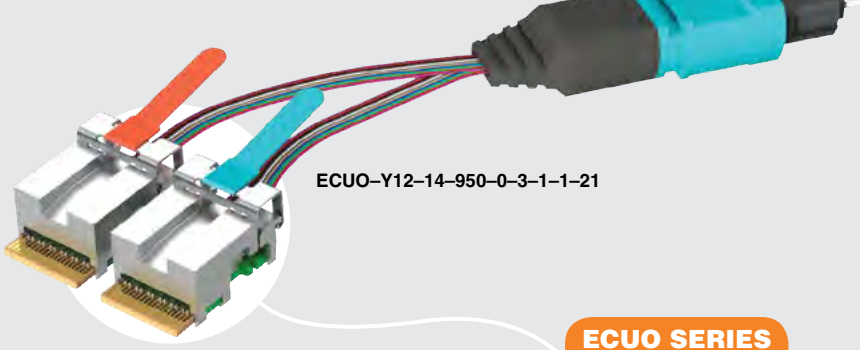


APPLICATIONS

Optics 26-27

samtec

FIREFLY™



ECUO–Y12–14–950–0–3–1–1–21

ECUO SERIES

OPTICAL MICRO FLYOVER ASSEMBLY

FEATURES

- Standard Temoerature range from 0 °C to +70 °C
- Interchangeable with FireFly™ copper using the same micro connector system
- x4 & x12
- 14 Gbps, 16 Gbps and 28 Gbps
- Proven 850 nm VCSEL array
- Cost-effective multi-mode fiber
- Integral heat sink
- Angled fiber exit from the housing to minimize keep-out zone on the board
- Bend Radius: 7.5 mm
- Supports data center and HPC protocols, including: Ethernet, InfiniBand™, Fibre Channel, PCIe®. (See firefly@samtec.com)
- Evaluation & development boards available

SPECIFICATIONS

For complete specifications see www.samtec.com?ECUO

Class 1 LASER PRODUCT
per IEC 60825-1 Ed. 2 (2007)

ELECTRICAL SOLUTIONS

- Performance to 28 Gbps
- Easily upgrade to optical with same connector system

See ECUE Series.

MTP is a registered trademark of US Conec Ltd.

Patents:
8588562, 8588561
Additional patents pending

Note:
All FireFly™ designs, specifications and components are preliminary and subject to change without notice.

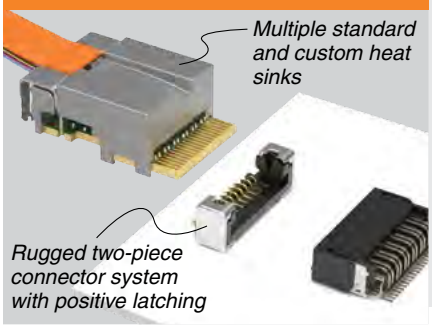
Mates with:
UEC5, UCC8, OPA

INSERTION TOOL

- CAT-IN-ECUO-02

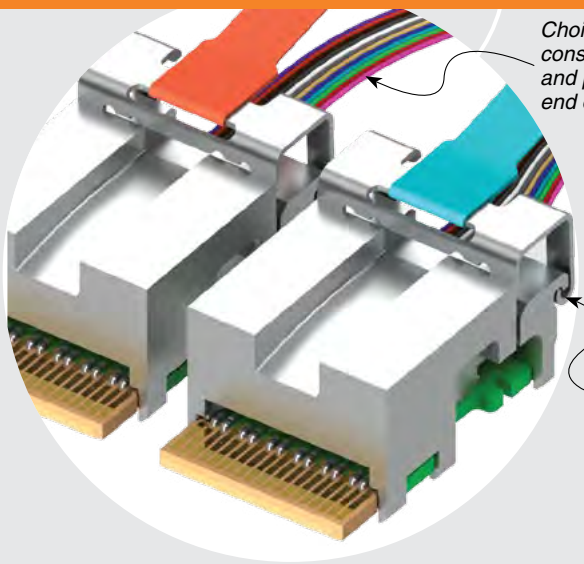
Contact Samtec.

APPLICATION



Multiple standard and custom heat sinks

Rugged two-piece connector system with positive latching

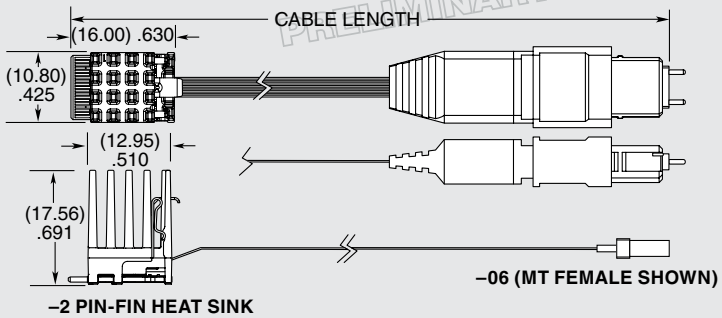


Choice of cable construction and passive end options

Rugged latching system

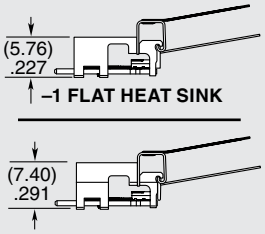
ECUO	WIDTH	DATA RATE	CABLE LENGTH	0	HEAT SINK	1	FIBER TYPE	END OPTION
	–T12 = x12 Tx Simplex Optical –R12 = x12 Rx Simplex Optical –Y12 = x12 Duplex Optical (Y Configuration) –B04 = x4 Duplex Optical	–14 = 14 Gbps (168 Gbps aggregate) –16 = 16 Gbps (x12 only; 192 Gbps aggregate) –28 = 28 Gbps (x4 only; 112 Gbps aggregate)	–"XXX" = Overall Length in Centimeters (011 cm to 999 cm) (Minimum length will depend on fiber type and End 2 option specified.)		–1 = Flat –2 = Pin-fin (–14 & –16 only) –3 = Flat with 3-Ribbon pass- through –4 = PCIe® Pin-fin (–14 & –16 only) –5 = Pin-fin (–28 only)		–1 = OM3 Low Bend Radius Ribbon –2 = OM3 Low Bend Radius Loose Tube	–Y12 requires –2(X) options* –01 = MTP® 12F key down, male –02 = MTP® 12F key down, female –05 = MT 12F male –06 = MT 12F female –21* = MTP 24F key down, male –22* = MTP® 24F key down, female –25* = MT 24F male –26* = MT 24F female

–16 Gbps & –28 Gbps PRELIMINARY



–2 PIN-FIN HEAT SINK

–06 (MT FEMALE SHOWN)

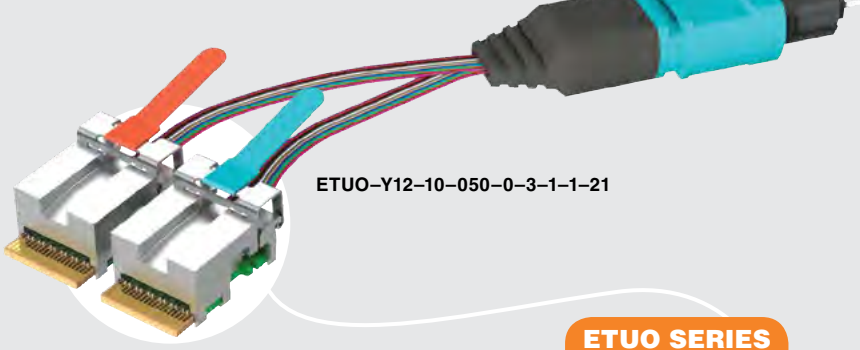


–1 FLAT HEAT SINK

–3 FLAT PASS-THROUGH HEAT SINK (with fiber groove for multi-row configuration)

samtec

FIREFLY™



ETUO–Y12–10–050–0–3–1–1–21

ETUO SERIES

EXTENDED TEMP OPTICAL MICRO FLYOVER

FEATURES

- Extended temperature range from -40 °C to +85 °C versus standard 0 °C to +70 °C (ECUO Series)
- High-speed performance to 10.3125 Gbps per channel
- x12 simplex, x12 duplex or x4 duplex optical transceiver system
- Demonstrated error-free transmission during applied external vibrations and shock test, to methods specified in MIL-STD-810G
- Integral heat sink provides optimal cooling for thermal operating conditions
- MT/MTP® standard end options (Other options available. Contact Samtec.)
- Micro rugged board level connector system with positive latching, weld tabs and loading guides for secure connection
- Cost-effective OM3 multi-mode fiber
- An angled fiber exit from the housing to minimize keep-out zone on the board

SPECIFICATIONS

For complete specifications see www.samtec.com?ETUO

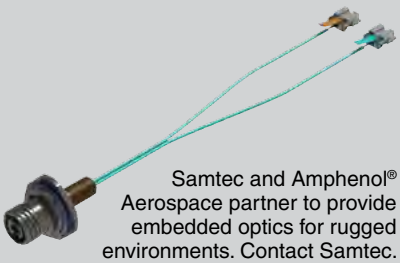
Mates with:
UEC5, UCC8, OPA

INSERTION TOOL

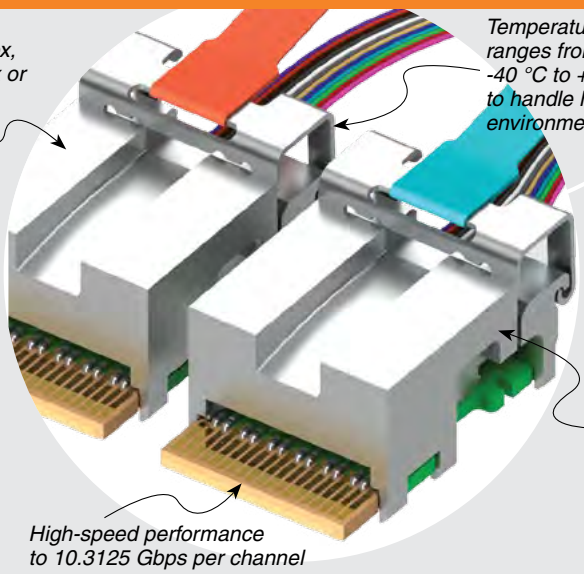
- CAT-IN-ECUO-02

Contact Samtec.

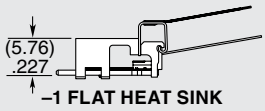
APPLICATION SPECIFIC OPTION



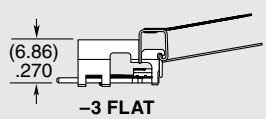
Samtec and Amphenol® Aerospace partner to provide embedded optics for rugged environments. Contact Samtec.



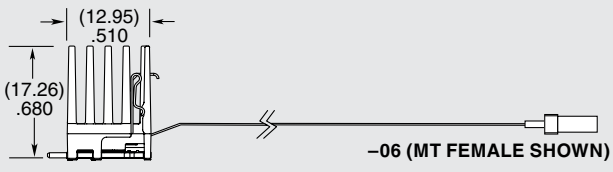
ETUO	– TYPE	– DATA RATE	– CABLE LENGTH	– 0	– HEAT SINK	– 1	– FIBER TYPE	– END OPTION
	–T12 = x12 Tx Simplex Optical –R12 = x12 Rx Simplex Optical –Y12 = x12 Duplex Optical (Y Configuration) –B04 = x4 Duplex Optical	–10 = 10 Gbps	–"XXX" = Overall Length in Centimeters (011 cm to 999 cm) (Minimum length will depend on fiber type and End 2 option specified.)		–1 = Flat –2 = Pin-fin –3 = Flat with 3-Ribbon pass-through		–1 = OM3 Low Bend Radius Ribbon –2 = OM3 Low Bend Radius Loose Tube	–Y12 requires –2(X) options* –01 = MTP® 12F key down, male –02 = MTP® 12F key down, female –05 = MT 12F male –06 = MT 12F female –21* = MTP® 24F key down, male –22* = MTP® 24F key down, female –25* = MT 24F male –26* = MT 24F female



–1 FLAT HEAT SINK



–3 FLAT PASS-THROUGH HEAT SINK (with fiber groove for multi-row configuration)



–2 PIN-FIN HEAT SINK

–06 (MT FEMALE SHOWN)

Class 1 LASER PRODUCT
per IEC 60825-1 Ed. 2 (2007)

Patents:
8588562, 8588561
Additional patents pending

MTP is a registered trademark of US Conec Ltd.

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

samtec

FIREFLY™



UCC8–010–1–H–S–1–A

UEC5–019–2–H–D–RA–1



UEC5, UCC8 SERIES

RUGGED MICRO FLYOVER SOCKET SYSTEM

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?UEC5

Insulator Material: Black LCP
Contact Material: BeCu
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 1.8 A per pin (2 pins powered)
Operating Temp Range: -55° C to +125° C
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note: Some lengths, styles and options are non-standard, non-returnable.

UEC5	–	NO. OF POSITIONS	–	2	–	PLATING OPTION	–	D	–	RA	–	WELD TAB

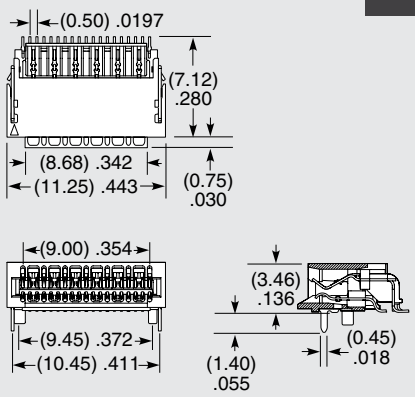
Mates with:
ECUE, ECUO, PCUO, PCUE, ETUO

–019
(Per Row)

–H
= 30 µ" (0.76 µm) Gold on contact, Gold flash on tail

–1
= Through-hole

EDGE® RATE CONTACT



Patents: 8588562, 8588561 additional patents pending

APPLICATION



The UEC5 and UCC8 connectors were designed to work specifically with the FireFly™ flyover system. They were not designed for use with mating cards other than those used with FireFly™. Please see samtec.com/edgecard or contact the CustomerEngineeringSupport@samtec.com for other edge card options.

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?UCC8

Insulator Material: Black LCP
Contact Material: BeCu
Weld Tab: Copper Alloy
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 2.6 A per pin (1 pin powered)
Operating Temp Range: -55° C to +125° C
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note: Some lengths, styles and options are non-standard, non-returnable.

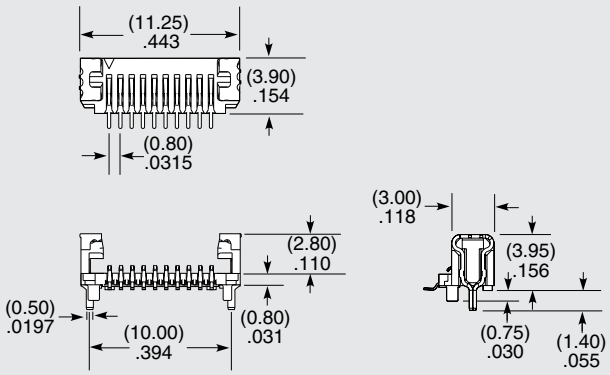
UCC8	–	NO. OF POSITIONS	–	1	–	PLATING OPTION	–	S	–	WELD TAB	–	A

Mates with:
ECUE, ECUO, PCUO, PCUE, ETUO

–010

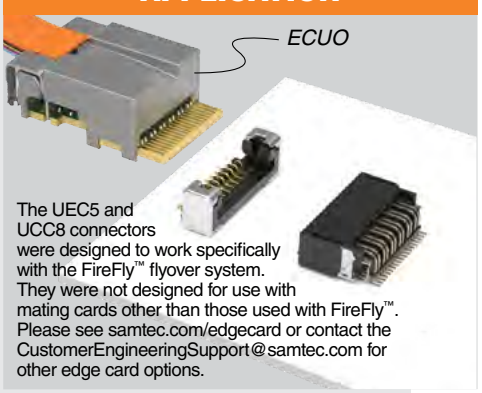
–H
= 30 µ" (0.76 µm) Gold on contact, Gold flash on tail

–1
= Through-hole



Patents: 8588562, 8588561 additional patents pending

APPLICATION



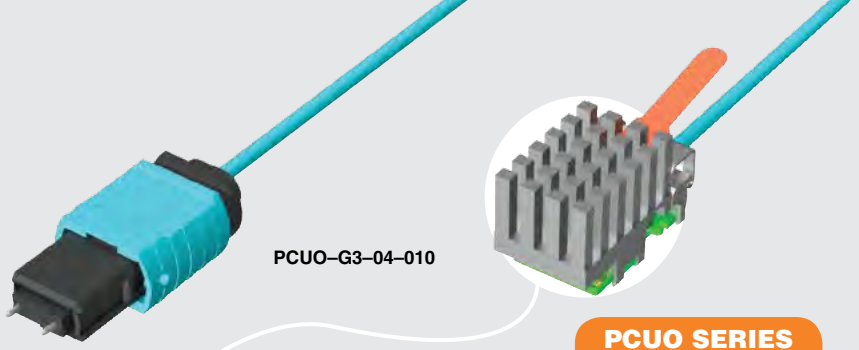
The UEC5 and UCC8 connectors were designed to work specifically with the FireFly™ flyover system. They were not designed for use with mating cards other than those used with FireFly™. Please see samtec.com/edgecard or contact the CustomerEngineeringSupport@samtec.com for other edge card options.

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FIREFLY™



PCUO–G3–04–010

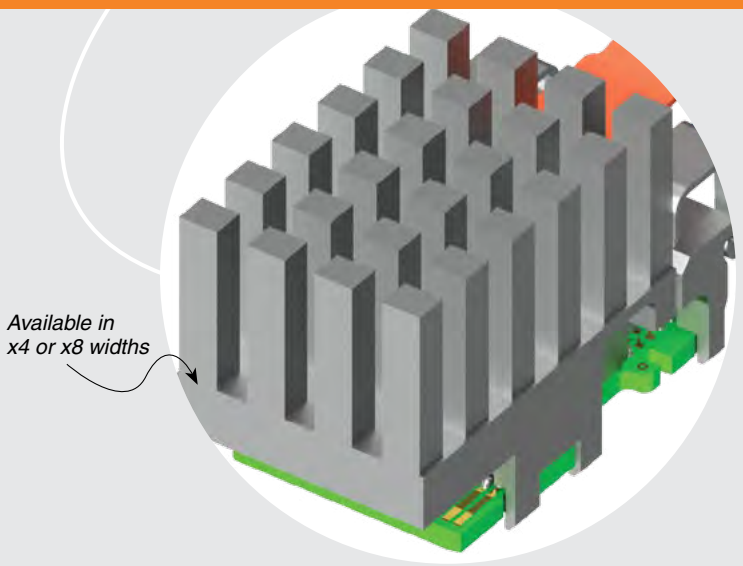
PCUO SERIES

PCIe®-OVER-FIREFLY™ OPTICAL FLYOVER

FEATURES

- PCIe® Gen 3 x4, scalable to x8 and x16 widths
- Bidirectional auxiliary signals allow both transparent and non-transparent bridging
- High-performance signal quality with BER better than 1E-15
- Enables links up to 100 m
- Allows nontraditional FPGA/ASIC end points
- Additional heat sink, fiber type and end options available
- Extended temperature (PTUO) version in development
- PCIe® Gen 4 version in development

Mates with:
UEC5, UCC8, OPA



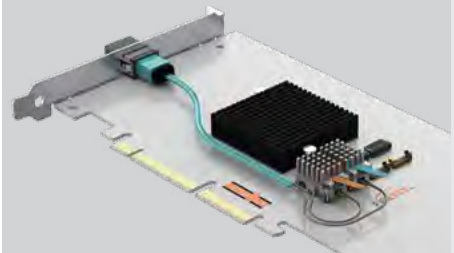
SPECIFICATIONS

For complete specifications see www.samtec.com?PCUO

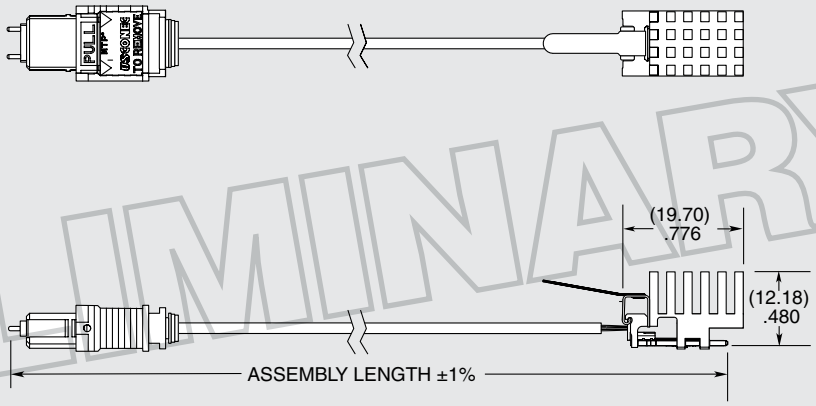
Class 1 LASER PRODUCT
per IEC 60825-1 Ed. 2 (2007)

PCUO	– SPEED	– WIDTH	– CABLE LENGTH
	–G3 = Gen 3 Speed	–04 = x4 PCIe® Gen 3 –08 = x8 PCIe® Gen 3	–"XXX" = Overall Length in Centimeters (10 cm Min)

OTHER SOLUTIONS



PCOA is a compatible PCIe® adaptor card supporting transparent and non-transparent bridge links



PCUO–G3–04–XXX SHOWN

PRELIMINARY

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

Note:
Some lengths, styles and options are non-standard, non-returnable.

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ACTIVE OPTICAL CABLE ASSEMBLIES

FEATURES

- Drop in replacement for PCIE® electrical cable

SPECIFICATIONS

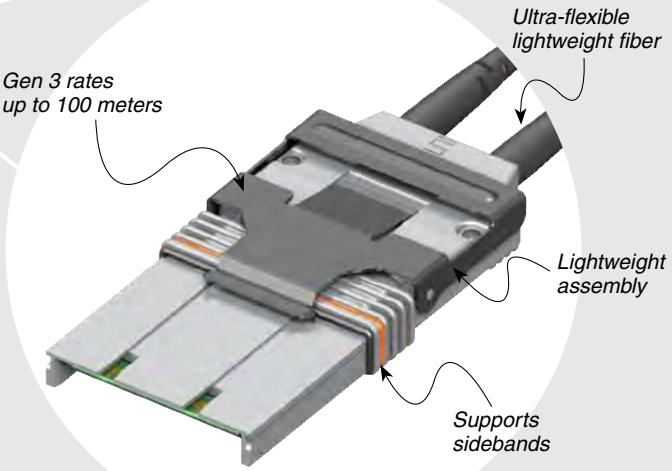
For complete specifications see www.samtec.com?PCIEO

Fiber Type:
1 m to 50 m = OM2
Over 50 m = OM3
All Half AOCs = OM3

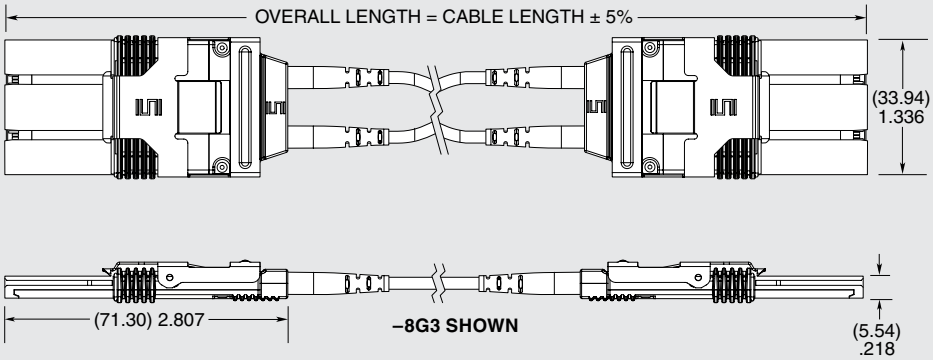
RECOGNITIONS

For complete scope of recognitions, see www.samtec.com/quality

FILE NO. E357212 FILE NO: 090871_0_000



PCIEO	DATA RATE	CABLE LENGTH	OPTIONS
Full AOC With Host & Target	–4G3 = x4 PCIe®, GEN 3 –8G3 = x8 PCIe®, GEN 3 –H8G3 = x4 PCIe® with, x8 PCIe® form factor, GEN 3 –4AG3 = x4 PCIe® Host to x8 PCIe® Target, GEN 3 –8AG3 = x8 PCIe® Host to x4 PCIe® Target, GEN 3	–000.5 = 500 mm to –100.0 = 100 m Standard lengths	–11 = 100 MHz Clock Frequency (Standard) –12 = 100 MHz Clock Frequency (No Sidebands) –15 = No Clock Output (Standard) –16 = No Clock Output (No Sidebands)



Patents: 7329054, 7824112, 7648287, 7766559, 8098993, additional patents pending

Notes:
Samtec PCIe® over Fiber systems are PCIe® compliant; however as with all PCIe® based systems, there is a risk of interoperability issues with specific systems. Samtec recommends discussing your system with our Optical Group prior to final design. Please contact pcie@samtec.com.

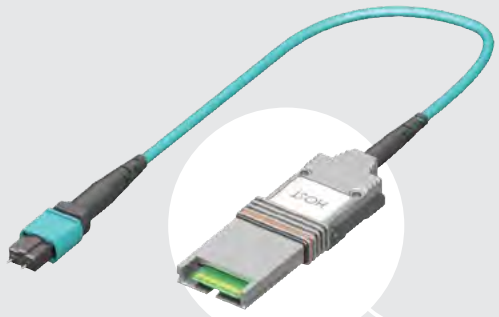
PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

MTP is a registered trademark of US Conec Ltd.

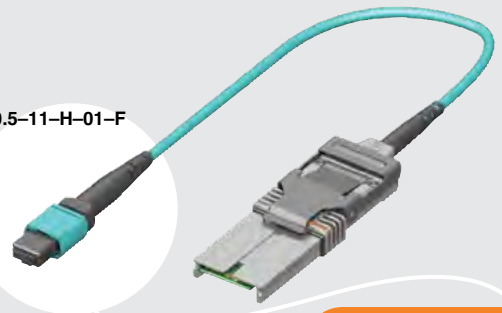
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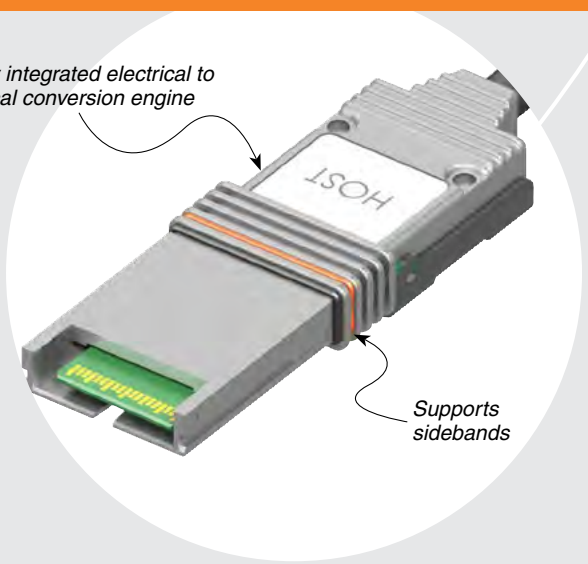


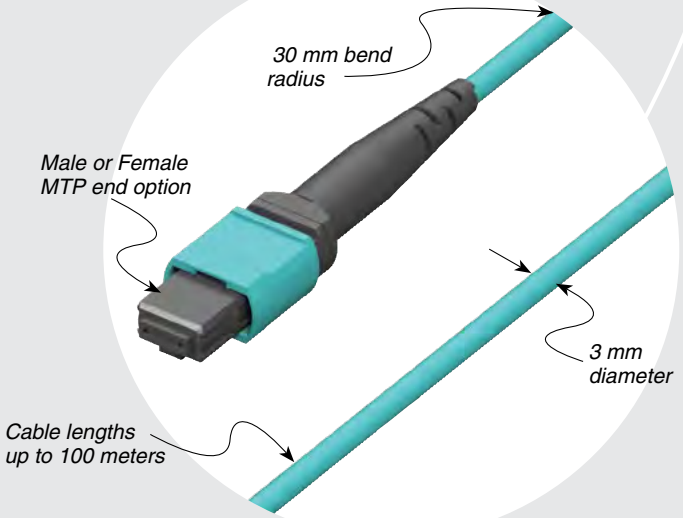
PCIEO–4G3–000.5–11–H–01–M



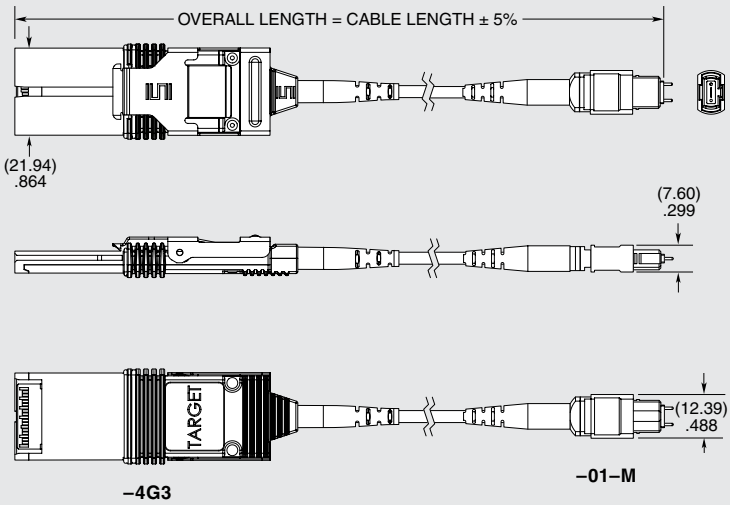
PCIEO–4G3–000.5–11–H–01–F

PCIEO SERIES





PCIEO	DATA RATE	CABLE LENGTH	OPTIONS	TYPE	END OPTION	GENDER
Half AOC Requires MTP End option	–4G3 = x4 PCIe®, GEN 3 –8G3 = x8 PCIe®, GEN 3 –H8G3 = x4 PCIe® with, x8 PCIe® form factor, GEN 3	–000.5 = 500 mm to –100.0 = 100 m Standard lengths	–11 = 100 MHz Clock Frequency (Standard) –12 = 100 MHz Clock Frequency (No Sidebands) –15 = No Clock Output (Standard) –16 = No Clock Output (No Sidebands)	Required Callout –H = Host –T = Target	Required Callout –01 = MTP	Required Callout –M = Male –F = Female



Class 1 LASER PRODUCT
per IEC 60825-1 Ed. 2 (2007)

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FOPC–02–02–003–12–01



OPA–S–1–F

FOPC, OPA SERIES

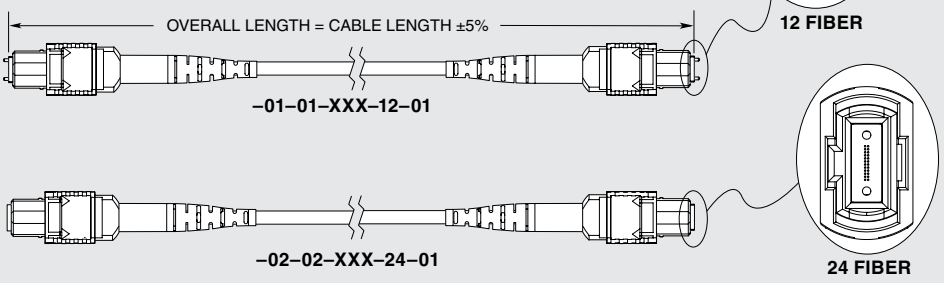
OPTICAL PATCH CABLE AND ADAPTOR

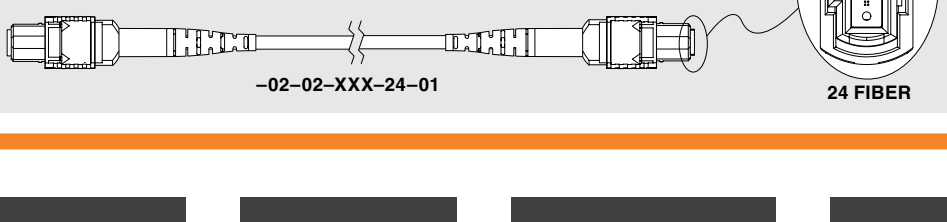
SPECIFICATIONS

For complete specifications see www.samtec.com?FOPC

Compliant Specifications:
TIA-604-5-D (FOCIS 5)
TIA-568-C.3
IEC-61754-7-1

FOPC	END 1	END 2	CABLE LENGTH	FIBERS	CONSTRUCTION
	–01 = MTP Male –02 = MTP Female	–01 = MTP Male –02 = MTP Female	–003 = 3 Meters –010 = 10 Meters –100 = 100 Meters (Other lengths available as custom parts)	–12, –24	–01 = 3 mm Round Jacket





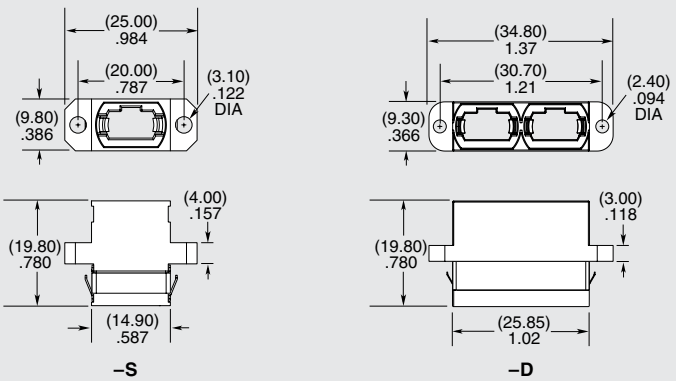
Note: Some lengths, styles and options are non-standard, non-returnable.

SPECIFICATIONS

For complete specifications see www.samtec.com?OPA

Compliant Specifications:
TIA-604-5-D (FOCIS 5)
IEC-61754-7
Recommended Panel Thickness:
(1.75 mm) .069"
(The OPA can be installed with any panel thickness but mounting hardware is needed for any thickness that is not (1.75 mm) .069". Contact the Optics Group at Optics@samtec.com for questions about panel thickness and mounting hardware.)

OPA	PORTS	KEY	FLANGE
	–S = Single –D = Double	–1 = Opposed –2 = Aligned	–F = Full

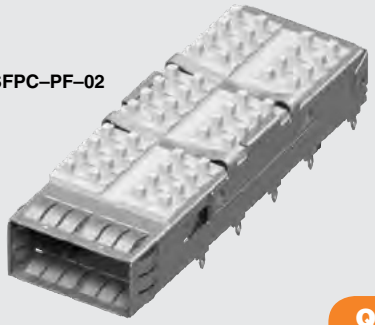


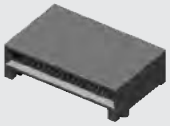
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QSFP8–038–01–L–D–RA1

(0.80 mm) .0315"

QSFP8, QSFPC, QSFPK SERIES

QSFP CONNECTOR & CAGE

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?QSFP8

Insulator Material:
LCP
Contact Material:
Phosphor Bronze
Ground Plane:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating (QSFP8/Card):
1.6 A per pin
(2 pins powered)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

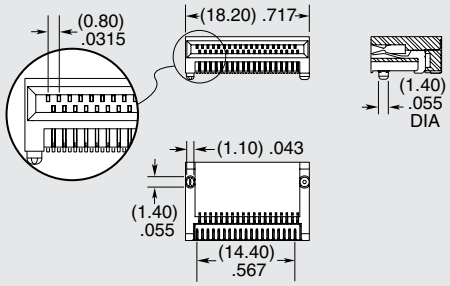
Note:
Some lengths, styles and options are non-standard, non-returnable.

QSFP8	–	NO. OF POSITIONS	–	CARD THICKNESS	–	PLATING	–	D	–	RA1

–038
= Total Number of Positions

–01
= (1.00 mm) .039" thick card

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail



BOTTOM VIEW

SPECIFICATIONS

For complete specifications see www.samtec.com?QSFPC or www.samtec.com?QSFPK

Note:
Some sizes, styles and options are non-standard, non-returnable.

TYPE	–	TERMINATION	–	OPTION

QSFPC
= Cage

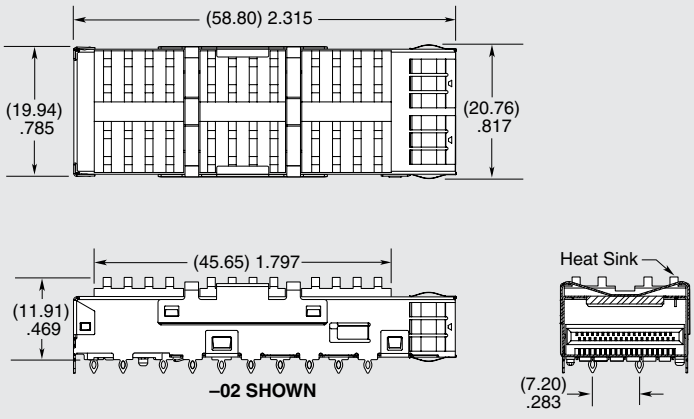
QSFPK
= Cage and Connector Kit

–PF
= Press-fit

–01
= Without Heat Sink

–02
= With Heat Sink

–03
= With Heat Sink and clip packaged separately (Recommended for cage press-fit processing)



–02 SHOWN

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OTHER OPTICAL SOLUTIONS

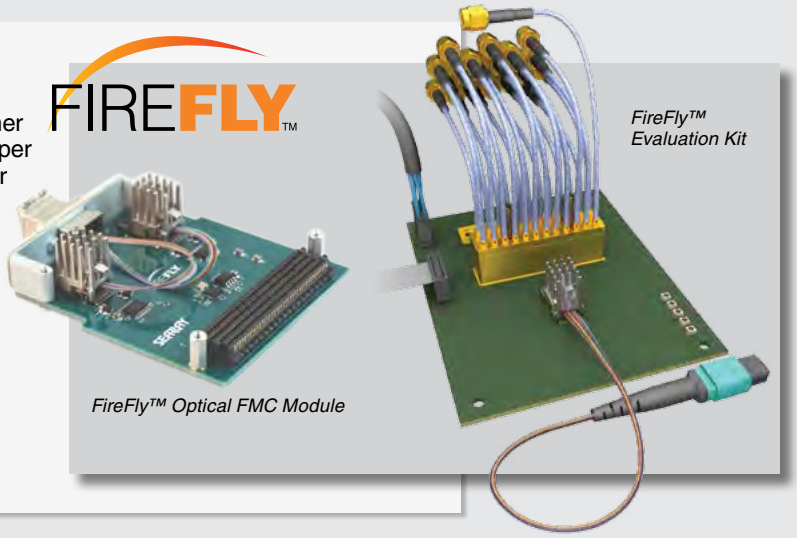
TESTING SOLUTIONS

FireFly™ Evaluation Kit (FIK-FIREFLY-XX)

Rated up to 28 Gbps, this kit allows the designer real-time evaluation of an actively running copper or optical FireFly™ system in their lab, with their inputs, via Samtec's Bulls Eye® system.

FireFly™ Optical FMC Module

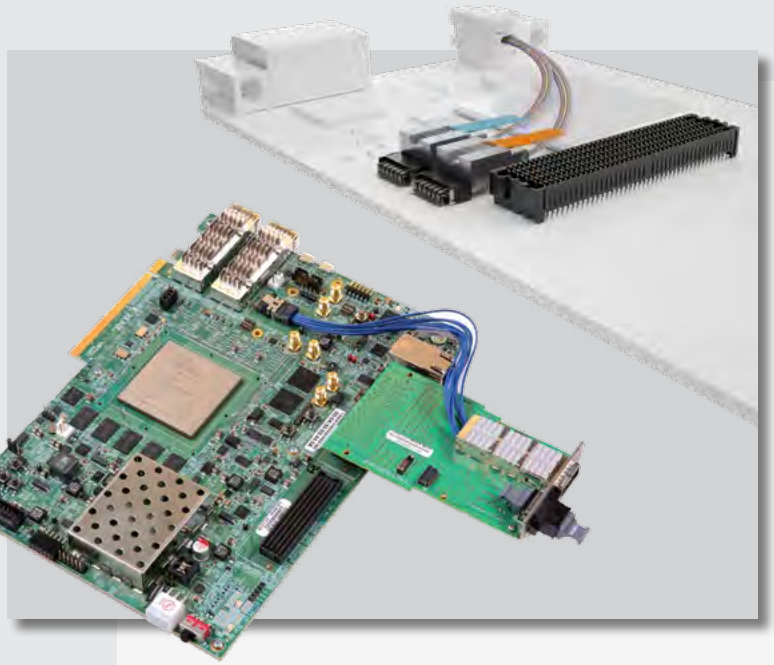
Samtec's FMC module features a 14G x10 optical FireFly™ system in an FMC VITA 57.1 form factor that can run actual system data or BER testing all channels at the same time. This makes evaluation with a specific FPGA much easier and is an ideal substitute for 28G test equipment.



FireFly™ Optical FMC Module

FireFly™ Evaluation Kit

ACTIVE & PASSIVE OPTICS



VITA 66.4

The Pentek Flexor® 5973 VIRTEX® -7 processor and FMC carrier board (3U VPX) features two x12 optical FireFly™ for up to 14 Gbps per channel. It enables gigabit backplane communications between boards independent of the PCIe® interface.

Xilinx® Virtex® UltraScale+™ FPGA VCU118 Development Kit

This loopback mezzanine card, featuring FireFly™ optical or copper, was based on an elongated version of the VITA 57.4 single width mezzanine card, designed for use with the Xilinx® UltraScale+ VCU118 Development board and is included in the VCU118 Development Kit available from Xilinx®.

For more information go to
Samtec.com/FireFly or Samtec.com/Kits



MICRO RUGGED TIGER EYE™

0.80 mm PITCH SYSTEM

Micro Pitch Connector Sets (SEM, SEMS, SEML, TEM, TEMS) 198-199

.050" (1.27 mm) PITCH SYSTEM

Standard Pitch Connector Sets (SFM, TFM) 200-203

Friction Lock Connector Sets (SFML, TFML) 200-203

Cost-Effective Tiger Eye™ Lite (SFC, TFC) 204-205

Quad Row Strips (FOLC, MOLC) 206-207

Flexible Pin Count Tiger Eye™ Sockets (SFMC) 210

2.00 mm PITCH TERMINALS & SOCKETS

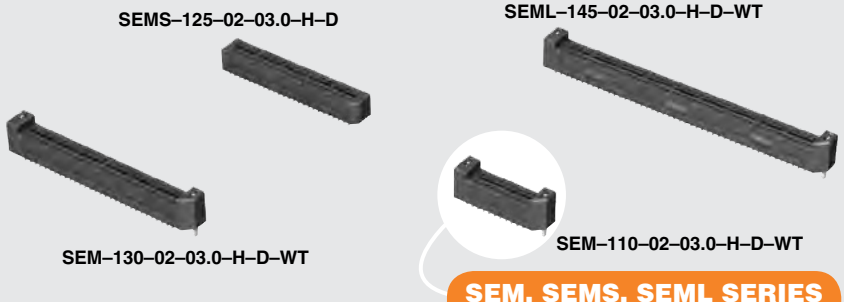
Discrete Wire Terminals & Sockets (T2M, S2M) 208-209

APPLICATIONS

Micro Rugged Tiger Eye™ Systems 32-33

samtec

TIGER™ EYE SYSTEM



(0.80 mm) .0315"

SEM, SEMS, SEML SERIES

MICRO TIGER EYE™ SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEM, www.samtec.com?SEMS or www.samtec.com?SEML

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Current Rating (SEM/TEM):
2.6 A per pin
(2 pins powered)
Voltage Rating:
235 VAC/330 VDC
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

- Board Stacking:
  See SFM, TFM Series
- Cable Assemblies:
  See SFSD, TFSD Series

Contact Samtec.

SEM, SEML Mates with:
TEM

SEMS Mates with:
TEMS

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

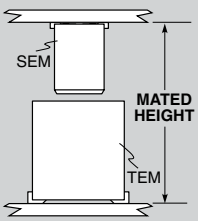


RUGGEDIZED BY SAMTEC

- Passes 10 year MFG
- Locking clip option
- Weld tab option

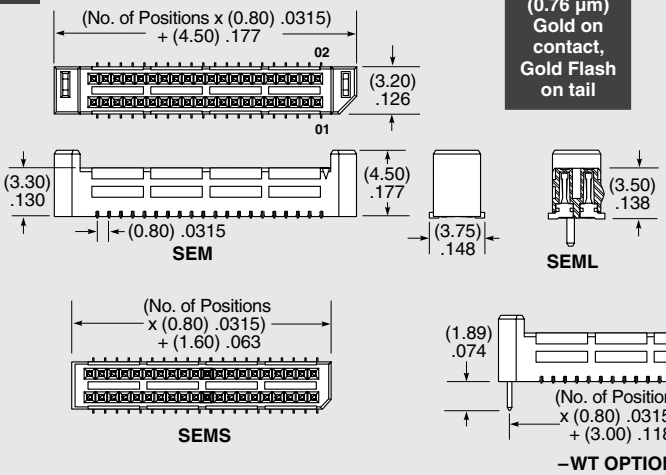
TYPE STRIP	1	NO. PINS PER ROW	02	STACK HEIGHT	PLATING OPTION	D	OPTION	OTHER OPTION
SEM = Tiger Eye™ Strip **SEMS** = Tiger Eye™ Slim Strip **SEML** = Tiger Eye™ Friction Lock		05, 10, 15, 20, 25 30, 35, 40, 45, 50 (SEM/SEML only) (Standard sizes)		**–03.0** = 6 mm, 7 mm or 10 mm Stack Height when mated with TEM/TEMS Series (SEML only available with 6 mm Stack Height)	**–FG** = Gold Flash **–G** = 10 µ" (0.25 µm) Gold on contact, Gold Flash on tail **–H** = 30 µ" (0.76 µm) Gold on contact, Gold Flash on tail		Leave blank for SEMS **–A** = Alignment Pin (Not available with –LC or –WT) **–LC** = Locking Clip (Not available with –A or –WT) (Manual placement required) **–WT** = Weld Tab (Not available with –A or –LC) (Required callout for SEML)	**–K** = (3.50 mm) .138" DIA Polyimide film Pick & Place Pad (Required for SEMS) **–TR** = Tape & Reel (Required for SEMS)

MATED HEIGHT



TEM LEAD STYLE	MATED HEIGHT*
–03.0	6 mm
–04.0	7 mm
–07.0	10 mm

*Processing conditions will affect mated height.



ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings

Contact Samtec.

Note:
Some sizes, styles and options are non-standard, non-returnable.

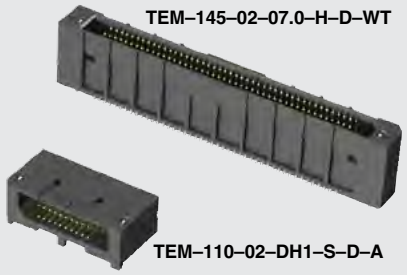
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TIGER™ EYE SYSTEM





(0.80 mm) .0315"

TEM, TEMS, TEM-DH SERIES

MICRO TIGER EYE™ HEADER

TEM, TEM-DH Mates with:
SEM, SEML

TEMS Mates with:
SEMS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TEM or www.samtec.com?TEMS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.9 A per pin
(2 pins powered)
Voltage Rating:
235 VAC/330 VDC
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

- Latching option:
  See TEM-L1 in Discrete Wire Cable section.
- Board Stacking:
  See SFM, TFM Series
- Cable Assemblies:
  See SFSD, TFSD, SESDT Series

Contact Samtec.

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings

Contact Samtec.

Note:
Some sizes, styles and options are non-standard, non-returnable.

TYPE STRIP	1	NO. OF POSITIONS	02	STACK HEIGHT	PLATING OPTION	D	OPTION	OTHER OPTION

TYPE STRIP

TEM
= Tiger Eye™ Strip

TEMS
= Tiger Eye™ Slim Strip

NO. OF POSITIONS

05, 10, 15, 20, 25
(Per Row)

30, 35, 40, 45, 50
(Per Row)
(TEM only)
(Standard sizes)

STACK HEIGHT

–03.0
= 6 mm Stack Height

–04.0
= 7 mm Stack Height

–07.0
= 10 mm Stack Height

STACK HEIGHT	A	MATED HEIGHT* (WHEN MATED WITH SEM/SEMS)
–03.0	(5.610) .2209	6 mm
–04.0	(6.610) .2602	7 mm
–07.0	(9.610) .3783	10 mm

*Processing conditions will affect mated height.

PLATING OPTION

–FG
= Gold Flash

–G
= 10 µ" (0.25 µm) Gold on contact, Gold Flash on tail

–H
= 30 µ" (0.76 µm) Gold on contact, Gold Flash on tail

D

OPTION

Leave blank for TEMS

–A
= Alignment Pin
(Not available with –LC or –WT)

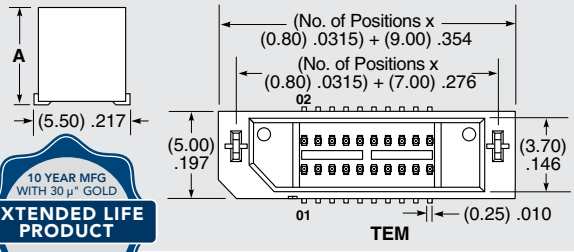
–LC
= Locking Clip
(Not available with –A or –WT)
(Manual placement required)

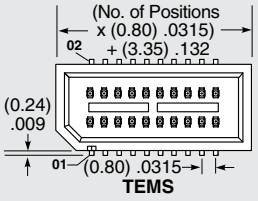
–WT
= Weld Tab
(Not available with –A or –LC)

OTHER OPTION

–K
= (5.50 mm) .217" DIA Polyimide film Pick & Place Pad (Required for TEMS)

–TR
= Tape & Reel (Required for TEMS)





10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

TEM	1	NO. OF POSITIONS	02	DH1	PLATING OPTION	D	OPTION

NO. OF POSITIONS

10, 15, 20, 25, 30, 35, 40, 45, 50
(Per Row)
(Standard sizes)

PLATING OPTION

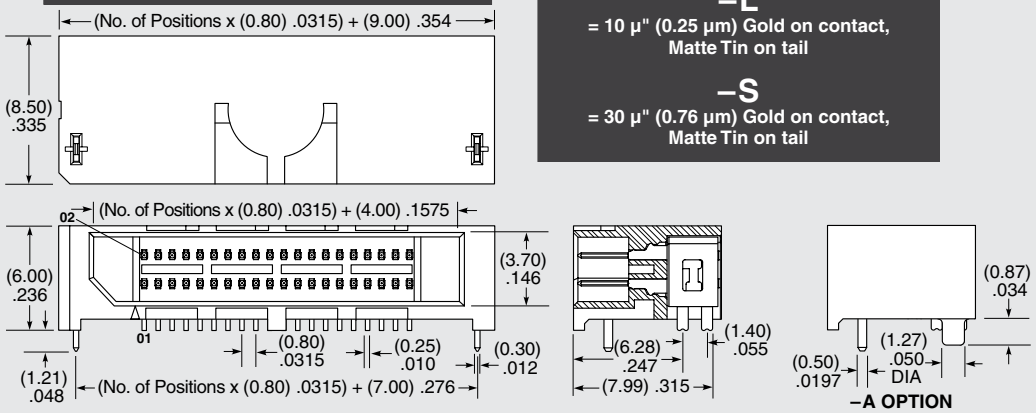
–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–S
= 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail

OPTION

–A
= Alignment Pin

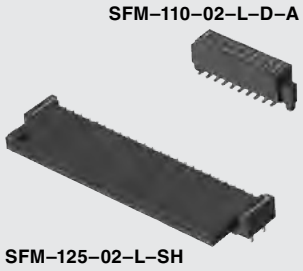


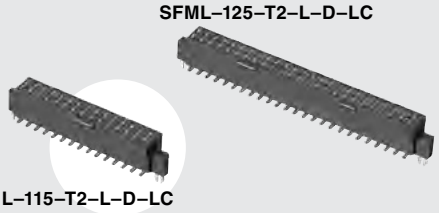
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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

TIGER™ EYE SYSTEM





(1.27 mm) .050"

SMT & THROUGH-HOLE TIGER EYE™ SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SFM or www.samtec.com?SFML

Insulator Material:
Black Liquid Crystal Polymer
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating (SFM/TFM):
3.2 A per pin
(2 pins powered)
Voltage Rating:
250 VAC mated with TFM
Operating Temp Range:
-55 °C to +125 °C
Contact Resistance:
15 mΩ
Insertion Depth:
(3.05 mm) .120" to
(4.06 mm) .160"
Wiping Distance:
(0.38 mm) .015"
Normal Force:
Standard= 132 g (1.29 N) avg.;
LIF= 90 g (0.88 N) avg.
Max Cycles:
10,000 with 30 µ" (0.76 µm) Au
(Call Samtec for E.L.P.™ plating option)
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-25)
(0.15 mm) .006" max (30-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

Note: Some sizes, styles and options are non-standard, non-returnable.

SFM Board Mates:
TFM

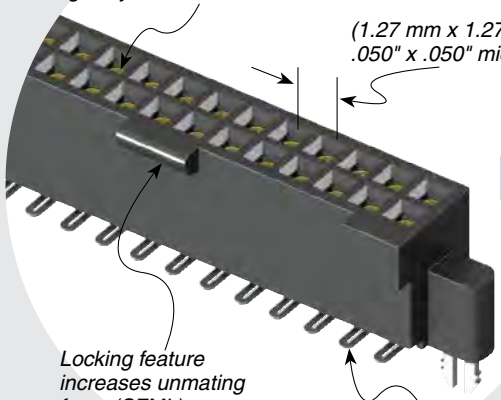
SFM Cable Mates:
TFSD, TFSS

SFML Board Mates:
TFML

TIGER™ EYE CONTACT



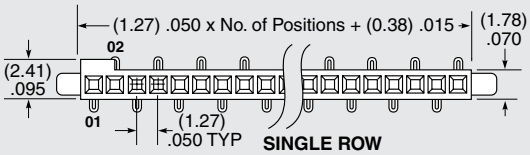
10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

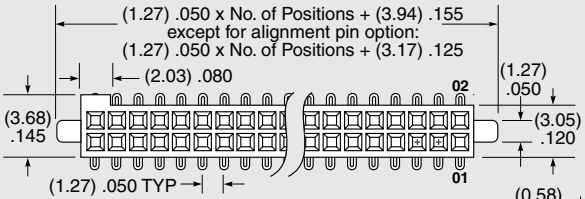


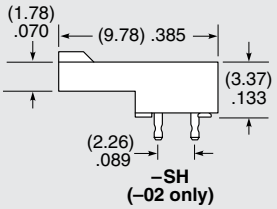
RUGGEDIZED BY SAMTEC

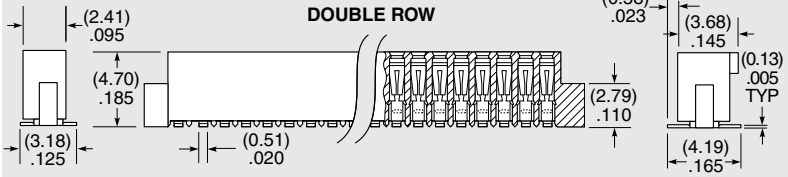
- Passes 10 Year MFG
- Locking option
- Locking clip option
- Screw Down option

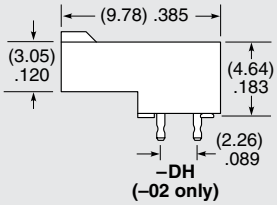
TYPE STRIP	1	NO. PINS PER ROW	LEAD STYLE	
			(Surface Mount)	(Through-hole)
SFM = Standard **SFML** = Locking		**03, 04, 06, 08** (SFM only) **05, 07, 10, 15, 20, 25, 30, 35, 40, 45, 50** (Standard sizes)	**–02** = Tiger Eye™ Contact (BeCu) **–L2** = Low Insertion Force Tiger Eye™ Contact (BeCu) **–T2** = Tiger Eye™ LITE Contact (Phosphor Bronze)	**–01, –03** = Tiger Eye™ Contact (BeCu) **–L1, –L3** = Low Insertion Force Tiger Eye™ Contact (BeCu) **–T1** = Tiger Eye™ LITE Contact (Phosphor Bronze)

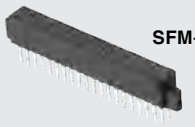


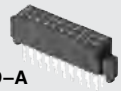


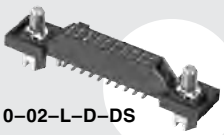







SFM–120–L3–L–D


SFM–110–01–L–D–A

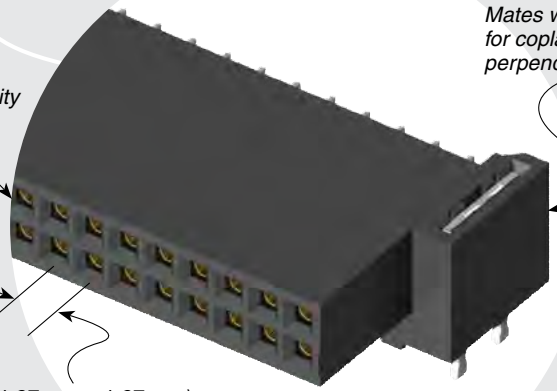

SFM–110–02–L–D–DS

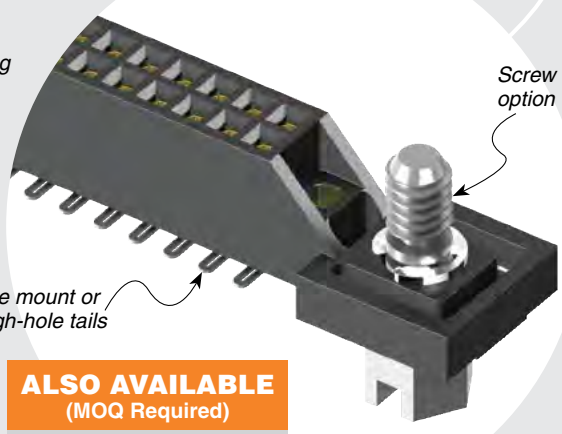

SFFML–115–T1–L–D–LC


SFM–115–02–L–DH


SFM–105–L3–L–D

SFM, SFML SERIES





OTHER SOLUTIONS

- Lower cost plating options. See SFC Series.

ALSO AVAILABLE (MOQ Required)

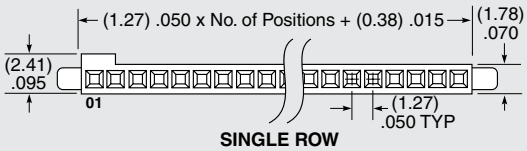
- Solder nail option
- Other sizes
- Other platings

Contact Samtec.

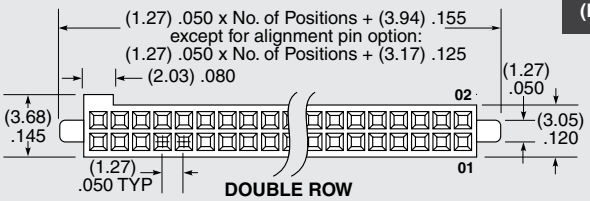
PLATING OPTION

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail
(Call Samtec for E.L.P.™ plating option)

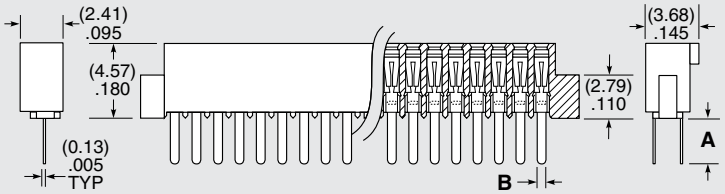
LEAD STYLE	A	B
–01, –L1, –T1	(3.05) .120	(0.51) .020
–03, –L3	(1.91) .075	(0.41) .016

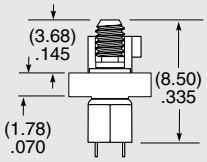


SINGLE ROW

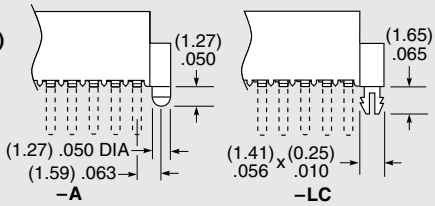


DOUBLE ROW





–DS
(–D, –01 –02 & –03)



ROW OPTION

–S
= Single Row
(SFM only)

–D
= Double Row

–SH
= Single Horizontal
(05 thru 30 positions only)
(SFM only)
(Lead style –02 only)

–DH
= Double Horizontal
(05 thru 30 positions only)
(SFM only)
(Lead style –02 only)

OPTION

Specify only –A, –LC or –DS
(Not available with –DH, –SH)

–A
= Alignment Pin
(Available with all lead styles)

–LC
= Locking Clip
(Available with all lead styles)
(Manual placement required)

–DS
= Dual Screw Down for
(1.60 mm) .062" PCB
(05 thru 40 positions only)
(Lead styles –01, –02 & –03 only)
(Requires –D row option)
(Not available with SFML)
(Mates with TFM-DS option)
(Not available with –A,
–LC, –K, –P, –TR)

Specify only
–K or –P
(Lead styles –02,
–L2, –T2 only)

–K
= Polyimide film
Pick & Place Pad
(Not available
with –DH, –SH)

–P
= Plastic Pick &
Place Pad
(Not available
with –DH, –SH)

Specify –TR last
(Lead styles –02,
–L2, –T2 only)

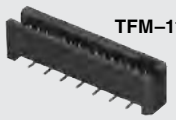
–TR
= Tape & Reel
(Required callout
for –DH, –SH)

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

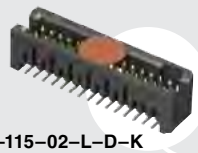
samtec

TIGER™ EYE SYSTEM


TFM–115–02–L–S


TFM–110–02–L–D–LC


TFM–110–01–L–D–RE1–WT


TFML–115–02–L–D–K

(1.27 mm) .050"

SMT & THROUGH-HOLE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TFM or www.samtec.com?TFML

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating (TFM/SFM):
3.2 A per pin
(2 pins powered)
Voltage Rating:
250 VAC mated with SFM
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-25)
(0.15 mm) .006" max (30-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

TFM Board Mates:
SFM, SFMC

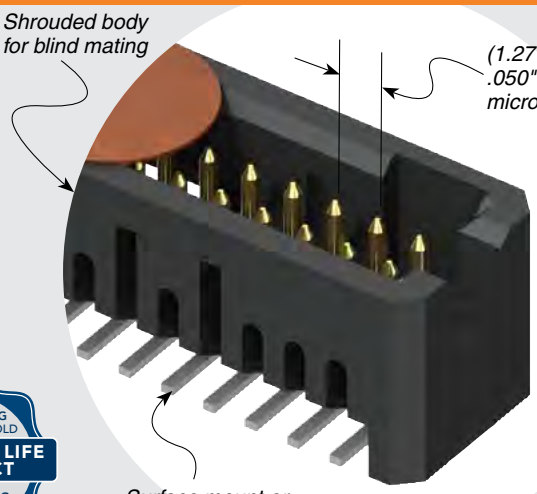
TFM Cable Mates:
SFSD

TFML Board Mates:
SFML

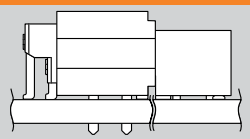
TFM-DH Board Mates:
SFM (-DH), SFMC

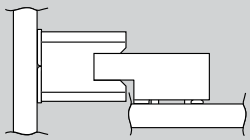
TFM-DH Cable Mates:
SFSDX (-S, -D, -SR, -DR)

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



APPLICATIONS


TFM-DH to SFM-DH SHOWN


TFM to SFM-SH SHOWN

MATED HEIGHTS

LEAD STYLE TFM	LEAD STYLE SFM	MATED HEIGHT*
– 02	–02	(6.35) .250
– 12		(8.13) .320
– 22		(9.91) .390
– 32		(11.81) .465
LEAD STYLE TFM	**LEAD STYLE SFM**	**MATED HEIGHT***
–01	–01	(5.97) .235
–03		(5.97) .235
–11		(7.75) .305
–13		(7.75) .305
–21		(9.53) .375
–23		(9.53) .375
–31		(11.43) .450

*Processing conditions will affect mated height.

OTHER SOLUTIONS

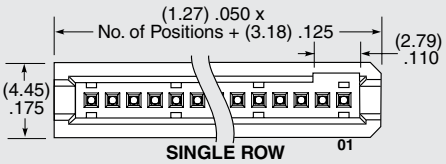
- Lower cost plating options. See TFC Series.

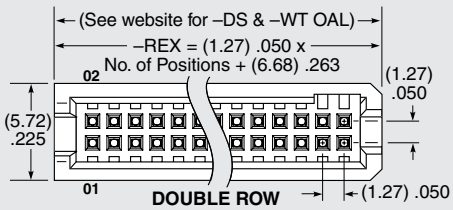
Note: Some sizes, styles and options are non-standard, non-returnable.

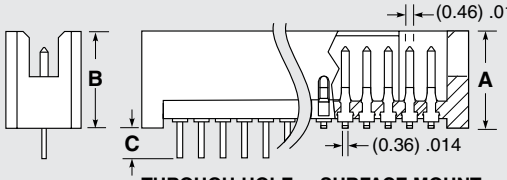
TYPE STRIP	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION
TFM = Standard **TFML** = Locking (–01 & –02 lead style only)		03, 04, 06, 08 (TFM –01 & –02 only) 05, 07, 10, 15, 20, 25, 30, 35, 40, 45, 50 (Standard sizes)	Specify LEAD STYLE from chart	**–L** = 15 µ" (0.38 µm) Gold on post, Matte Tin on tail (Call Samtec for E.L.P.™ plating option)

LEAD STYLE (T/H)	B	C
–01	(5.59) .220	(1.97) .078
–03*	(5.59) .220	(2.77) .109
–11*	(7.37) .290	(1.97) .078
–13*	(7.37) .290	(2.77) .109
–21*	(9.14) .360	(1.97) .078
–23*	(9.14) .360	(2.77) .109
–31*	(11.05) .435	(1.97) .078

* Not Available with 07 or -S row option

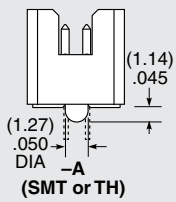


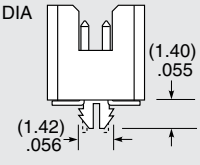


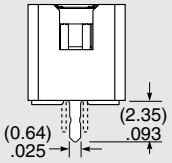


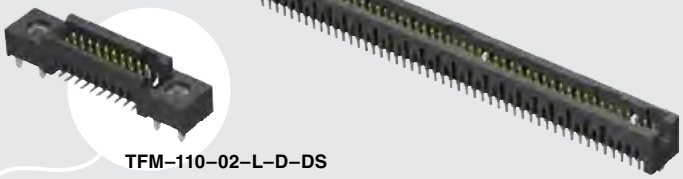
LEAD STYLE (SMT)	A
–02	(5.72) .225
–12*	(7.49) .295
–22*	(9.27) .365
–32*	(11.18) .440

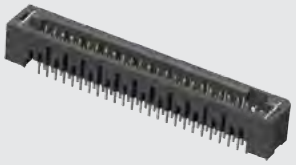
* N/A with 07, -DH or -S row option







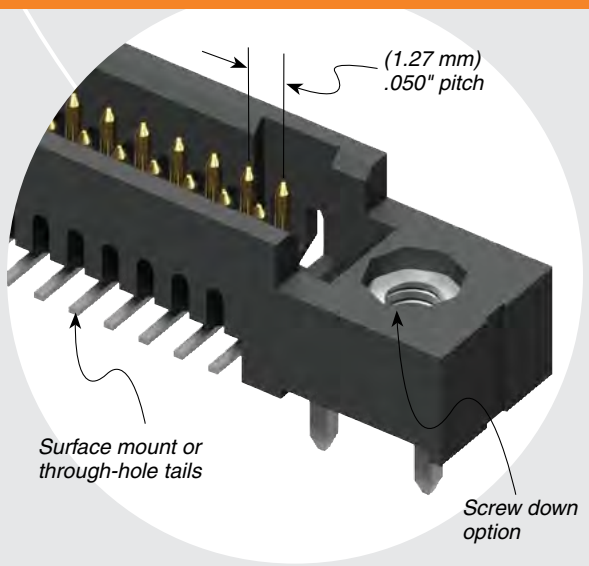


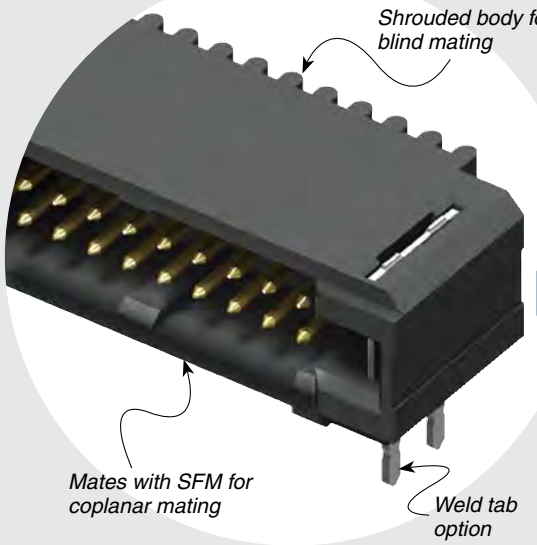






TFM, TFML SERIES





RUGGEDIZED BY SAMTEC

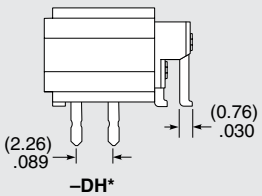
- Passes 10 Year MFG
- Locking option
- Locking clip option
- Weld tab option
- Screw down option

ROW OPTION

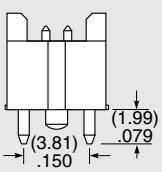
–S
= Single Row
(TFM only)

–D
= Double Row

–DH*
= Double Horizontal
(TFM lead style –02 only)
(05 thru 50 positions only)
(–TR option only
available)



–DH*



–DS
(–D, –01 & –02 ONLY)

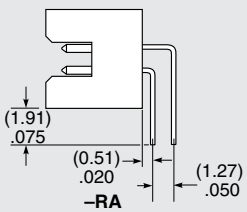
OPTION

Specify only –RA, –RE1 or –RE2

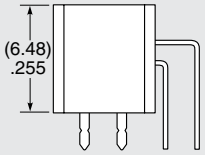
–RA
= Right-angle
(Lead style –01 only)

–RE1
= Right-angle Elevated for (1.58 mm) .062" PCB
(Requires TFM lead style –01, –D row and –WT)

–RE2
= Right-angle Elevated for (2.36 mm) .093" PCB
(Requires TFM lead style –01, –D row and –WT)



–RA



–RE1 & –RE2

Specify only –A, –LC, –DS or –WT
Not available with –RA, –RE1 and –RE2
unless otherwise noted.

–A
= Alignment Pin

–LC
= Locking Clip
(Manual Placement required)

–DS
= Dual Screw Down for
(1.60 mm) .062" PCB
(05, 07, 10, 15, 20, 25, 30,
35, 40 positions only)
(TFM lead styles –01 and –02 only)
(Requires –D row option)
(Mates with SFM–DS option and
SFSD/SFSDT –SS and –DS option only)
(Not available with –A, –LC,
–WT, –K, –P, –TR)

–WT
= Weld Tab
(TFM lead styles –01 and –02 only)
(Required callout for –RE1 & –RE2)
(Mates to SFSS/SFSD –SR and
–DR option only)
(05, 07, 10, 15, 20, 25, 30, 35,
40, 45, 50 positions only)

SMT lead styles only
Specify only –K or –P

–K
= Polyimide Film Pick & Place Pad

–P
= Plastic Pick & Place Pad
(5 positions minimum)
(Not available with
5 position with –WT)

Specify –TR last

–TR
= Tape & Reel
(Not available with –DS)

*** Notes:**
TFM –DH Mates only with SFM–D–A
Weld tab is standard on –DH option.
No need to specify –WT.

ALSO AVAILABLE
(MOQ Required)

- Solder nail option
- Other sizes
- Other platings

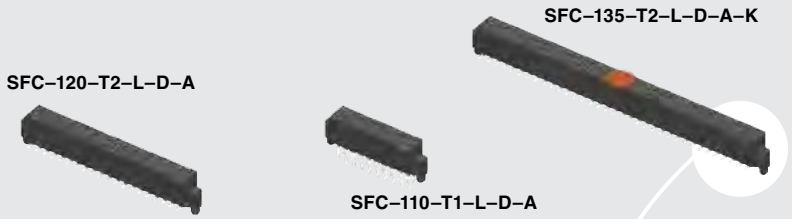
Contact Samtec.

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TIGER™ EYE SYSTEM



(1.27 mm) .050"

SFC SERIES

COST-EFFECTIVE RELIABLE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SFC

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
3.1 A per pin
(2 pins powered)
Voltage Rating:
350 VAC mated with TFC
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(3.05 mm) .120" to
(4.06 mm) .160"
Max Cycles:
10,000 with 30 µ" (0.76 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (04-25)
(0.15 mm) .006" max (30-50)

RECOGNITIONS

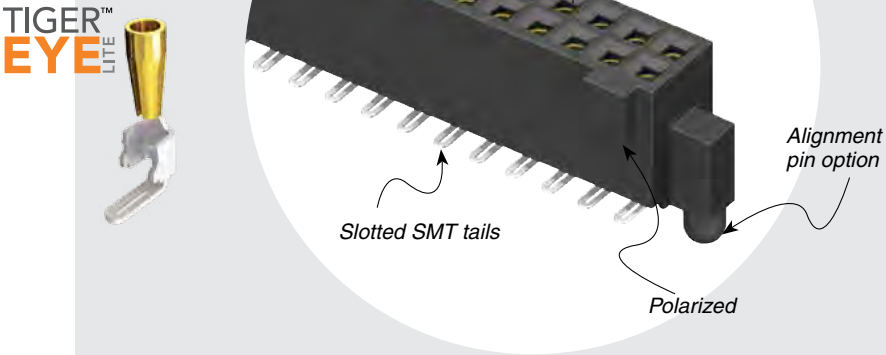
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

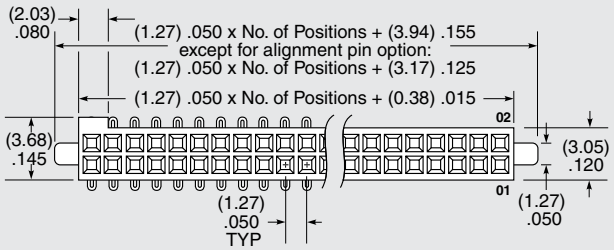
FILE NO: 090871_0_000

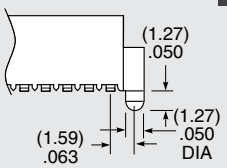
Board Mates:
TFC

Cable Mates:
TFSD, TFSDT

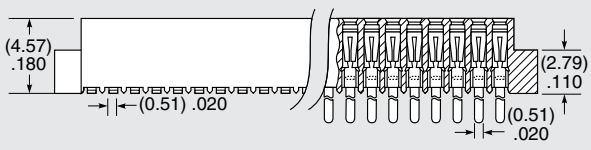


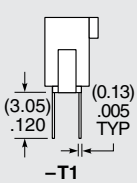
SFC	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	OPTION
			04, 05, 10, 15, 20, 25, 30, 35, 40, 45, 50 (Standard sizes)		–T1 = Through-hole Tiger Eye™ LITE –T2 = Surface Mount Tiger Eye™ LITE		–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–A = Alignment Pin –K = (4.00 mm) .157" DIA Polyimide film Pick & Place Pad –TR = Tape & Reel (–T2 only)



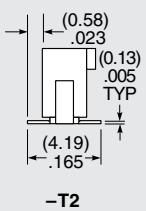


–A OPTION





–T1



–T2

ALSO AVAILABLE (MOQ Required)

- Other sizes

Contact Samtec.

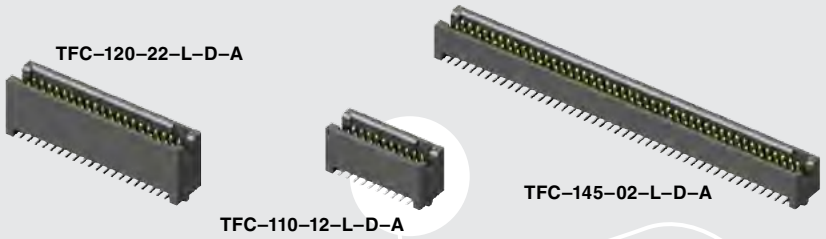
Note: Some sizes, styles and options are non-standard, non-returnable.

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TIGER™ EYE SYSTEM



(1.27 mm) .050"

TFC SERIES

COST-EFFECTIVE RELIABLE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TFC

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
3.1 A per pin
(2 pins powered)
Voltage Rating:
350 VAC mated with SFC
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (03-25)
(0.15 mm) .006" max (30-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

- Other sizes

Contact Samtec.

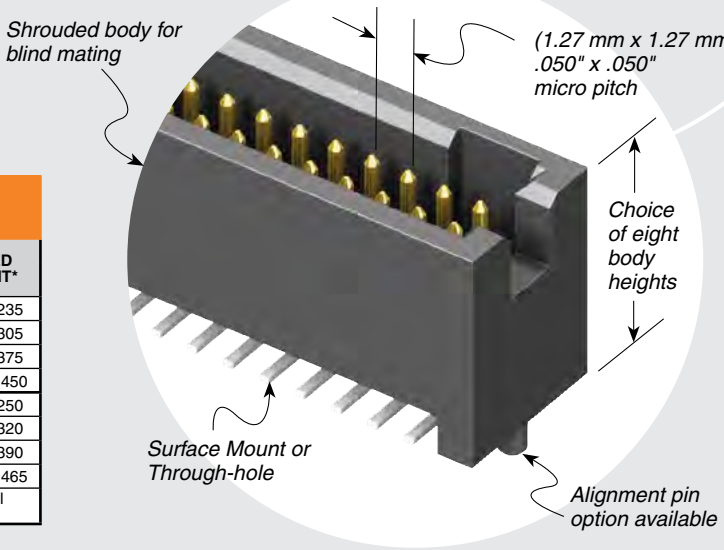
Board Mates:
SFC

Cable Mates:
SFSD, SFSDT

MATED HEIGHTS

LEAD STYLE		MATED HEIGHT*
TFC	SFC	
– 01	–T1	(5.97) .235
– 11		(7.75) .305
– 21		(9.53) .375
– 31		(11.43) .450
– 02	–T2	(6.35) .250
– 12		(8.13) .320
– 22		(9.91) .390
– 32		(11.81) .465

*Processing conditions will affect mated height.



TFC	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	OPTION

03, 04, 06, 08
(Lead Style –01 & –02 only)

05, 07, 10, 15, 20, 25, 30, 35, 40, 45, 50
(Standard sizes)

–X1
= Through-hole

–X2
= Surface Mount

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–RA
= Right-angle (–01 only)

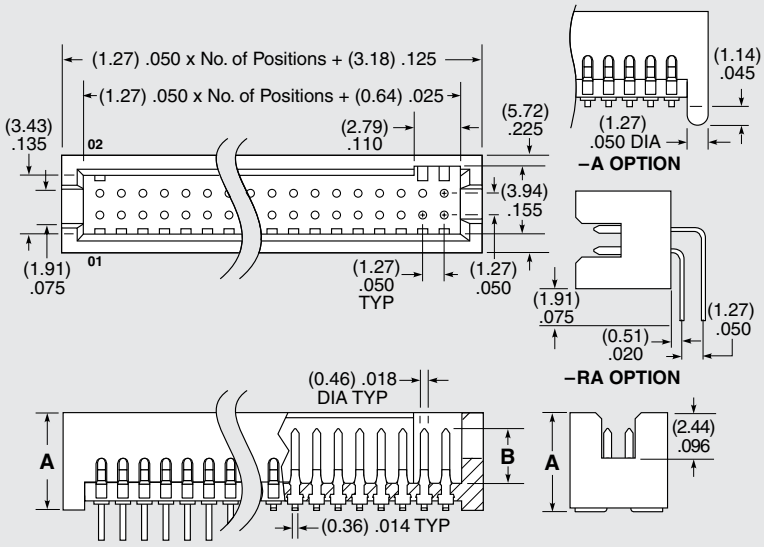
–A
= Alignment Pin

–LC
= Locking Clip (Manual Placement required) (not available with –RA)

–K
= (6.75 mm) .266" DIA Polyimide film Pick & Place Pad

–P
= Plastic Pick & Place Pad (5 positions min.)

–TR
= Tape & Reel (–X2 only)



TH LEAD STYLE	A	B
–01	(5.59) .220	(3.38) .133
–11	(7.37) .290	(3.30) .130
–21	(9.14) .360	
–31	(11.05) .435	

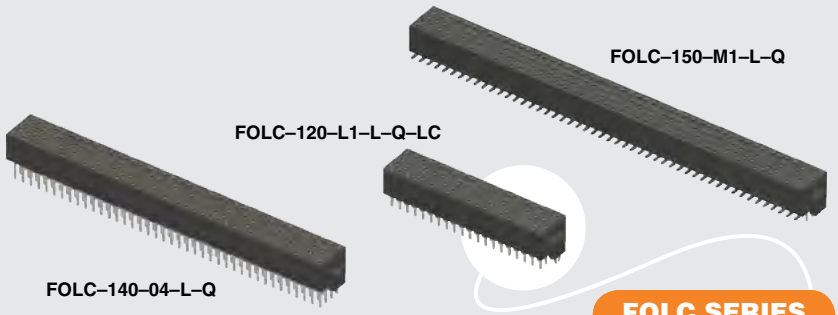
SMT LEAD STYLE	A	B
–02	(5.72) .225	(3.38) .133
–12	(7.49) .295	(3.30) .130
–22	(9.27) .365	
–32	(11.18) .440	

Note: Some sizes, styles and options are non-standard, non-returnable.

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(1.27 mm) .050"

FOLC SERIES

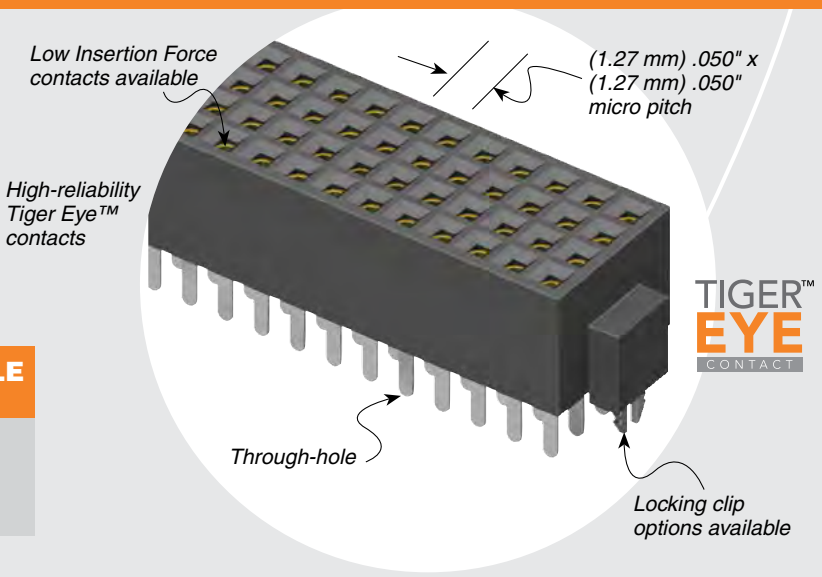
QUAD ROW TIGER EYE™ SOCKETS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FOLC

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.6 A per pin
(4 pins powered)
Voltage Rating:
165 VAC/230 VDC
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(3.30 mm) .130" to
(4.06 mm) .160"
Normal Force:
Standard= 70 grams
(0.69 N) avg.
LIF= 40 grams (0.39 N) avg.
Max Cycles:
100 with 30 µ" (0.76 µm) Au
RoHS Compliant:
Yes

Mates with:
MOLC



ALSO AVAILABLE
(MOQ Required)

- Other sizes
- Alignment pins
- Other platings

Contact Samtec.

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

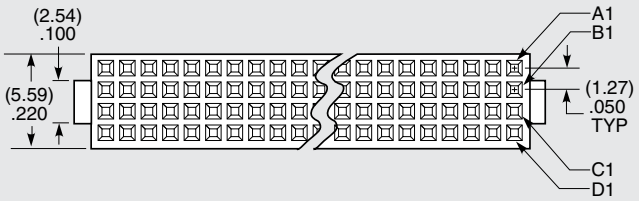
FILE NO. E111594

OTHER SOLUTIONS

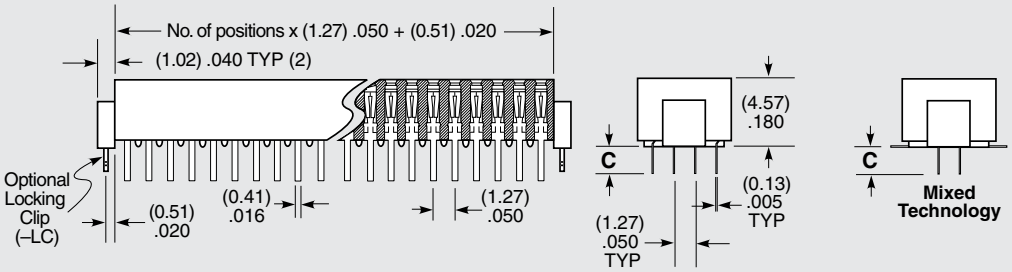
- Surface mount design with Tiger Buy™ contacts (see TOLC/SOLC Series)

Note: Some sizes, styles and options are non-standard, non-returnable.

FOLC	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	Q	–	OPTION
			20, 25, 30, 35, 40, 45, 50 (Standard sizes)		–01 & –04 = Through-hole –M1 & –M2 = Mixed Technology –L1 & –L4 = Low Insertion Force Through-hole		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–LC = Locking Clip (Manual placement required)



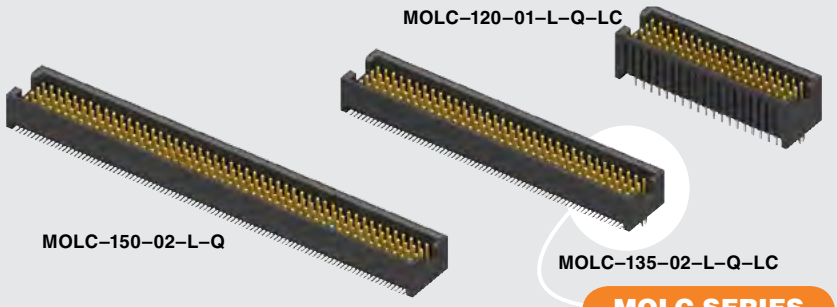
LEAD STYLE	C
–01, –M1	(1.91) .075
–04, –M2	(3.04) .120



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samtec



(1.27 mm) .050"

MOLC SERIES

QUAD ROW TERMINAL STRIP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MOLC

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
3.8 A per pin
(4 pins powered)
Voltage Rating:
165 VAC/230 VDC
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

Mates with:
FOLC

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (20-25)
(0.15 mm) .006" max (30-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

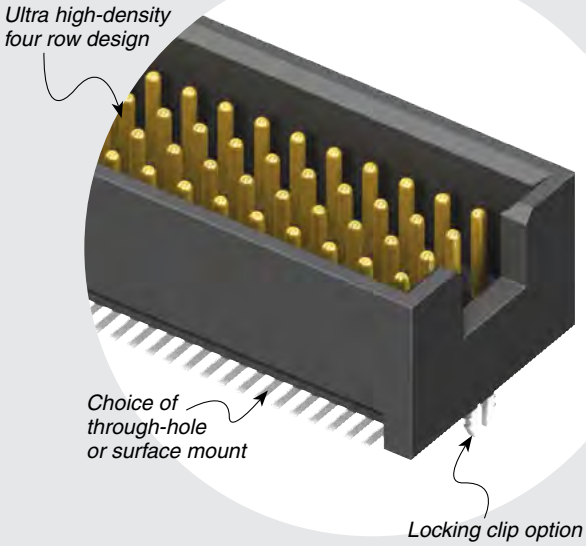
- Surface mount design with Tiger Buy™ contacts (see TOLC/SOLC Series)

ALSO AVAILABLE (MOQ Required)

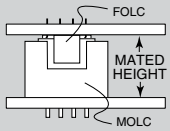
- Other sizes
- Alignment pins
- Other platings

Contact Samtec.

Note: Some sizes, styles and options are non-standard, non-returnable.



APPLICATIONS



LEAD STYLE		MATED HEIGHT*
MOLC	FOLC	
–01	–01	(5.97) .235
–11		(7.75) .305
–31		(11.43) .450

*Processing conditions will affect mated height.

MOLC	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	Q	–	OPTION

20, 25, 30, 35, 40, 45, 50
(Standard sizes)

–'X'1
= Through-hole
(Specify from chart)

–02
= Surface Mount

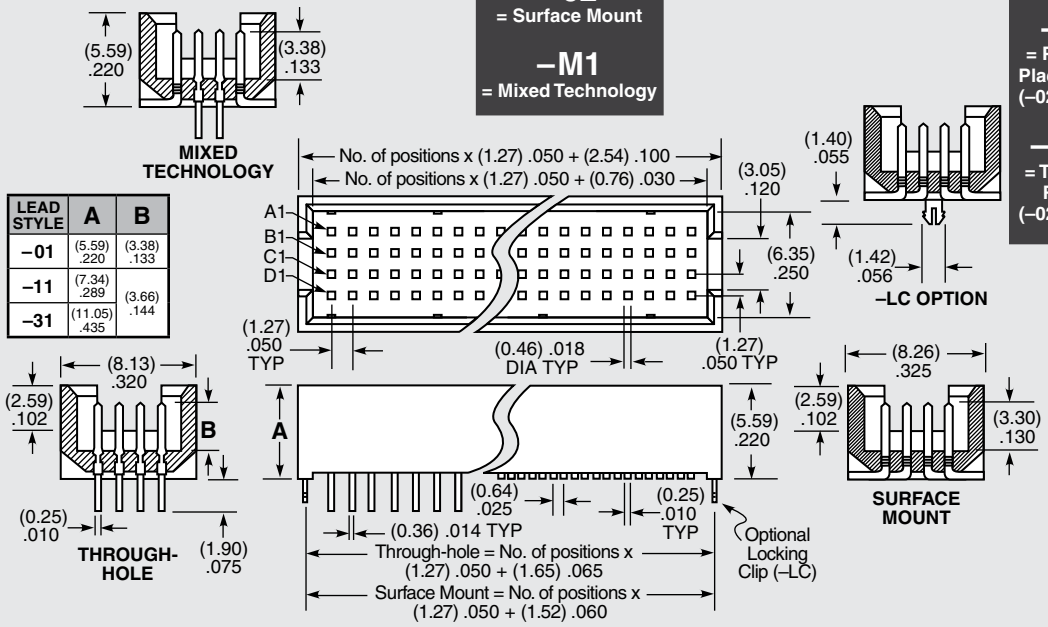
–M1
= Mixed Technology

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–LC
= Locking Clip (Manual placement required)

–P
= Pick & Place Pad (–02 only)

–TR
= Tape & Reel (–02 only)



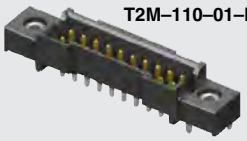
LEAD STYLE	A	B
–01	(5.59) .220	(3.38) .133
–11	(7.34) .289	(3.66) .144
–31	(11.05) .435	

Due to technical progress, all designs, specifications and components are subject to change without notice.

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TIGER™ EYE SYSTEM


T2M–110–01–L–D–TH–WT–DS


T2M–105–01–L–D–TH–WT


T2M–105–01–L–D–RA–WT


T2M–105–01–L–D–SM–WT

(2.00 mm) .0787"

T2M SERIES

HIGH-RELIABILITY CABLE HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?T2M

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (T2M/S2SD):
3.8 A per pin
(2 pins powered)
Voltage Rating:
250 VAC/350 VDC
mated with S2SD
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

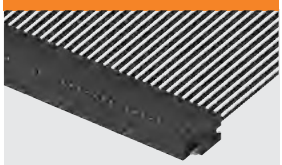
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS



See S2SD in the discrete wire section or contact Samtec.

ALSO AVAILABLE (MOQ Required)

- Other platings
  Contact Samtec.

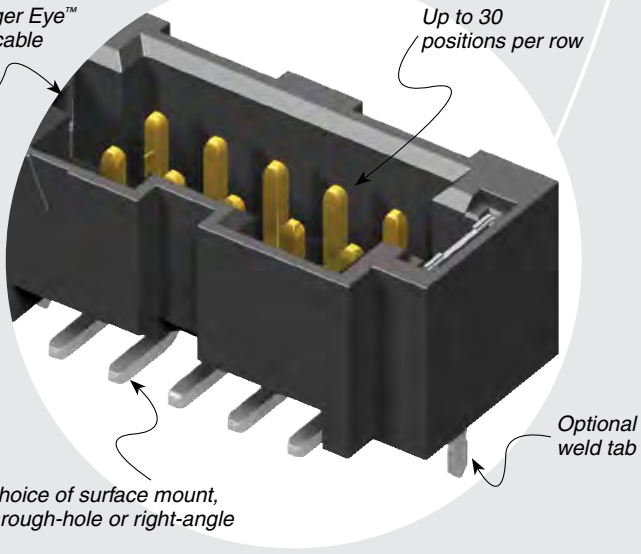
Note: Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
S2M

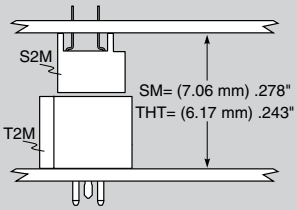
Cable Mates:
S2SD, S2SDT

RUGGEDIZED BY SAMTEC

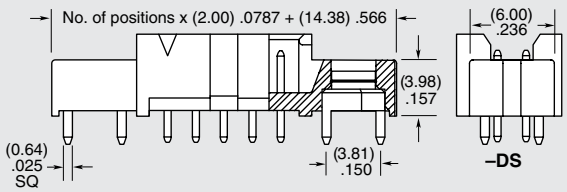
- Weld tabs

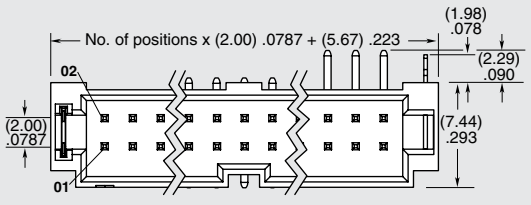


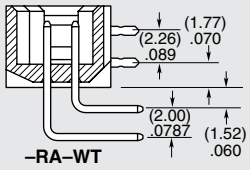
MATED HEIGHT

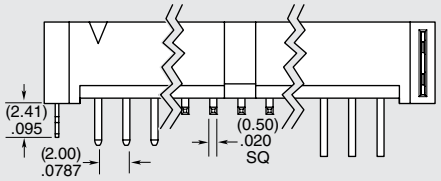


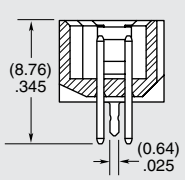
T2M	1	NO. OF POSITIONS	01	PLATING OPTION	D	OPTION	OTHER OPTION
		05, 07, 10, 15, 20, 25, 30 (Per Row)		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–TH = Through-hole –RA = Right-angle –SM = Surface Mount	–WT = Weld Tab (S2SD & S2SDT, –SR/–DR required mate) –DS = Screw Down (N/A with –RA) (mates with –S2M–DS, S2SD/S2SDT –SS/–DS option) –K = (7.50 mm) .295" DIA Polyimide film Pick & Place Pad (–SM only) –TR = Tape & Reel (–SM only)

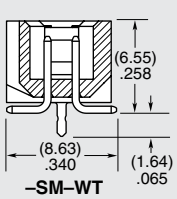












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TIGER™ EYE SYSTEM

(2.00 mm) .0787"

S2M SERIES

HIGH-RELIABILITY CABLE SOCKET


S2M–105–02–F–D


S2M–110–01–L–D


S2M–105–01–L–D–DS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?S2M

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (S2M/T2SD):
2.6 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Contact Resistance:
10 mΩ max
Insertion Depth:
(3.05 mm) .120" to
(3.25 mm) .128"
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS



See www.samtec.com?T2SD or contact Samtec.

ALSO AVAILABLE
(MOQ Required)

- Other platings

Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

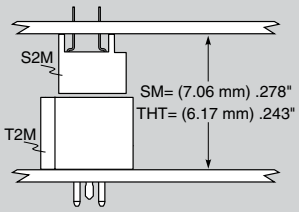
Board Mates:
T2M

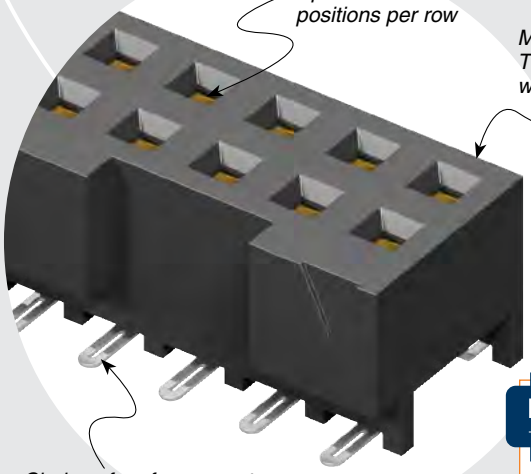
Cable Mates:
T2SD

TIGER™ EYE CONTACT



MATED HEIGHT





RUGGEDIZED BY SAMTEC

- Locking clip

S2M	–	1	NO. OF POSITIONS	–	LEAD STYLE	–	PLATING OPTION	–	D	–	OPTION	–	OTHER OPTION

05, 07, 10, 15, 20, 25, 30
(Per Row)

–01
= Through-hole

–02
= Surface Mount

–F
= Gold flash on contact, Matte Tin on tail

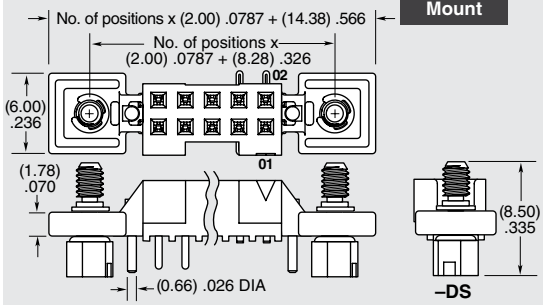
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

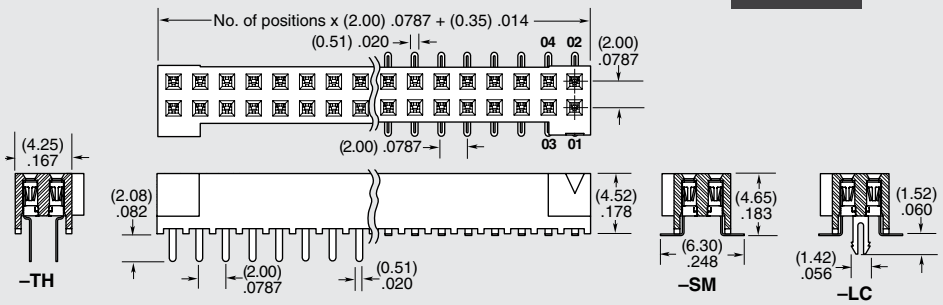
–K
= (5.50 mm) .217" DIA Polyimide film Pick & Place Pad (–SM only)

–LC
= Locking Clip (Manual placement required) (–SM only)

–DS
= Screw Down (N/A with–LC) (mates with –T2M–DS)

–TR
= Tape & Reel Packaging



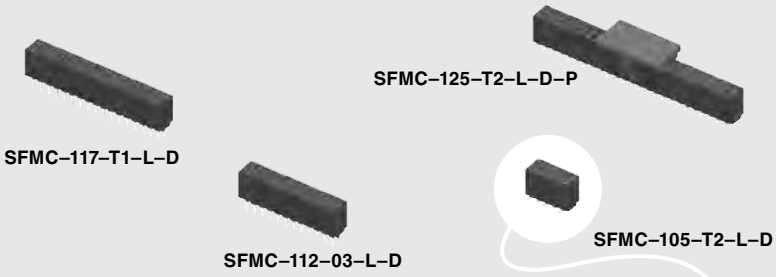


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TIGER™ EYE SYSTEM



(1.27 mm) .050"

SFMC SERIES

FLEXIBLE PIN COUNT TIGER EYE™ SOCKETS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SFMC

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Tiger Eye™ = BeCu
Tiger Eye™ LITE= Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.9 A per pin
(2 pins powered)
Voltage Rating:
220 VAC/310 VDC
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(3.05 mm) .120" to
(4.06 mm) .160"
Normal Force:
Standard= 132 g (1.29 N) avg.
LIF= 90 g (0.88 N) avg.
Max Cycles:
10,000 with 30 µ" (0.76 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-26)
(0.15 mm) .006" max (27-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE
(MOQ Required)

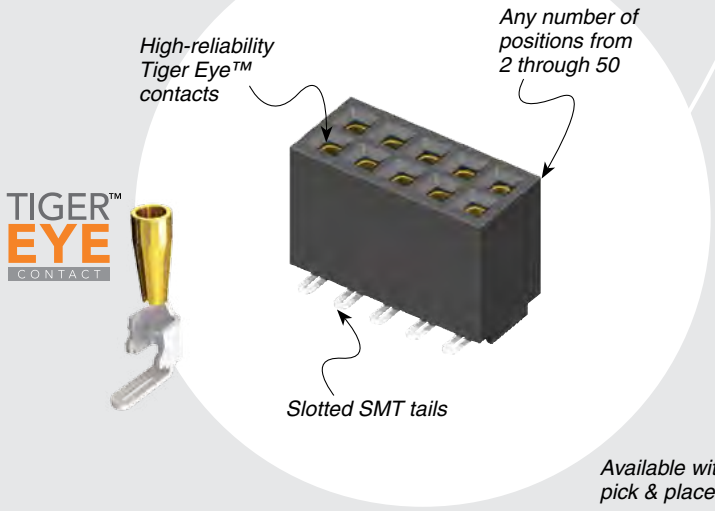
- Other platings
  Contact Samtec.

Note: Some sizes, styles and options are non-standard, non-returnable.

Board Mates:
TFM

Cable Mates:
FMTP, FFMD*

***Note:** Standard FFMD callout will not mate with FLE, SFMC. Must use gold plated callouts. (See drawing on web.)



SFMC	– 1	NO. PINS PER ROW	– LEAD STYLE	– PLATING OPTION	– D – OPTION

02 thru 50

–01, –03
= Through-hole

–L1, –L3
= Low Insertion Force Through-hole

–02
= Surface Mount

–L2
= Low Insertion Force Surface Mount

–T1
= Through-hole Tiger Eye™ LITE

–T2
= Surface Mount Tiger Eye™ LITE

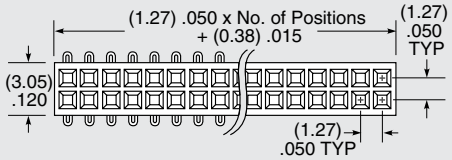
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

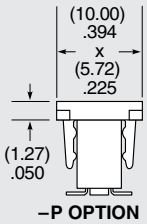
–K
= (4.00 mm) .157 DIA Polyimide film Pick & Place Pad (4 positions minimum)

–P
= Plastic Pick & Place Pad (5 positions minimum)

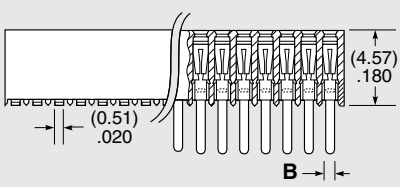
–TR
= Tape & Reel

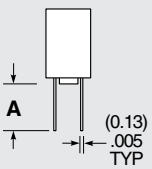
LEAD STYLE	A	B
–01, –L1, –T1	(3.05) .120	(0.51) .020
–03, –L3	(1.91) .075	(0.41) .016

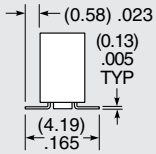




–P OPTION









DISCRETE WIRE

0.80 mm pitch Tiger Eye™ System (ISDE, CC396, SESDT) 212-213
1.00 mm Pitch System (ISS1, ISD1, CC09, S1SX) 214-217
.050" Pitch Tiger Eye™ Systems (SFSX, ISDF, CC03) 218-220
2.00 mm Pitch Tiger Eye™ Systems (S2SD, ISD2, CC81) 221-222
Mini Mate® System (IPD1, CC79, PK-79, IPL1, MMSXT) 223-225
Power Mate® System (IPBD, CC69, PMSX) 226-227
PowerStrip™/30 System (MPSS, MPCC) 228-229
PowerStrip™/40 System (PESS) 230

APPLICATIONS

Rugged Tiger Eye™ Discrete Wire Systems 32-33
Micro & Power Discrete Wire Systems and Components 34-35

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TEM–110–02–03.0–G–D–L1





ISDE–10–D–L



CC396–3234–G–R

(0.80 mm) .0315"

ISDE, CC396, TEM-L1 SERIES

DISCRETE WIRE COMPONENTS & TOOLING

SPECIFICATIONS

For complete specifications see www.samtec.com?ISDE or www.samtec.com?CC396

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

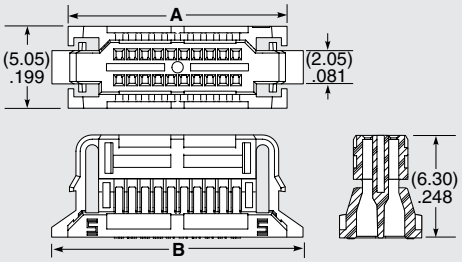
TOOLING

- Hand tool: CAT-HT-396-3232-12
- Mini Applicator: CAT-MC-396-3232-XX-03

Note: Some lengths, styles and options are non-standard, non-returnable.

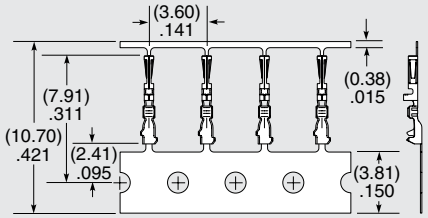
TYPE	POSITIONS PER ROW	D	L
ISDE = Housing	–05, –10, –15, –20 (Standard sizes)	–D = Dual Row	–L = Latch

POSITIONS PER ROW	A	B
–05	(9.50) .374	(11.50) .453
–10	(13.50) .531	(15.50) .610
–15	(17.50) .689	(19.50) .768
–20	(21.50) .846	(23.50) .925



Insulator Material: Natural Nylon

TYPE	WIRE GAUGE	PLATING	REEL OPTION
CC396 = Contact	–3234 = 32 to 34 AWG	–G = 10 µ" (0.25 µm) Gold on contact area, 3 µ" (0.08 µm) Gold on tail	–U = Micro Reel (4K Contacts) –M = Mini Reel (15K Contacts) –R = Reel (50K Contacts)



Contact Material: Phosphor Bronze

Mates with:
SESDT

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TEM

Insulator Material: Natural Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Plating: Au over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +125 °C
RoHS Compliant: Yes

PROCESSING

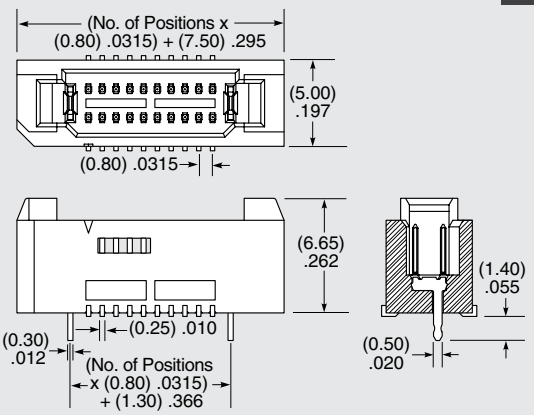
Lead-Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

TEM	1	POSITIONS PER ROW	02	03.0	PLATING OPTION	D	L1	OPTION
		05, 10, 15, 20			–G = 10 µ" (0.25 µm) Gold on contact, Gold Flash on tail		–L1 = Latching	–K = (5.50 mm) .217" DIA Polyimide film Pick & Place Pad –TR = Tape & Reel



OTHER SOLUTIONS

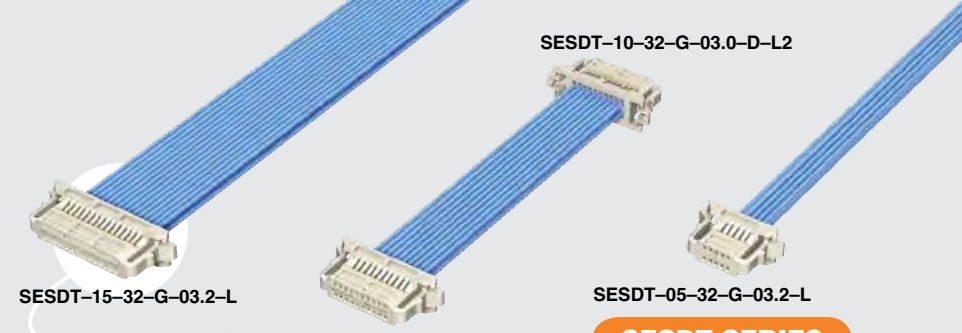
- For TEM board stacking options, see www.samtec.com?TEM

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TIGER™ EYE SYSTEM



(0.80 mm) .0315"

SESDT SERIES

DISCRETE WIRE CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?SESDT

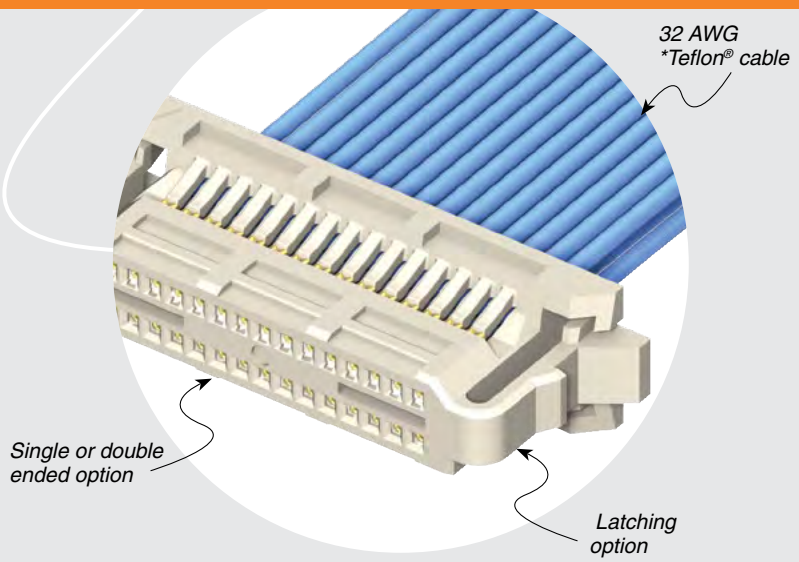
Insulator Material:
Natural Nylon
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Wire:
Tinned Copper
Wire Insulation:
FEP
Operating Temp Range:
-55 °C to +125 °C
Current Rating:
1.9 A per pin
(2 pins powered)
Voltage Rating:
200 VAC/280 VDC
RoHS Compliant:
Yes

RECOGNITIONS

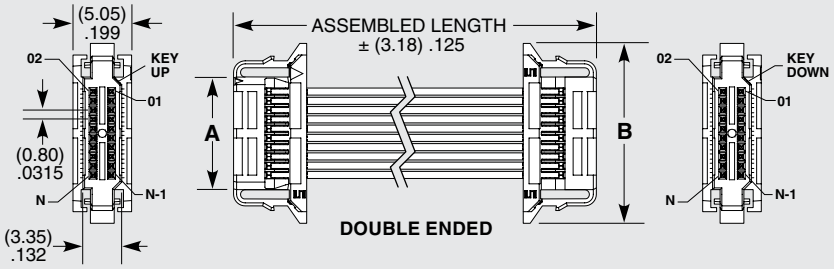
For complete scope of recognitions see www.samtec.com/quality

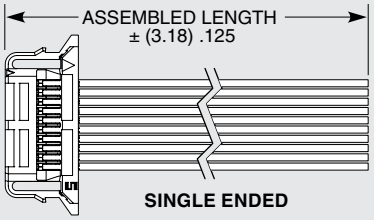
FILE NO. E111594

Mates with:
TEM-L1



TYPE STRIP	POSITIONS PER ROW	32	PLATING OPTION	ASSEMBLED LENGTH	OPTION
SESDT = Double Row *Teflon® Cable (32 AWG)	–05, –10, –15, –20		–G = 10 µ" (0.25 µm) Gold on contact area, 3 µ" (0.08 µm) Gold on tail	–"XX.X" = Assembled Length in Inches (76.2 mm) 03.0" min.	Double Ended Assemblies –L1 = Pin 1 to Pin 1; –L2 = Pin 1 to Pin 2; –L3 = Pin 1 to Pin N; –L4 = Pin 1 to Pin N-1 Single Ended Assembly –L = Latching





POSITIONS PER ROW	N	N-1	A	B
–05	10	09	(11.50) .453	(5.70) .224
–10	20	19	(15.50) .610	(9.70) .382
–15	30	29	(19.50) .768	(13.70) .539
–20	40	39	(23.50) .925	(27.70) .697

Notes:
Patent Pending

*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.

Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applications.

Some lengths, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
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T1M–07–F–SV–L



T1M–05–F–SH–L



ISS1–10–L



CC09R–01–GF

(1.00 mm) .0394"

ISS1, CC09R, CC09M, T1M SERIES

DISCRETE WIRE COMPONENTS & TOOLING

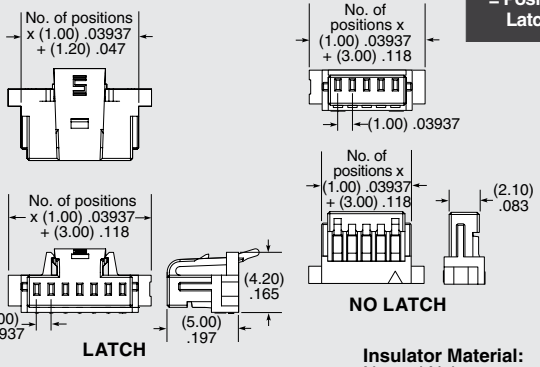
SPECIFICATIONS

For complete specifications see www.samtec.com?ISS1, www.samtec.com?CC09R or www.samtec.com?CC09M

TOOLING

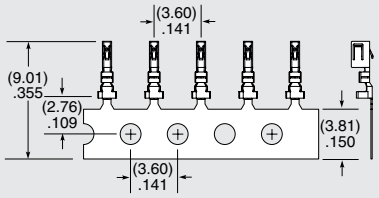
- Hand tool: CAT-HT-309-2830-12
- Clamp for mounting hand tool to work table: CAT-HT-MNT-01
- Mini Applicator: CAT-MA-309-2830-XX-01

TYPE	NO. OF POSITIONS	LATCH
ISS1 = Single Row Body	–02, –03, –05, –07, –10, –15, –20	(Leave blank for no latch) –L = Positive Latch



Insulator Material: Natural Nylon

TYPE	01	PLATING
CC09R = Contact, Full Reel (30,000 Parts per Reel) CC09M = Contact, Mini Reel (5,000 Parts per Reel)		–GF = 3 µ" (0.07 µm) Gold contact and tail –T = Tin



Contact Material: Phosphor Bronze

Mates with:
S1SS(T)

SPECIFICATIONS

For complete specifications see www.samtec.com?T1M

Insulator Material: Natural LCP
Terminal Material: Phosphor Bronze
Weld Tab: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +85 °C
Current Rating (S1SS (28 AWG)/T1M): 3.3 A per pin (1 pin powered)
Voltage Rating: 250 VAC/353 VDC
RoHS Compliant: Yes

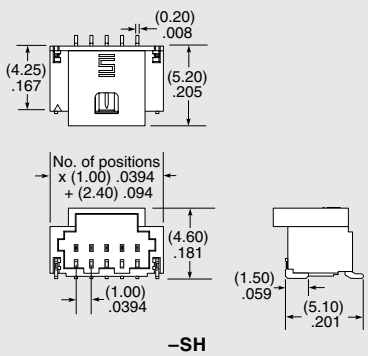
RECOGNITIONS

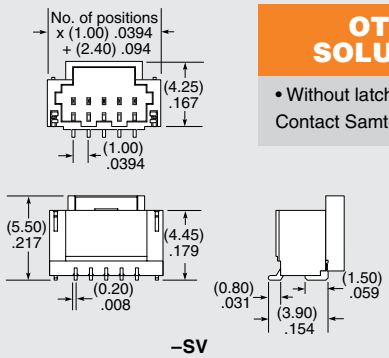
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note: Some lengths, styles and options are non-standard, non-returnable.

T1M	NO. OF POSITIONS	PLATING OPTION	ROW OPTION	LATCH	OPTION
	–02, –03, –05, –07, –10, –15, –20	–F = 3 µ" (0.07 µm) Gold on contact, Matte Tin on tail –T = Tin	–SH = Single Row Horizontal –SV = Single Row Vertical	(Required in callout) –L = Positive Latch	–K = (4.00 mm) .157" DIA Polyimide Film Pick & Place Pad (–SH only) –P = Pick & Place Pad (–SV only)





OTHER SOLUTIONS

- Without latch
Contact Samtec.

Due to technical progress, all designs, specifications and components are subject to change without notice.

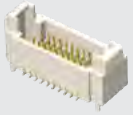
WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

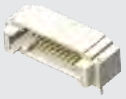
samtec



ISD1-10



T1M–10–GF–DV



T1M–10–GF–DH



CC09R–01–GF

(1.00 mm) .0394"

ISD1, CC09R, CC09M, T1M SERIES

DISCRETE WIRE COMPONENTS & TOOLING

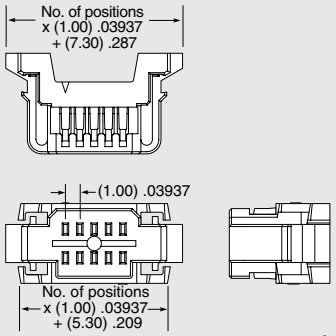
SPECIFICATIONS

For complete specifications see www.samtec.com?ISD1, www.samtec.com?CC09R or www.samtec.com?CC09M

TOOLING

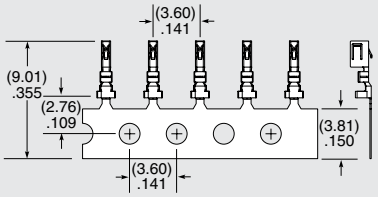
- Hand tool: CAT-HT-309-2830-12
- Clamp for mounting hand tool to work table: CAT-HT-MNT-01
- Mini Applicator: CAT-MA-309-2830-XX-01

TYPE	NO. OF POSITIONS
ISD1 = Double Row Body	**–02, –03, –04, –05, –10** (Per Row)



Insulator Material: Natural Nylon

TYPE	01	PLATING
CC09R = Contact, Full Reel (30,000 Parts per Reel) **CC09M** = Contact, Mini Reel (5,000 Parts per Reel)		**–GF** = 3 µ" (0.07 µm) Gold contact and tail **–T** = Tin



Contact Material: Phosphor Bronze

Mates with:
S1SD(T)

SPECIFICATIONS

For complete specifications see www.samtec.com?T1M

Insulator Material: Natural LCP
Terminal Material: Phosphor Bronze
Weld Tab: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +85 °C
Current Rating S1SD (28 AWG)/T1M): 3.3 A per pin (1 pin powered)
Voltage Rating: 250 VAC/353 VDC
RoHS Compliant: Yes

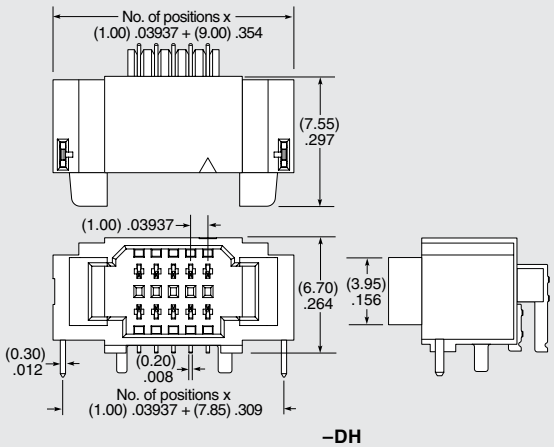
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

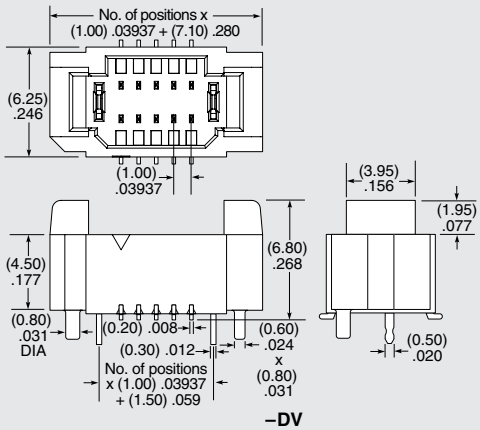
FILE NO. E111594

Note: Some lengths, styles and options are non-standard, non-returnable.

T1M	NO. OF POSITIONS	PLATING OPTION	ROW OPTION	OPTION
	–02, –03, –04, –05, –10 (Per Row)	**–GF** = 3 µ" (0.07 µm) Gold contact and tail **–T** = Tin	**–DH** = Double Row Horizontal **–DV** = Double Row Vertical	**–K** = (4.00 mm) .157" DIA Polyimide Film Pick & Place Pad (–DV only)



–DH



–DV

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S1SST–20–28–GF–03.00–D–NUS



S1SS–10–28–GF–03.00–L1

(1.00 mm) .03937"

S1SS, S1SST SERIES

MICRO CABLE ASSEMBLY

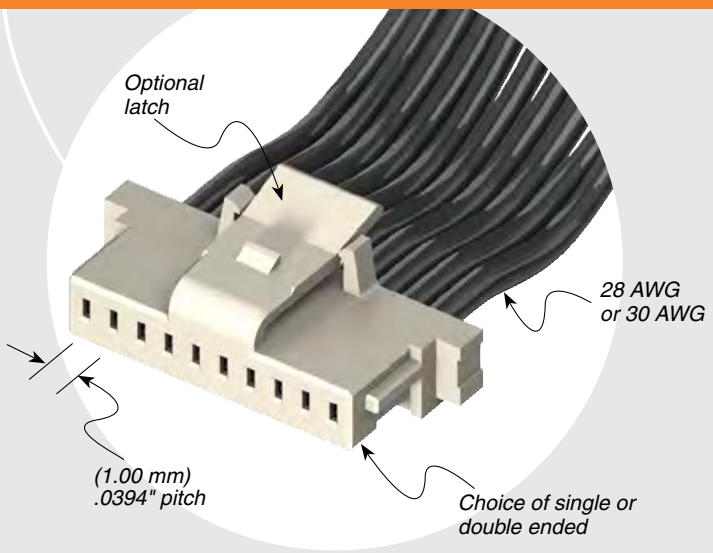
SPECIFICATIONS

For complete specifications see www.samtec.com?S1SS or www.samtec.com?S1SST

Insulator Material:
Nylon, White (with latch)
Black, LCP (without latch)
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-10 °C to +80 °C (PVC)
-40 °C to +125 °C (Teflon®)
Current Rating (28 AWG):
3.3 A per pin
(1 pin powered)
Voltage Rating:
250 VAC/353 VDC
Wire:
28 or 30 AWG
RoHS Compliant:
Yes

*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.

Mates with:
T1M



RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other sizes

Contact Samtec.

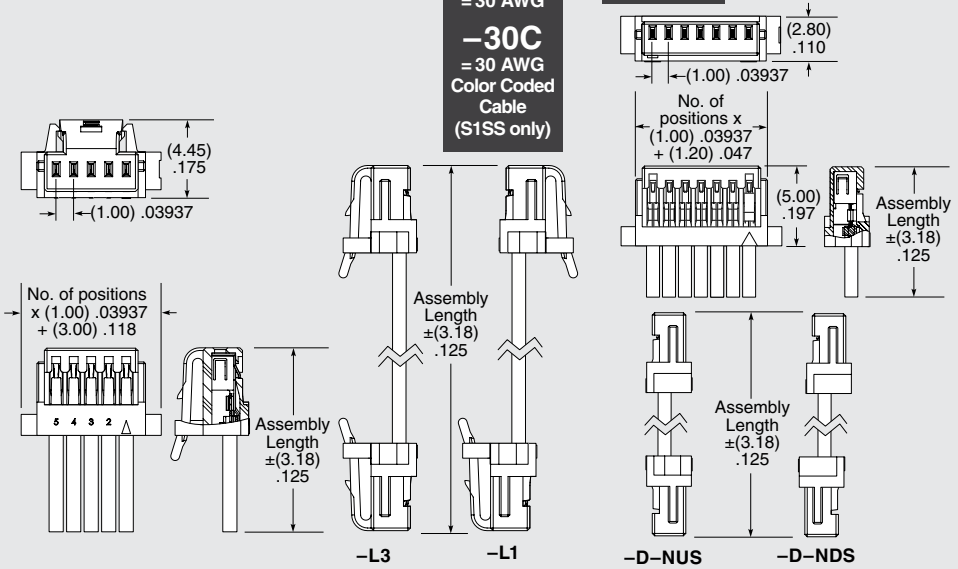
APPLICATION

S1SS CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GRAY
9	WHITE
10	BLACK
ETC	REPEAT

Notes:
Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applications.

Some lengths, styles and options are non-standard, non-returnable.

TYPE	NO. OF POSITIONS	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	OPTION
S1SS = Single Row PVC Cable **S1SST** = Single Row *Teflon® Cable (28 AWG only)	–02, –03, –05, –07, –10 –15, –20 (Standard sizes)	**–28** = 28 AWG **–28C** = 28 AWG Color Coded Cable (S1SS only) **–30** = 30 AWG **–30C** = 30 AWG Color Coded Cable (S1SS only)	**–GF** = 3 µ" (0.07 µm) Gold, 50 µ" (1.27 µm) Ni on contact and tail **–T** = Tin	**–"XX.XX"** = Assembled Length in Inches (45.72 mm) 01.80" min.	(Required Callout) **–L** = Single Ended With Latch **–L1** = Double Ended Latch down, straight (Pin 1 to Pin 1) **–L3** = Double Ended Latch up, straight (Pin 1 to Pin N) **–S** = Single Ended No Latch **–D–NUS** = Double Ended No Latch, "N" up, straight **–D–NDS** = Double Ended No Latch, "N" down, straight



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S1SDT–05–28–GF–03.00–L1



S1SD–10–28–GF–03.00–L1

(1.00 mm) .03937"

S1SD, S1SDT SERIES

MICRO CABLE ASSEMBLY

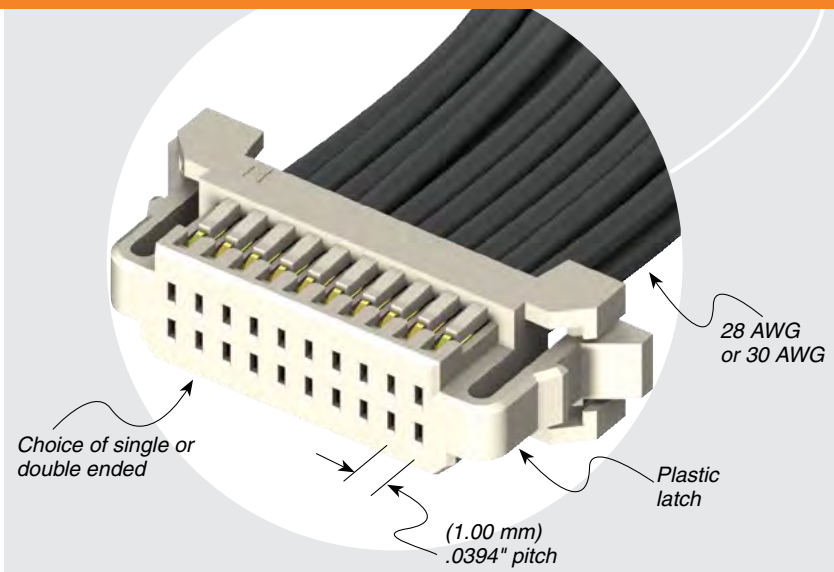
SPECIFICATIONS

For complete specifications see www.samtec.com?S1SD or www.samtec.com?S1SDT

Insulator Material:
Natural Nylon
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-10 °C to +80 °C (PVC)
-40 °C to +125 °C (Teflon®)
Current Rating (28 AWG):
3.3 A per pin
(2 pins powered)
Voltage Rating:
250 VAC/353 VDC
Wire:
28 or 30 AWG
RoHS Compliant:
Yes

*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.

Mates with:
T1M



RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

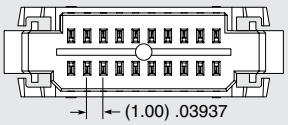
ALSO AVAILABLE (MOQ Required)

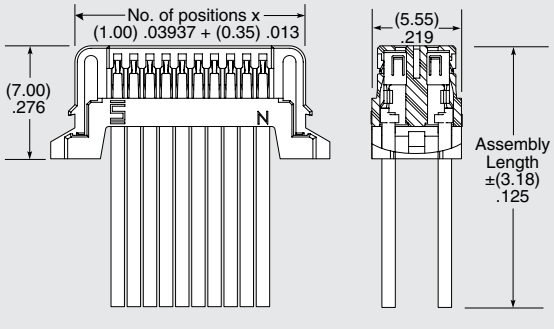
- Other sizes
- Color coded cable (*Teflon® N/A)

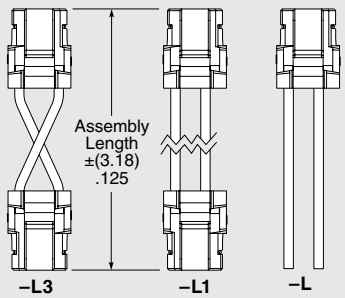
Contact Samtec.

TYPE STRIP	POSITIONS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	WIRING OPTION
S1SD = Double Row PVC Cable **S1SDT** = Double Row *Teflon® Cable (28 AWG only)	–02, -03 –04, –05, –10, –20 (Standard sizes)	–28 = 28 AWG –30 = 30 AWG	–GF = 3 µ" (0.07 µm) Gold, 50 µ" (1.27 µm) Ni on contact and tail –T = Tin	–"XX.XX" = Assembled Length in Inches (45.72 mm) 01.80" min.	Double Ended Assemblies –L1 = Pin 1 to Pin 1 –L2 = Pin 1 to Pin 2 –L3 = Pin 1 to Pin N –L4 = Pin 1 to Pin N-1 Single Ended Assembly –L = Latching

–20 POSITIONS PRELIMINARY







Notes:
Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applications.

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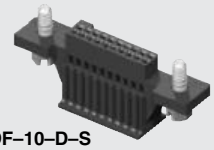
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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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TIGER™ EYE SYSTEM

(1.27 mm) .050"


ISDF–07–D–M


ISDF–10–D–S


CC03R–2830–01–G

ISDF, CC03R, CC03M, TFM SERIES

DISCRETE WIRE COMPONENTS & TOOLING

SPECIFICATIONS

For complete specifications see www.samtec.com?ISDF, www.samtec.com?CC03R or www.samtec.com?CC03M

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

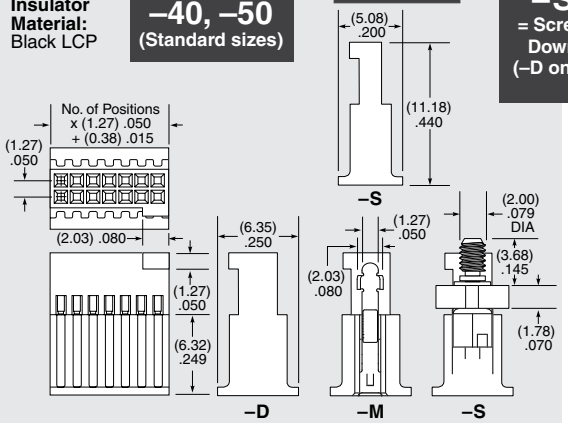
TOOLING

- Hand tool: CAT-HT-203-2830-12
- Clamp for mounting hand tool to work table: CAT-HT-MNT-01
- Mini Applicator: CAT-MC-203-2830-XX-01
- Extraction tool: CAT-EX-169-01

Note: Some lengths, styles and options are non-standard, non-returnable.

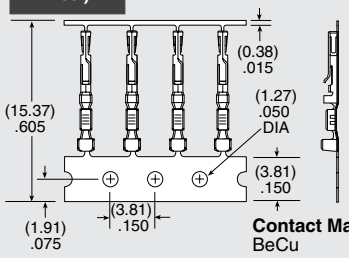
TYPE	POSITIONS PER ROW	ROW OPTION	OPTION
ISDF = Housing	–03, –04, –05, –07, –10, –15, –20, –25, –40, –50 (Standard sizes)	–S = Single Row –D = Double Row	–M = Metal Retention Latch –S = Screw Down (–D only)

Insulator Material: Black LCP



TYPE	WIRE GAUGE	01	PLATING
CC03R = Contact, Full Reel (35,000 Parts per Reel) CC03M = Contact, Mini Reel (1,000-5,000 Parts per Reel)	–2830 = 28 to 30 AWG		–GF = Gold flash on contact –G = 10 µ" (0.25 µm) Gold on contact

TIGER™ EYE CONTACT



Contact Material: BeCu

Mates with: SFSD(T), SFSS(T)

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TFM

Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Voltage Rating: 250 VAC mated with SFM
Operating Temp Range: -55 °C to +125 °C
RoHS Compliant: Yes

PROCESSING

Lead-Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max (05-25) (0.15 mm) .006" max (30-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

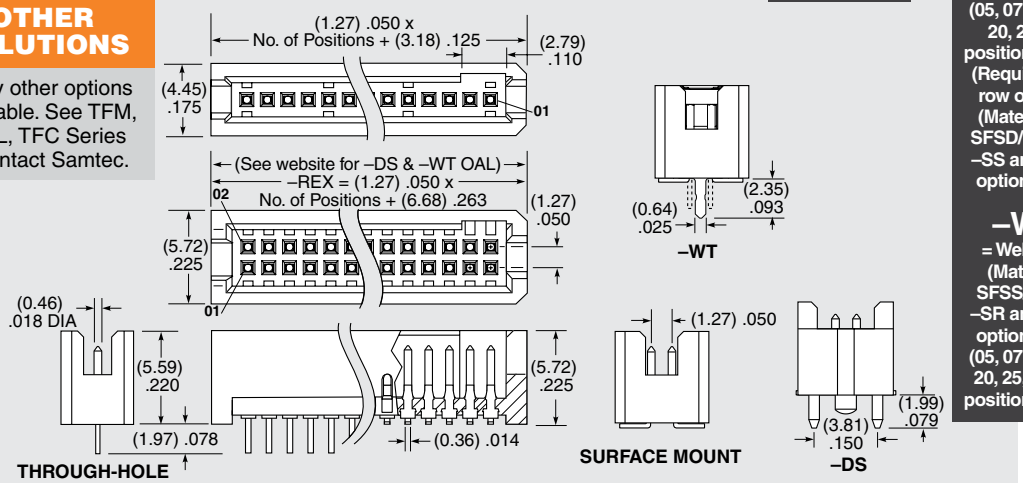
FILE NO. E111594

FILE NO: 090871_0_000

OTHER SOLUTIONS

- Many other options available. See TFM, TFML, TFC Series or contact Samtec.

TFM	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OPTION
		03, 04, 05, 07, 10, 15, 20, 25, 40, 50	–01 = Through-hole –02 = Surface Mount	–L = 15 µ" (0.38 µm) Gold on post, Matte Tin on tail	–S = Single Row –D = Double Row	–DS = Dual Screw Down for (1.60 mm) .062" PCB (05, 07, 10, 15, 20, 25, 40 positions only) (Requires –D row option) (Mates with SFSD/SFSDT –SS and –DS option only) –WT = Weld Tab (Mates to SFSS/SFSD –SR and –DR option only) (05, 07, 10, 15, 20, 25, 40, 50 positions only)



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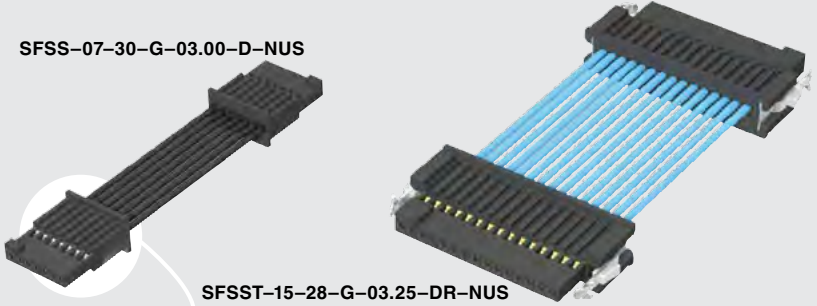
samtec

TIGER™ EYE DISCRETE

(1.27 mm) .050"

SFSS, SFSST SERIES

TIGER EYE™ DISCRETE CABLE ASSEMBLY



SPECIFICATIONS

For complete specifications see www.samtec.com?SFSS or www.samtec.com?SFSST

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-10 °C to +80 °C (PVC)
-40 °C to +125 °C (*Teflon®)
Current Rating:
2.9 A per pin (2 pins powered)
Voltage Rating:
275 VAC (PVC)
235 VAC (*Teflon®)
Wire: 28 or 30 AWG
RoHS Compliant: Yes

*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATION

–28C CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	VIOLET
7	GRAY
8	WHITE
9	BLACK
10	BLUE
ETC	REPEAT

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Locking feature for mating to the TFML Series
- Color coded cable (*Teflon® N/A)
- Other plating options

Contact Samtec.

Notes:
For wiring option and pin position location information, refer to drawings on web.

Some lengths, styles and options are non-standard, non-returnable.

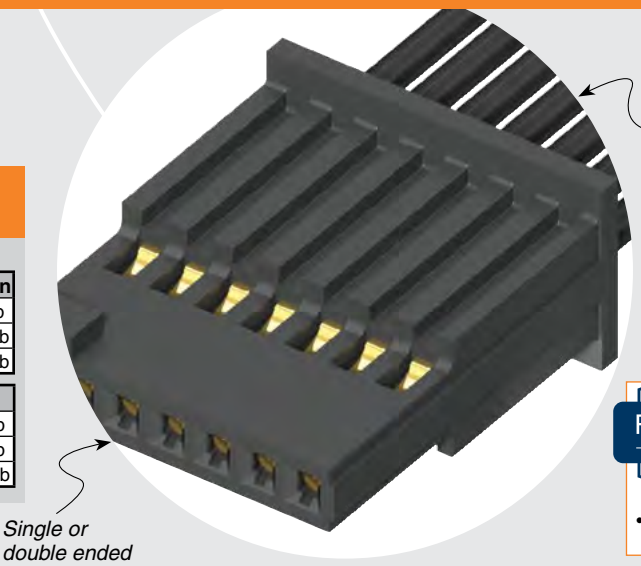
Mates with:
TFM, TFC
(–SR & –DR requires –WT option)

–SR/–DR APPLICATIONS

When Mated to TFM-WT

Terminal/Housing Retention	
Min	(22.25 N) 5.0 lb
Max	(26.52 N) 5.96 lb
Avg	(24.34 N) 5.47 lb

Wire/Crimp Retention	
Min	(20.47 N) 4.6 lb
Max	(36.49 N) 8.2 lb
Avg	(29.95 N) 6.73 lb

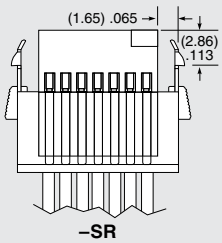


RUGGEDIZED BY SAMTEC

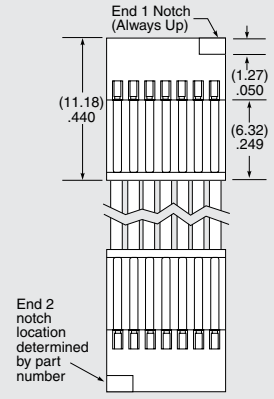
- Retention latch option

TYPE STRIP	POSITIONS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	END OPTION	END 2 OPTION
SFSS = Single Row PVC Cable **SFSST** = Single Row *Teflon® Cable	–03, –04, –05, –07, –10, –15, –20, –25, –40, –50 (Standard sizes)	–28 = 28 AWG –28C = Color Coded Cable (SFSS only) –30 = 30 AWG	–G = 10 µ" (0.25 µm) Gold on contact, Gold Flash on balance	–"XX.XX" = Assembled Length in Inches (76.20 mm) 03.00" min. for –S end option (82.60 mm) 03.25" min. for –D end option	–S = Single Ended –D = Double Ended –SR = Single Ended Retention Latch (TFM -WT option required for mating) –DR = Double Ended Retention Latch (TFM -WT option required for mating)	Requires –D or –DR (End 1 Notch Up) –NUS = Notch up, straight (Pin 1 to Pin N) –NDS = Notch down, straight (Pin 1 to Pin 1)

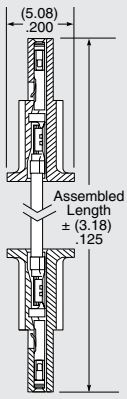
Note:
Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applicators.



–SR



–D–NUS

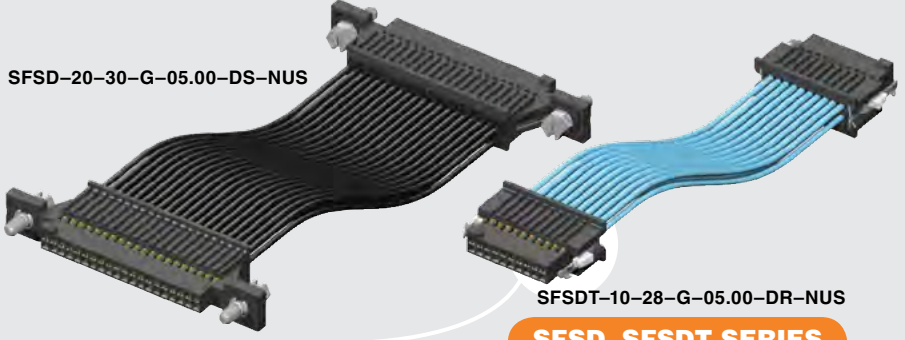


SFSS or SFSST

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

TIGER™ EYE DISCRETE



(1.27 mm) .050"

SFSD, SFSDT SERIES

TIGER EYE™ DISCRETE CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?SFSD or www.samtec.com?SFSDT

Insulator Material: Black LCP
Contact Material: BeCu
Plating: Au over 50 µ" (1.27 µm) Ni
Current Rating (SFSD/TFC): 2.9 A per pin (2 pins powered)
Operating Temp Range: -10 °C to +80 °C (PVC) -40 °C to +125 °C (*Teflon®)
Voltage Rating: 275 VAC (PVC) 235 VAC (*Teflon®)
Wire: 28 or 30 AWG
RoHS Compliant: Yes

*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATION

–28C CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	VIOLET
7	GRAY
8	WHITE
9	BLACK
10	BLUE
ETC	REPEAT

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Locking feature for mating to the TFML Series
- Color coded cable (*Teflon® N/A)
- Other plating options

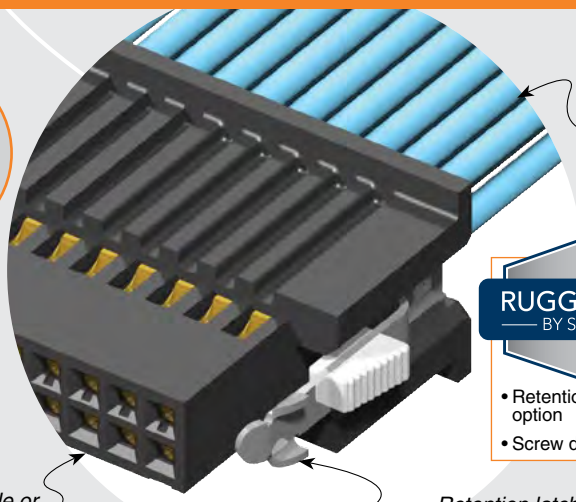
Contact Samtec.

Notes:
For wiring option and pin position location information, refer to drawings on web.

Some lengths, styles and options are non-standard, non-returnable.

Mates with:
TFM, TFC
(–SR & –DR requires –WT option)





RUGGEDIZED BY SAMTEC
- Retention latch option
- Screw down option

–SR/–DR APPLICATIONS

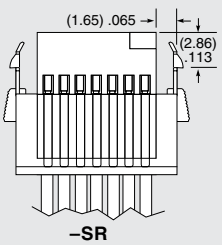
When Mated to TFM-WT

Terminal/Housing Retention	
Min	(22.25 N) 5.0 lb
Max	(26.52 N) 5.96 lb
Avg	(24.34 N) 5.47 lb

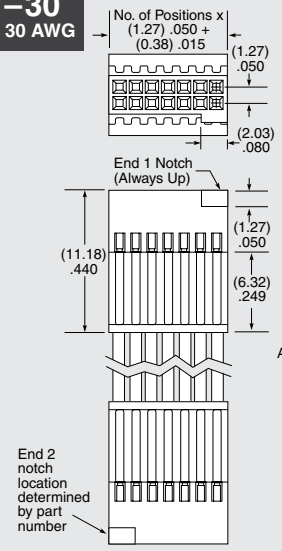
Wire/Crimp Retention	
Min	(20.47 N) 4.6 lb
Max	(36.49 N) 8.2 lb
Avg	(29.95 N) 6.73 lb

TYPE STRIP	POSITIONS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	END OPTION	END 2 OPTION
SFSD = Double Row PVC Cable **SFSDT** = Double Row *Teflon® Cable	–03, –04, –05, –07, –10, –15, –20, –25, –40, –50 (Standard sizes)	–28 = 28 AWG –28C = Color Coded Cable (SFSD only) –30 = 30 AWG	–G = 10 µ" (0.25 µm) Gold on contact, Gold Flash on balance	–"XX.XX" = Assembled Length in Inches (76.20 mm) 03.00" min. for –S end option (82.60 mm) 03.25" min. for –D end option	–S = Single Ended –D = Double Ended For –(X) specify "S" for single ended and "D" for double ended. –(X)R = Retention Latch (TFM -WT option required for mating) –(X)S = Screw Down (Not available in -03, -04 & -50 positions) (Mates with TFM-DS option)	Requires –D, –DS, –DR (End 1 Notch Up) –NUS = Notch up, straight (Pin 1 to Pin N-1) –NDS = Notch down, straight (Pin 1 to Pin 2) –NUX = Notch up, crossed (Pin 1 to Pin N) –NDX = Notch down, crossed (Pin 1 to Pin 1)

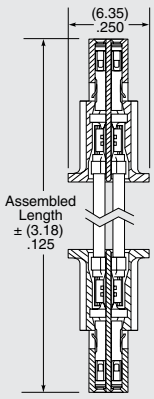
Note:
Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applicators.



–SR



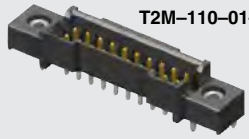
–D–NUS



SFSD or SFSDT

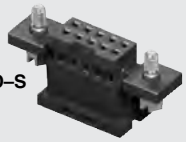
samtec

TIGER™ EYE DISCRETE


T2M–110–01–L–D–TH–WT–DS


ISD2–05–D


T2M–105–01–L–D–RA–WT


ISD2–05–D–S


CC81–2426–01–L

(2.00 mm) .0787"

ISD2, CC81L, CC81R, T2M SERIES

DISCRETE WIRE COMPONENTS & TOOLING

SPECIFICATIONS

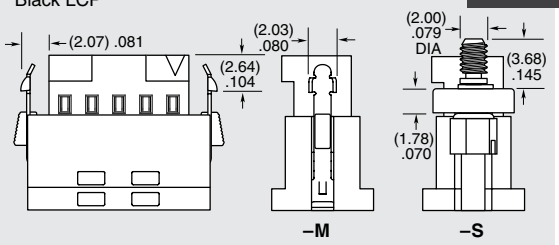
For complete specifications see www.samtec.com?ISD2 www.samtec.com?CC81L or www.samtec.com?CC81R

TOOLING

- Hand tool: CAT-HT-281-2430-13
- Mini Applicator (24-26 AWG): CAT-MC-281-2426-XX-01
- Mini Applicator (28-30 AWG): CAT-MC-281-2830-XX-01
- Extraction tool: CAT-EX-169-01

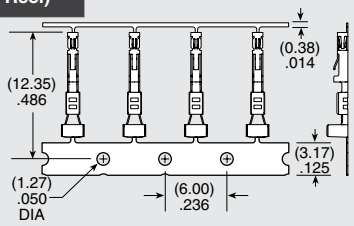
TYPE	POSITIONS PER ROW	ROW OPTION	LATCH OPTION
ISD2 = Body, Loose	–05, –07, –10, –15, –20, –25, –30 (Standard sizes)	–D = Double Row	–M = Metal Retention Latch –S = Screw Down

Insulator Material:
Black LCP



TYPE	WIRE GAUGE	01	L
CC81L = Contact, Loose CC81R = Contact, Full Reel (17,000 Parts per Reel)	–2426 = 24 to 26 AWG –2830 = 28 to 30 AWG		–L = 10 µ" (0.25 µm) Gold on contact

Contact Material:
BeCu



Board Mate:
S2M

Cable Mate:
S2SD, S2SDT

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?T2M

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

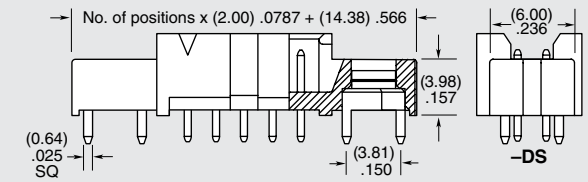
RECOGNITIONS

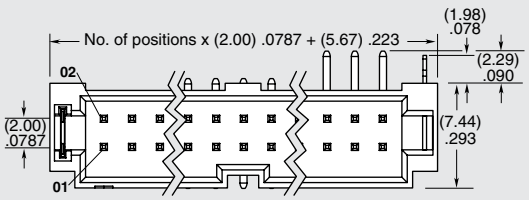
For complete scope of recognitions see www.samtec.com/quality

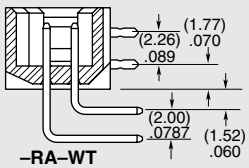
FILE NO. E111594

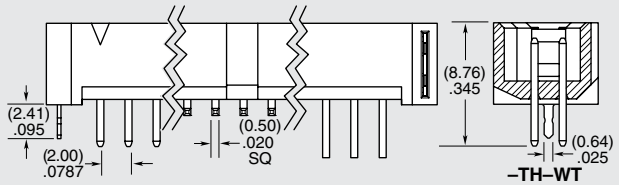
Note: Some lengths, styles and options are non-standard, non-returnable.

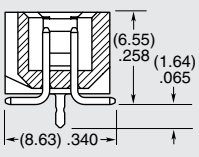
T2M	1	NO. OF POSITIONS	01	PLATING OPTION	D	OPTION	OTHER OPTION
05, 07, 10, 15, 20, 25, 30 (Per Row)			–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail			–TH = Through-hole –RA = Right-angle –SM = Surface Mount	–WT = Weld Tab (S2SD & S2SDT, –SR/–DR required mate) –DS = Screw Down (N/A with –RA) (mates with –S2M–DS, S2SD/S2SDT –SS/–DS option) –K = (7.50 mm) .295" DIA Polyimide film Pick & Place Pad (–SM only) –TR = Tape & Reel (–SM only)











Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

TIGER™ EYE DISCRETE

(2.00 mm) .0787"



S2SD, S2SDT SERIES

TIGER EYE™ CABLE ASSEMBLY

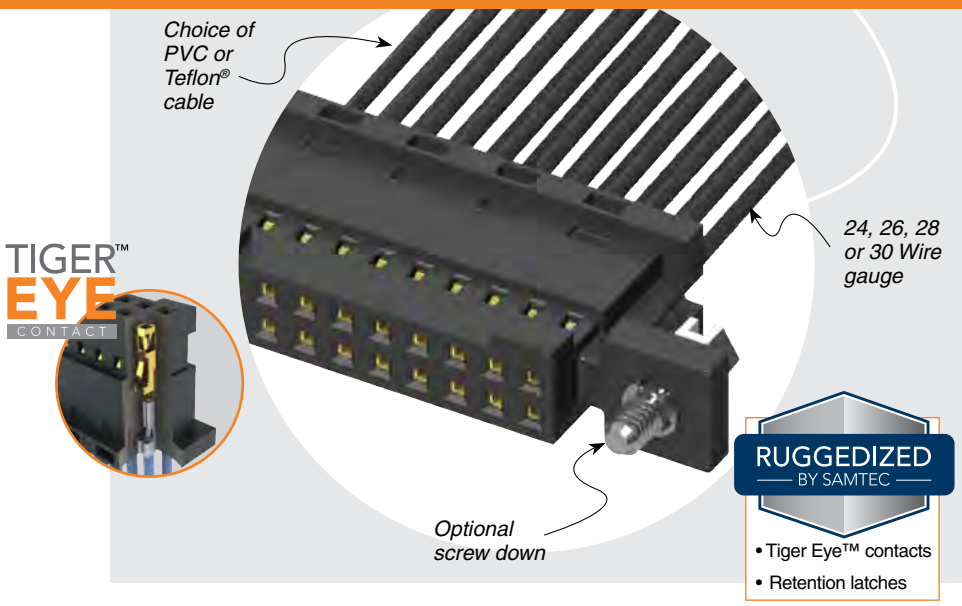
SPECIFICATIONS

For complete specifications see www.samtec.com?S2SD or www.samtec.com?S2SDT

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Wire:
24, 26, 28 or 30 AWG
Operating Temp Range:
-10 °C to +105 °C (PVC)
-40 °C to +125 °C (*Teflon®)
Current Rating (S2SD-24/T2M):
3.8 A per pin
(2 pins powered)
Voltage Rating:
250 VAC
RoHS Compliant:
Yes

*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.

Mates with:
T2M



ALSO AVAILABLE (MOQ Required)

- Other sizes

Contact Samtec.

APPLICATION

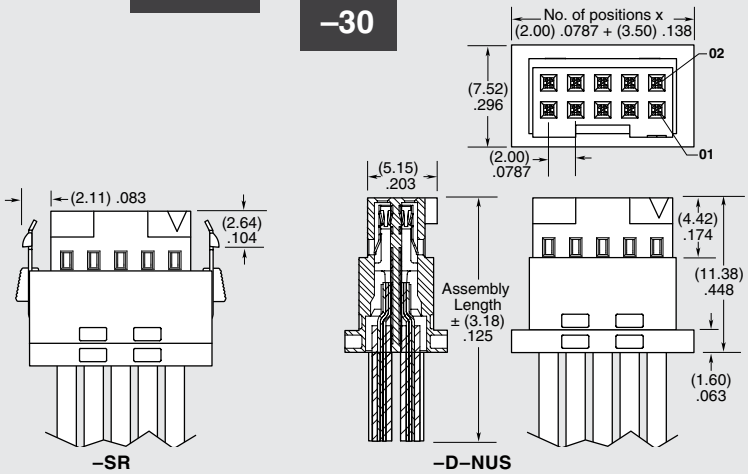
–24C CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	VIOLET
7	GRAY
8	WHITE
9	BLACK
10	BLUE
ETC	REPEAT

Notes:
For wiring option information refer to drawing on web.

Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applications.

Some lengths, styles and options are non-standard, non-returnable.

TYPE	PINS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLED LENGTH	END OPTION	END 2 OPTION
S2SD = Double Row PVC Cable **S2SDT** = Double Row *Teflon® Cable (24, 28, 30 Gauge only)	–05, –07, –10, –15, –20, –25, –30 (Standard sizes)	–24 –24C = Color Coded Cable (S2SD only) –26 –28 –30	–L = 10 µ" (0.25 µm) Gold on contact	–"XX.XX" = Wire Length in Inches (69.85 mm) 02.75" min.	–S = Single End –D = Double End Specify "S" for single ended and "D" for double ended. –(X)R = Retention Latch (-SR mates with T2M-WT) –(X)S = Screw Down (10 positions minimum) (mates with T2M-DS)	(Only available with –D, –DR & –DS) –NUS = Notch up, straight (Pin 1 to Pin N-1) –NDS = Notch down, straight (Pin 1 to Pin 2) –NUX = Notch up, crossed (Pin 1 to Pin N) –NDX = Notch down, crossed (Pin 1 to Pin 1)

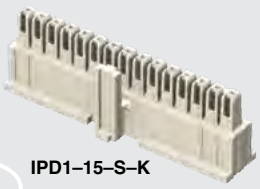


All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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miniMATE®







(2.54 mm) .100"

IPD1, CC79L, CC79R, PK-79 SERIES

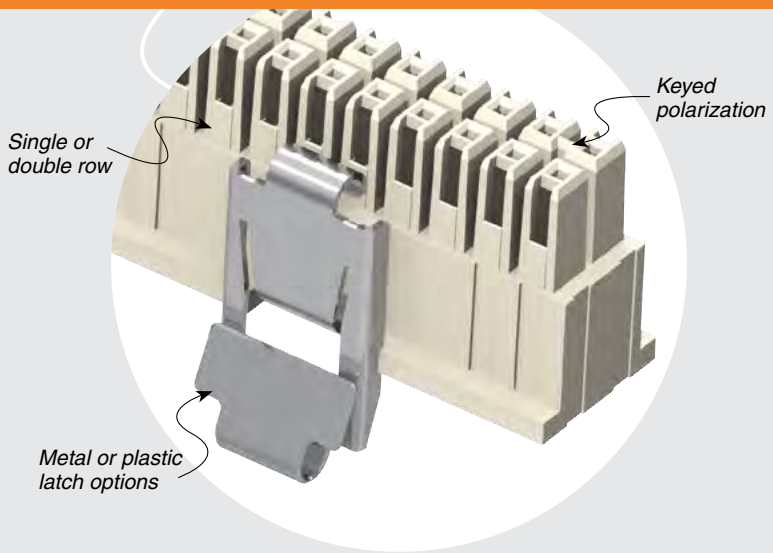
DISCRETE WIRE CABLE COMPONENTS

SPECIFICATIONS

For complete specifications see www.samtec.com?IPD1, www.samtec.com?CC79L, or www.samtec.com?CC79R

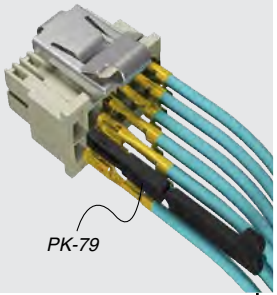
TOOLING

- Hand tool (20-30 AWG): CAT-HT-179-2030-13
- Mini Applicator (20-24 AWG): CAT-MC-179-2024-XX-01
- Mini Applicator (26-30 AWG): CAT-MC-179-2630-XX-01
- Extraction Tool: CAT-EX-179-01

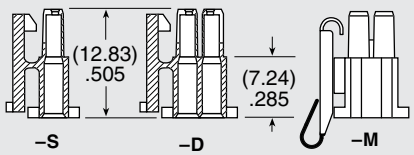


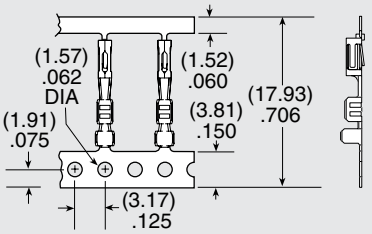
PK-79

- Replaces the CC79 contact in the Mini Mate® housing (IPD1) for customizable polarization
- Plugs are molded black for better visibility against the white Mini Mate® housing
- PK-79 plugs are packaged in standard 50 pcs/bulk bag
- Handle is easily removed after insertion
- See www.samtec.com?PK79 for complete specifications



TYPE	POSITIONS PER ROW	ROW OPTION	K	LATCH OPTION	TYPE	WIRE GAUGE	01	PLATING OPTION
IPD1 = Body, Loose	–02, –03, –04, –05, –06, –08, –10, –12, –15, –16, –20, –25 (Standard sizes)	–S = Single Row –D = Double Row	–K = Keyed Polarization	–M = Metal Latch (Metal for more rugged environments) (–02, –05 & –10 positions only) (Leave blank for plastic latch)	CC79L = Contact, Loose CC79R = Contact, Full Reel (12,000 Parts per Reel)	–2630 = 26 to 30 AWG –2024 = 20 to 24 AWG		–L = 10 µ" (0.25 µm) Gold on contact, Tin on tail





Insulator Material: Nylon 66

Contact Material: Phosphor Bronze

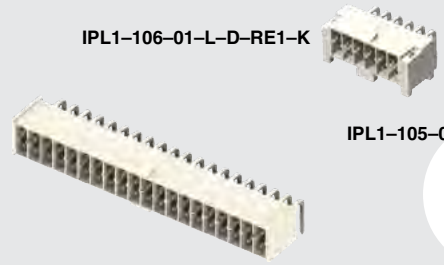
samtec

miniMATE®

(2.54 mm) .100"

IPL1 SERIES

DISCRETE WIRE HEADER



SPECIFICATIONS

For complete specifications www.samtec.com?IPL1

Insulator Material:
Natural LCP
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Voltage Rating:
675 VAC/954 VDC
RoHS Compliant:
Yes

PROCESSING

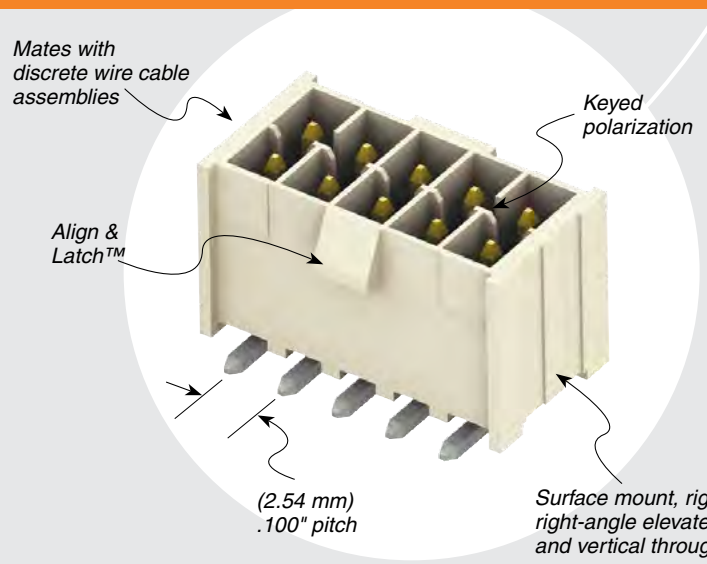
Lead–Free Solderable:
Yes
–S & –D (–02 Lead Style)
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-05)
(0.13 mm) .005" max (06-10)
(0.15 mm) .006" max (11-25)
–SH SMT Lead Coplanarity:
(0.15 mm) .006" max (02-25)

RECOGNITIONS

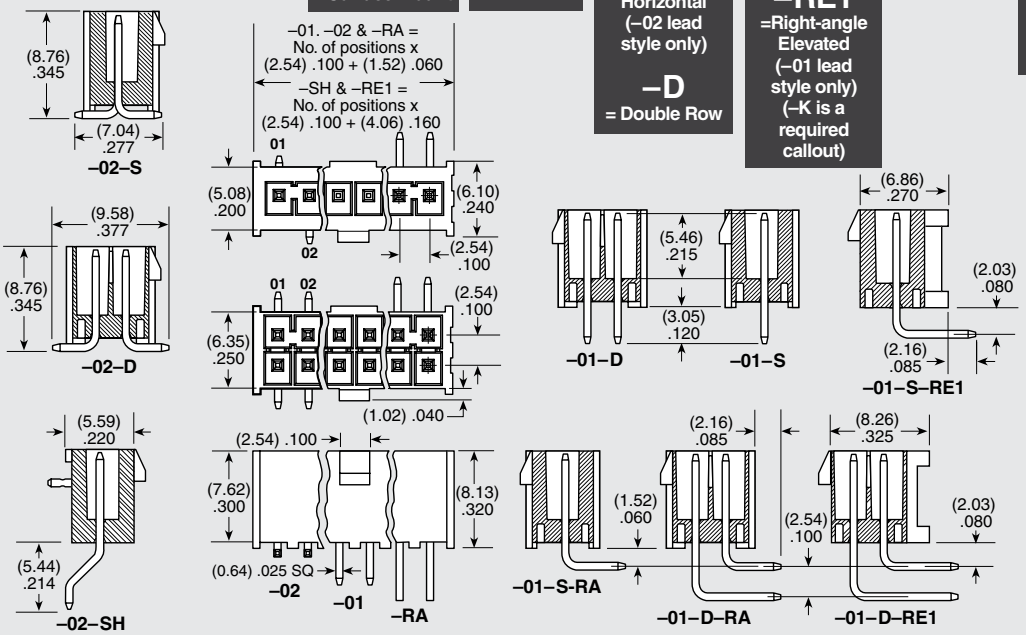
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

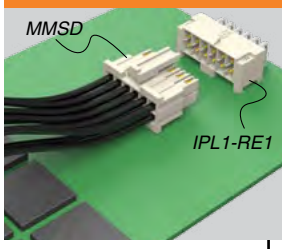
Mates with:
MMSD, MMSS,
MMSDT, MMSST



IPL1	– 1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	TAIL OPTION	– K	–	OPTION
		02, 03, 04, 05, 06, 08, 10, 12, 15, 16, 20, 25 (Standard sizes)		–01 = Through-hole –02 = Surface Mount		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–S = Single Row –SH = Single Row Horizontal (–02 lead style only) –D = Double Row		–RA =Right-angle (–01 lead style only) –RE1 =Right-angle Elevated (–01 lead style only) (–K is a required callout)	–K =Keyed Polarization		–TR = Tape & Reel (–02 lead style only) Comes with Polyimide Pick & Place Pad



–RE1 APPLICATION



ALSO AVAILABLE (MOQ Required)

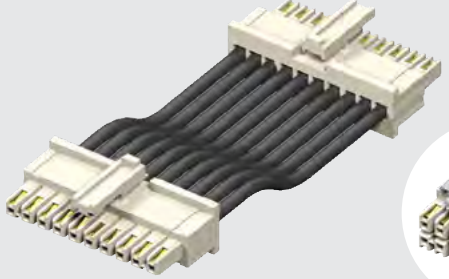
- Other sizes
- With or without plug polarization
- Guide post holes
- Other platings
- Weld tab

Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

samtec

miniMATE®



MMSS–10–20–L–03.25–D–K–LUS



MMSD–05–20–L–04.25–D–K–MUX

(2.54 mm) .100"

MMSD, MMSDT, MMSS, MMSST SERIES

MINI MATE® CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?MMSD, www.samtec.com?MMSDT, www.samtec.com?MMSS or www.samtec.com?MMSST

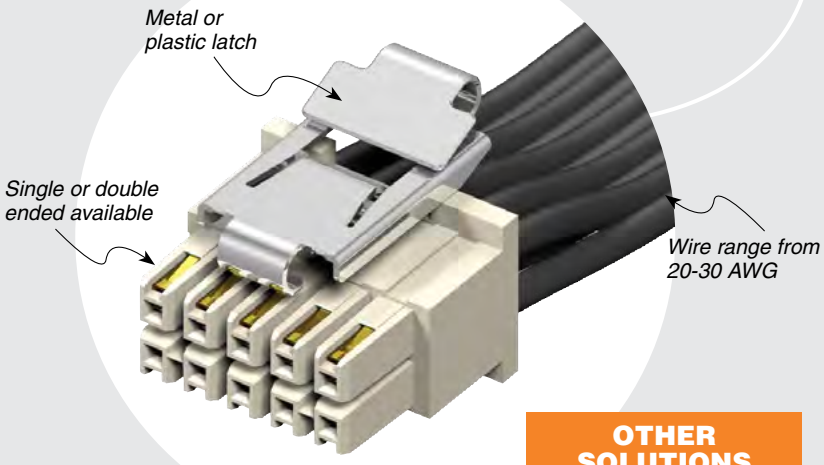
Insulator Material:
Nylon 66
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-10 °C to +105 °C (PVC)
for 20, 22, 24, 26 AWG
-10 °C to +80 °C (PVC)
for 28, 30 AWG
-40 °C to +125 °C (*Teflon®)
Voltage Rating:
300 VAC
Wire:
20 to 30 AWG
RoHS Compliant:
Yes

Board Mates:
IPL1
(Does not mate with IPT1)

Cable Mates:
MMTD(T), MMTS(T)

Note: Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applications.

MMSD/IPL1	
WIRE GAUGE	CURRENT RATING (PER PIN)
20	4.8 A
22	4.3 A
24	3.9 A
26	3.5 A
28	2.6 A
30	2.1 A
2 PINS POWERED	



OTHER SOLUTIONS

- Plug Polarization

For specification, see www.samtec.com?PK-79.

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other color coded cables (*Teflon® N/A)
- Other sizes/pin counts
- Other Gold platings
- Guide post

Contact Samtec.

APPLICATION

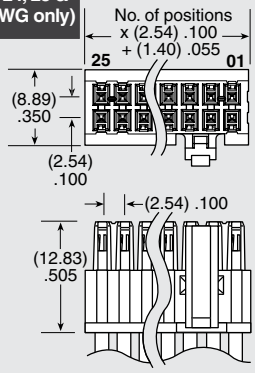
–20C, –24C, –28C CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	BLUE
7	VIOLET
8	GRAY
9	WHITE
10	BLACK
ETC	REPEAT

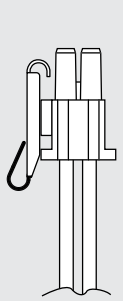
Notes:
For wiring option information refer to drawing on web.

Some lengths, styles and options are non-standard, non-returnable.

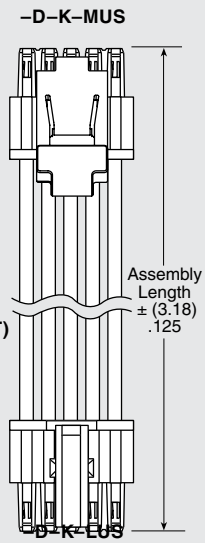
TYPE	PINS PER ROW	WIRE GAUGE	PLATING OPTION	ASSEMBLY LENGTH	END OPTION	K	LATCH OPTION
MMSD = Double Row PVC Cable MMSDT = Double Row *Teflon® Cable (20, 24, 28 & 30 AWG only) MMSS = Single Row PVC Cable MMSST = Single Row *Teflon® Cable (20, 24, 28 & 30 AWG only)	–02, –03, –04, –05, –06, –08, –10, –12, –15, –16, –20, –25 (Standard sizes)	–20 –20C = Color Coded Cable –22 –24 –24C = Color Coded Cable –26 –28 –28C = Color Coded Cable –30	–L = 10 µ" (0.25 µm) Gold on contact, Tin on tail	–"XX.XX" = Assembly Length in Inches (82.55 mm) 03.25" min.	–S = Single End –D = Double End (Latch Required)	–K = Keyed Polarization	(Metal latches for more rugged environments; –02, –05 & –10 positions only) –M = Single Ended, Metal Latches (Leave blank for plastic) Double Ended (–D) Crossed requires MMSD/MMSDT –LUS = Plastic Latch up, straight –LDS = Plastic Latch down, straight –LUX = Plastic Latch up, crossed –LDX = Plastic Latch down, crossed –MUS = Metal Latch up, straight –MDS = Metal Latch down, straight –MUX = Metal Latch up, crossed –MDX = Metal Latch down, crossed

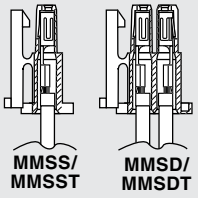
*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.





–M & –MXX (MMSD/MMSDT)





MMSS/ MMSST

MMSD/ MMSDT

Due to technical progress, all designs, specifications and components are subject to change without notice.

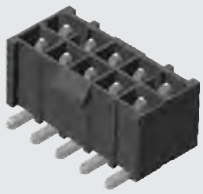
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POWERMATE®


IPBD–02–D–K


IPBD–05–S–K


IPBT–105–H2–T–D–K


CC69L–2024–01–T–SP

(4.19 mm) .165"

IPBD, CC69L, CC69R, IPBT SERIES

DISCRETE WIRE CABLE COMPONENTS

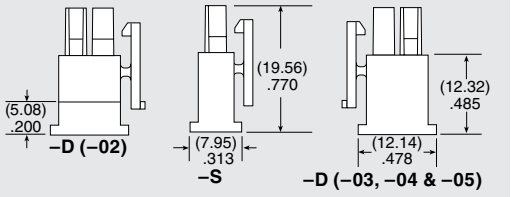
SPECIFICATIONS

For complete specifications www.samtec.com?IPBD, www.samtec.com?CC69L or www.samtec.com?CC69R

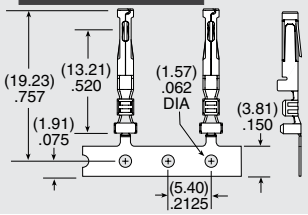
TOOLING

- Hand tool (16-20 AWG): CAT-HT-169-1620-13
- Hand tool (20-24 AWG): CAT-HT-169-2024-13
- Mini Applicator (16-20 AWG): CAT-MA-169-1620-XX-01
- Mini Applicator (20-24 AWG): CAT-MA-169-2024 XX-01
- Extraction Tool: CAT-EX-169-01

TYPE	POSITIONS PER ROW	ROW OPTION	K
IPBD = Body, Loose	–02, –03, –04, –05, –08, –10, –15 (Standard sizes)	–S = Single Row –D = Double Row	–K = Keyed Polarization



TYPE	WIRE GAUGE	01	T	SP
CC69L = Contact, Loose CC69R = Contact, Full Reel (4,000 Parts per Reel)	–2024 = 20 to 24 AWG –1620 = 16 to 20 AWG		–T = Tin	



Board Mates:
IPBS, IPBD

Cable Mates:
PMSD, PMSS

SPECIFICATIONS

For complete specifications see www.samtec.com?IPBT

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
High Copper Alloy
Plating:
Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C
Voltage Rating:
400 VAC/565 VDC
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

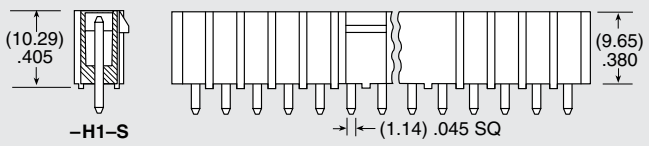
RECOGNITIONS

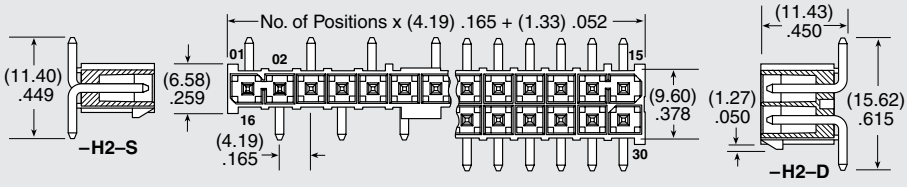
For complete scope of recognitions see www.samtec.com/quality

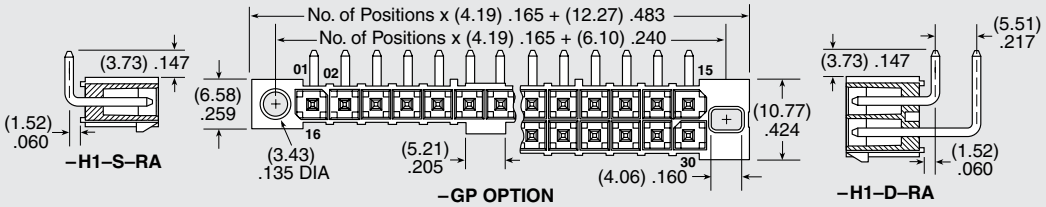
FILE NO. E111594

FILE NO: 090871_0_000

IPBT	1	NO. OF POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OPTION
		02, 03, 04, 05, 08, 10, 15 (–D only) 02, 03, 04, 05, 08, 10 (–S only) (Standard sizes)	–H1 = Through-hole –H2 = Surface Mount	–T = Matte Tin	–S = Single Row –D = Double Row	–RA = Right-angle (Lead Style –H1 only) –GP = Guide Post Holes (8 positions not available) –K = Keyed Polarization (not available with -GP option, is required callout if -GP not called out)







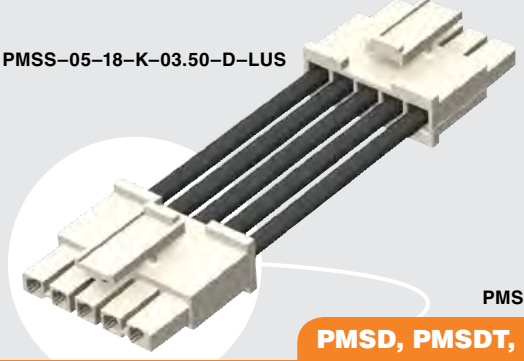
Note: Some lengths, styles and options are non-standard, non-returnable.

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POWERMATE®





(4.19 mm) .165"

PMSD, PMSDT, PMSS, PMSST SERIES

POWER MATE® CABLE ASSEMBLY

SPECIFICATIONS

Mates with:
IPBT

For complete specifications see www.samtec.com?PMSD, www.samtec.com?PMSDT, www.samtec.com?PMSS or www.samtec.com?PMSST

Insulator Material:
Valox 457
Contact Material:
Phosphor Bronze
Plating:
Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-10 °C to +105 °C (PVC)
-40 °C to +105 °C (*Teflon®)
Voltage Rating:
22 & 24 AWG = 300 VAC/424 VDC (PVC)
16,18 & 20 AWG = 424 VAC/600 VDC (PVC)
24 AWG = 300 VAC/424 VDC (*Teflon®)
Wire:
16 to 24 AWG
RoHS Compliant:
Yes

*DuPont™ Teflon® is a registered trademark of the E.I. du Pont de Nemours and Company or its affiliates.

PMSD/IPBT	
WIRE GAUGE	CURRENT RATING (PER PIN)
16 AWG	10.3 A
18 AWG	8.8 A
22 AWG	5.7 A
24 AWG	5.2 A
2 PINS POWERED	

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

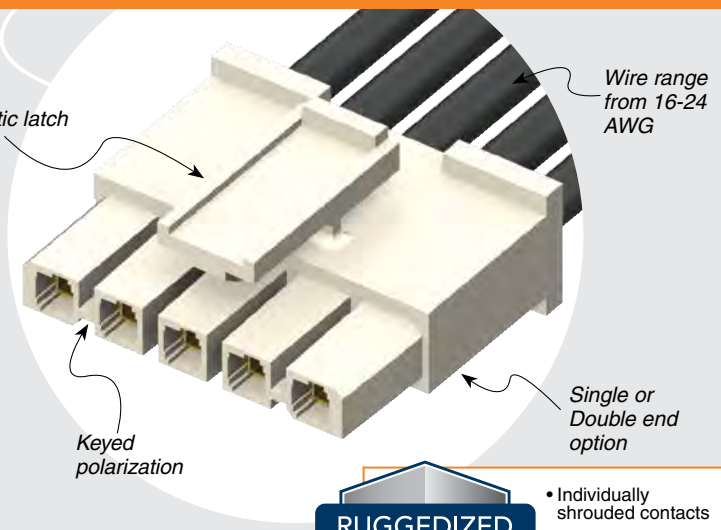
FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

- Color coded cables (*Teflon® N/A)
- Other sizes/pin counts
- 20 AWG/300 Volts

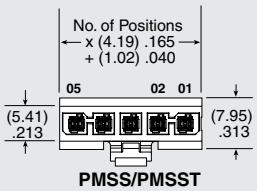
Contact Samtec.



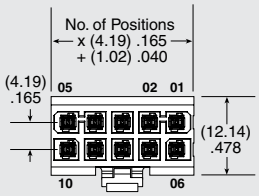
RUGGEDIZED BY SAMTEC

- Individually shrouded contacts
- Plastic latches

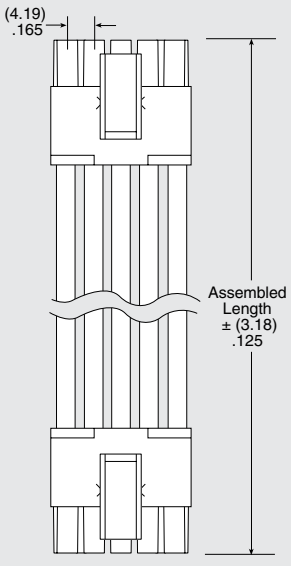
TYPE	PINS PER ROW	WIRE GAUGE	K	ASSEMBLED LENGTH	END OPTION	LATCH OPTION
PMSD = Double Row PVC Cable **PMSDT** = Double Row *Teflon® Cable (24 AWG only) **PMSS** = Single Row PVC Cable **PMSST** = Single Row *Teflon® Cable (24 AWG only)	–02, –03, –04, –05, –08, –10, –15* (Standard sizes) *Only available for double row	–16 –18 –206 (20 AWG/ 600 volts) –22 –24	–K = Keyed Polarization	–"XX.XX" = Wire Length in Inches (88.90 mm) 03.50" min.	–S = Single End –D = Double End (Latch required)	–LUS = Plastic Latch up, straight –LDS = Plastic Latch down, straight –LUX* = Plastic Latch up, crossed –LDX* = Plastic Latch down, crossed *(PMSD/PMSDT only)



PMSS/PMSST



PMSD/PMSDT



–D–LUS

Notes:
For wiring option information refer to drawing on web.

Teflon® cable is intended for crimp only. Contact Samtec for solderable cable applications.

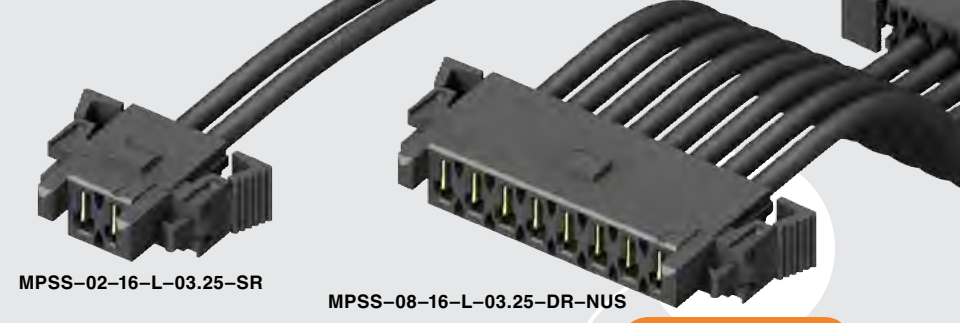
Some lengths, styles and options are non-standard, non-returnable.

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POWER™ STRIP 30



(5.00 mm) .1969"

MPSS SERIES

POWERSTRIP™/30 CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?MPSS

Insulator Material:
Nylon 6/6
Contact Material:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27µm) Ni
Latch:
Nylon 6/6
Operating Temp Range:
-30 °C to +105 °C
Voltage Rating:
600 VAC/848 VDC
Wire:
14 or 16 AWG
RoHS Compliant:
Yes

Mates with:
MPT

MPSS/MPT-V	
WIRE GAUGE	CURRENT RATING (PER PIN)
14 AWG	19.7 A
16 AWG	15.9 A
1 PIN POWERED	

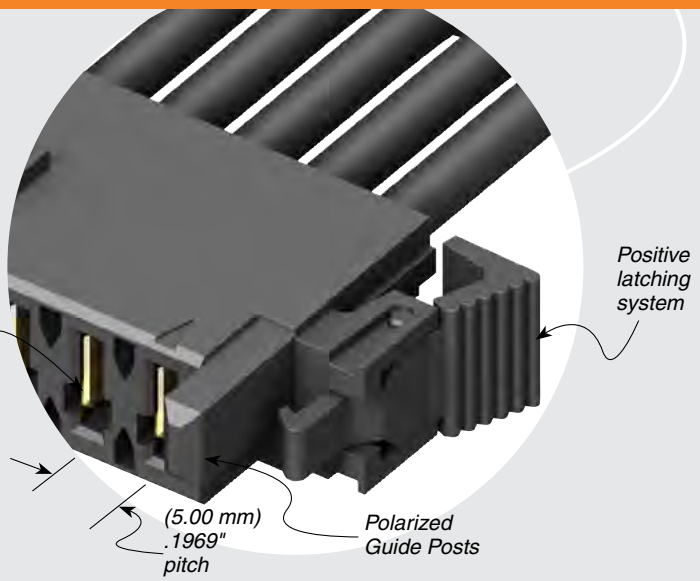
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

COMPONENTS

- For body, see www.samtec.com?IMS5
- For contacts, see www.samtec.com?CC46L www.samtec.com?CC46R

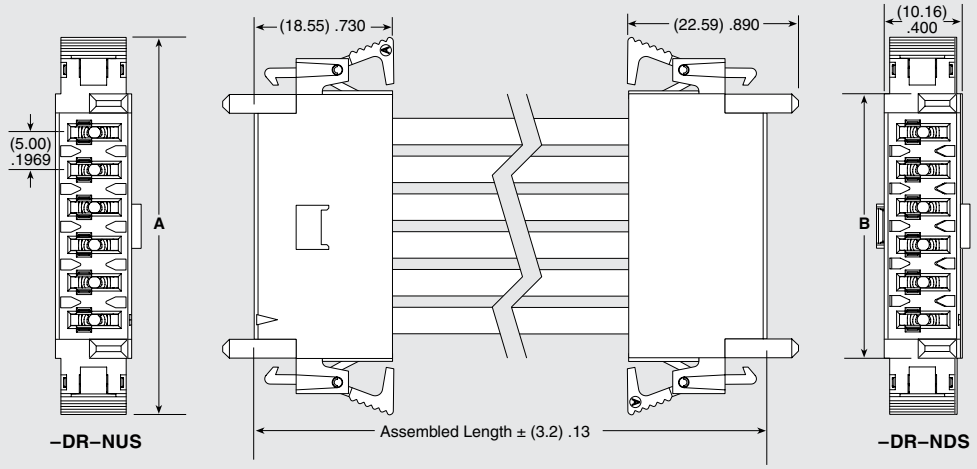


RUGGEDIZED BY SAMTEC

- Positive latching

MPSS	– NO. OF POSITIONS	– WIRE GAUGE	– PLATING OPTION	– ASSEMBLED LENGTH	– END 1 OPTION	– END 2 OPTION
	–02, –03, –04, –06, –08	–14 –16	–L = 10 µ" (0.25 µm) Gold on contact –T = Matte Tin	–"XX.XX" = Wire Length in Inches (83.00 mm) 03.25" min.	–SR = Single End –DR = Double End	(Available with –DR only) –NUS = Notch up, straight –NDS = Notch down, straight

NO. OF POSITIONS	A	B
–02	(30.07) 1.184	(15.27) .601
–03	(35.07) 1.381	(20.26) .798
–04	(40.08) 1.578	(25.25) .994
–06	(50.09) 1.972	(35.26) 1.388
–08	(60.10) 2.366	(45.26) 1.782



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POWER™ STRIP 30



MPCC–2–16–2–L–44–04.00–D–NUS

(5.00 mm) .197"(PWR) (2.00 mm) .079"(SIG)

MPCC SERIES

POWERSTRIP™/30 CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?MPCC

Insulator Material:
Black LCP
Contact Material:
Signal: BeCu
Power: Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating:
Signal Pin (24 AWG):
3.4 A per pin
(4 adjacent pins powered)
Power Pin (14 AWG):
23.2 A per pin
(1 pin powered)
Operating Temp Range:
-10 °C to +105 °C
Voltage Rating:
300 VAC
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

Mates with:
MPTC

RECOGNITIONS

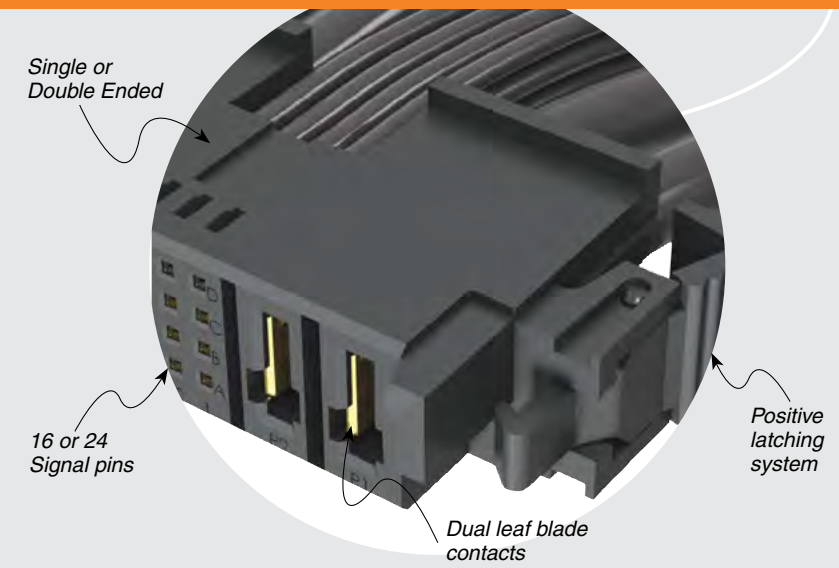
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

COMPONENTS

- For body, see www.samtec.com?IMSC5
- For contacts, see www.samtec.com?CC81L www.samtec.com?CC81R www.samtec.com?CC46L www.samtec.com?CC46R

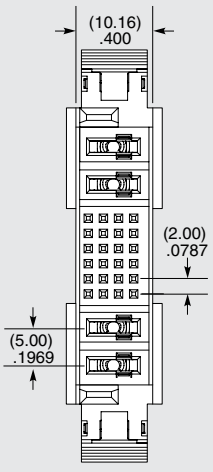
Note: Some sizes, styles and options are non-standard, non-returnable.

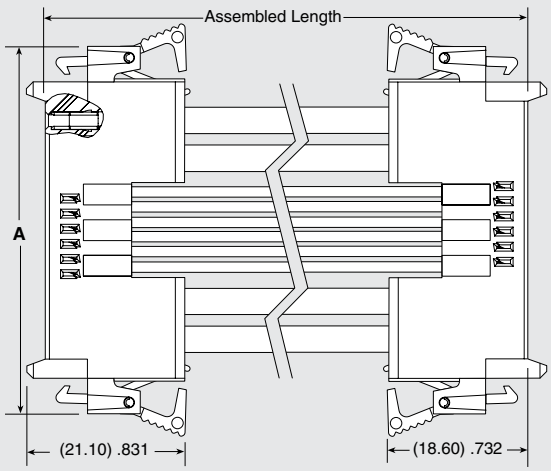


MPCC	–	2	–	SIG PINS	–	2	–	PLATING OPTION	–	LEAD STYLE	–	LENGTH	–	END 1 OPTION	–	END 2 OPTION
				–16 = Total Signal Pins –24 = Total Signal Pins				–L = 10 µ" (0.25 µm) Gold on contact (Power & Signal) –T = Matte Tin on contacts and tail (Power), Gold on contact (Signal)		Specify LEAD STYLE from chart		–"XX.XX" = Assembled Length in Inches (101.60 mm) 04.00" min.		–S = Single End –D = Double End		(Available with –D only) –NUS = Notch up, straight (Pin A1 to Pin AX)

LEAD STYLE	PWR/SIG	AWG
–44	PWR	14
	SIG	24
–46	PWR	14
	SIG	26
–48	PWR	14
	SIG	28
–40	PWR	14
	SIG	30
–64	PWR	16
	SIG	24
–66	PWR	16
	SIG	26
–68	PWR	16
	SIG	28
–60	PWR	16
	SIG	30

SIGNAL PINS	A
16	(44.55) 1.754
24	(48.55) 1.911



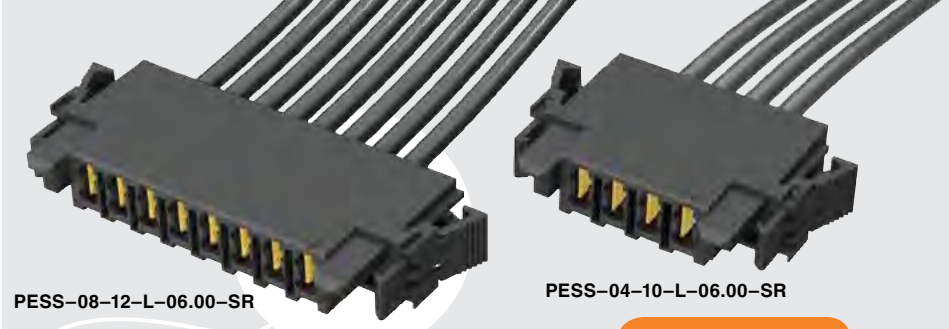


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POWER STRIP 40



PESS–08–12–L–06.00–SR

PESS–04–10–L–06.00–SR

(6.35 mm) .250"

PESS SERIES

POWERSTRIP™/40 CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?PESS

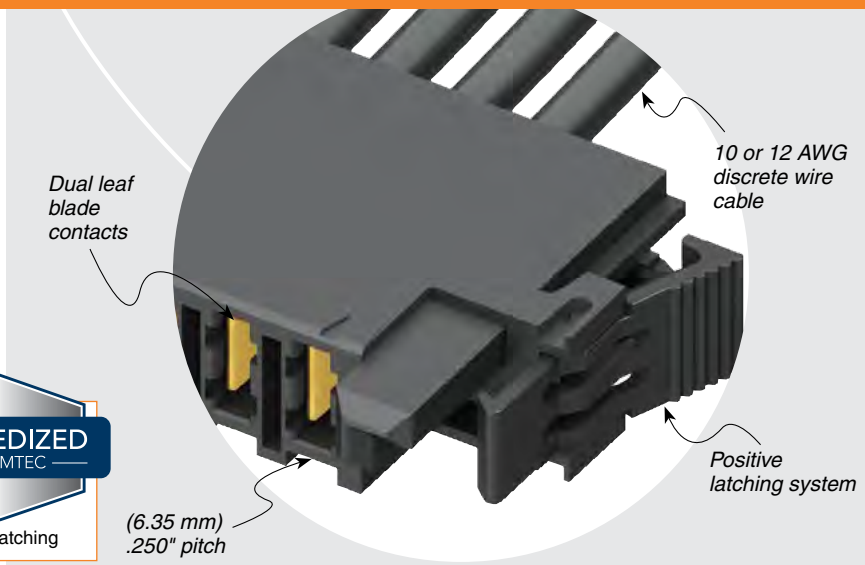
Insulator Material:
Nylon Black
Contact Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Latch:
Nylon Black
Operating Temp Range:
-30 °C to +105 °C
Voltage Rating:
600 VAC
846 VDC
Wire:
10 or 12 AWG
RoHS Compliant:
Yes

Mates with:
PET

PESS/PET	
WIRE GAUGE	CURRENT RATING (PER PIN)
10 AWG	34.5 A
12 AWG	29.7 A
1 PIN POWERED	

RUGGEDIZED BY SAMTEC

• Positive latching



RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

COMPONENTS

- For body, see www.samtec.com?IPS6
- For contacts, see www.samtec.com?CC10L www.samtec.com?CC10R

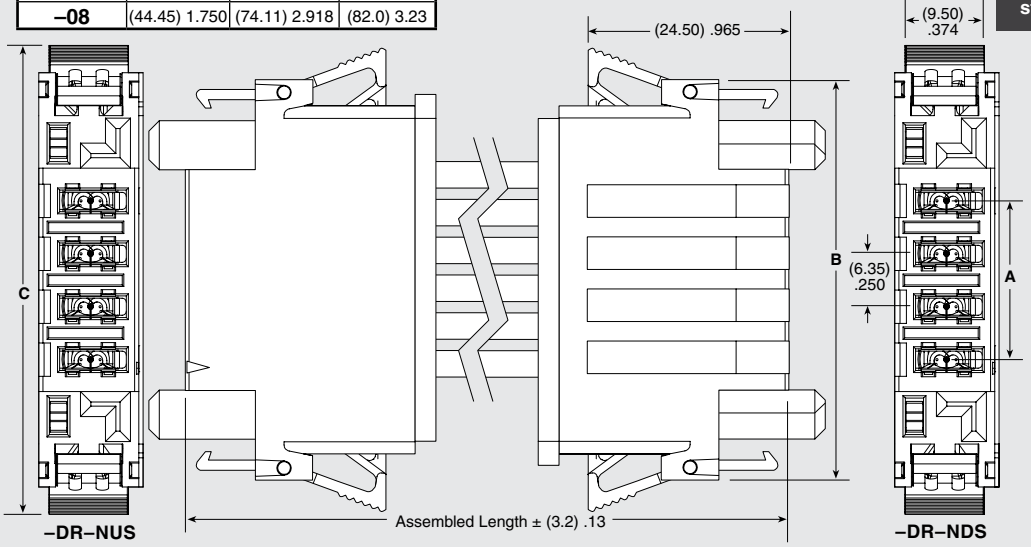
ALSO AVAILABLE (MOQ Required)

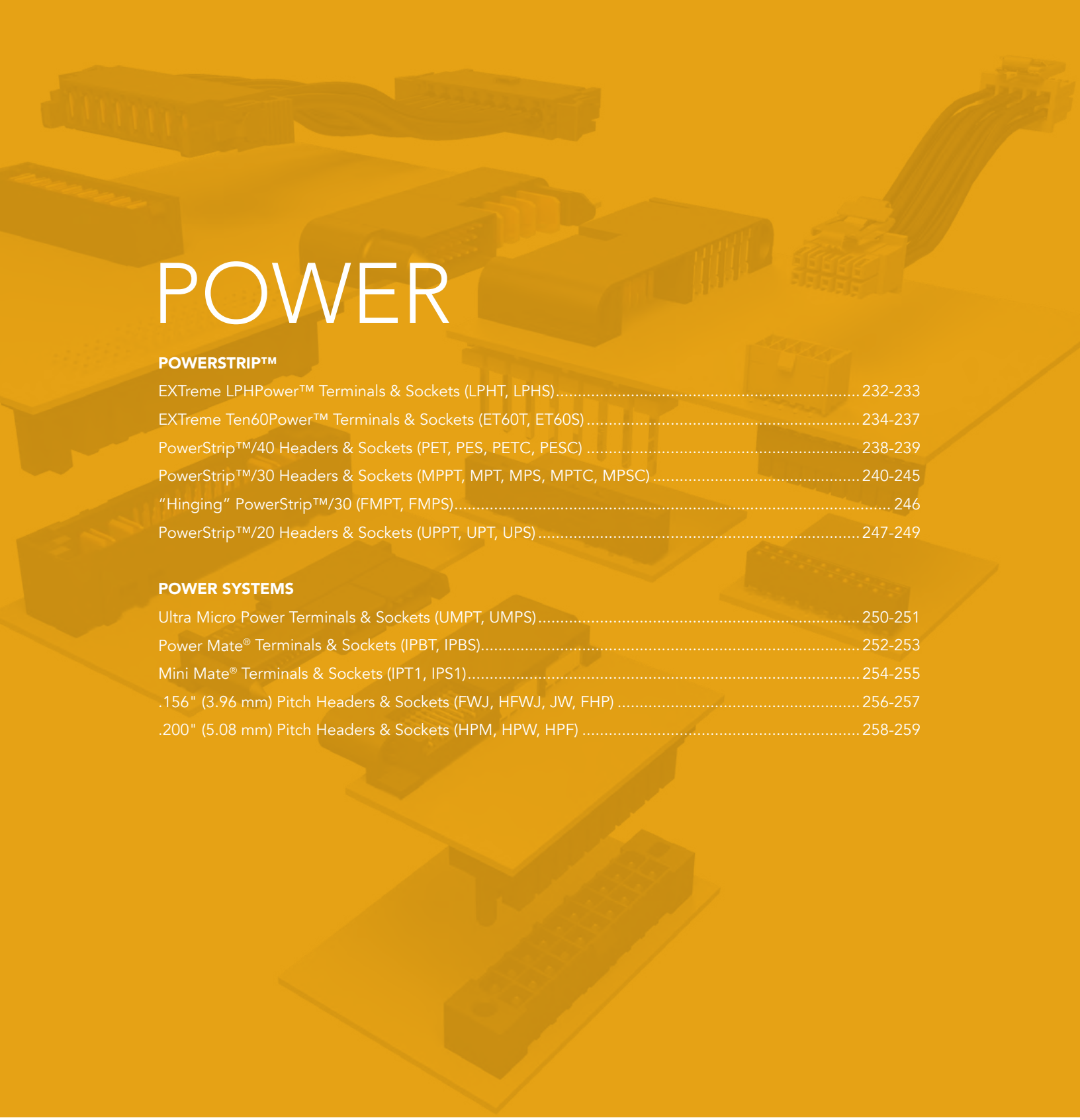
- Other platings
Contact Samtec.

Note: Some sizes, styles and options are non-standard, non-returnable.

PESS	–	NO. OF POSITIONS	–	WIRE GAUGE	–	PLATING OPTION	–	ASSEMBLED LENGTH	–	END 1 OPTION	–	END 2 OPTION
		–02, –04, –06, –08		–10 –12		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin		–"XX.XX" = Wire Length in inches (152.4 mm) 06.00" min.		–SR = Single End –DR = Double End		(Available with –DR only) –NUS = Notch up, straight –NDS = Notch down, straight

NO. OF POSITIONS	A	B	C
–02	(6.35) .250	(36.01) 1.418	(43.9) 1.73
–04	(19.05) .750	(48.71) 1.918	(56.6) 2.23
–06	(31.75) 1.250	(61.41) 2.418	(69.3) 2.73
–08	(44.45) 1.750	(74.11) 2.918	(82.0) 3.23





POWER

POWERSTRIP™

EXTreme LPHPower™ Terminals & Sockets (LPHT, LPHS) 232-233
EXTreme Ten60Power™ Terminals & Sockets (ET60T, ET60S) 234-237
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APPLICATIONS

Micro Rugged Power and Panel Systems 36-37

samtec

POWER STRIP™ EXTreme LPH

(12.00 mm) .472"(PWR) (1.27 mm) .050"(SIG)



LPHT SERIES

EXTreme LPHPower™ TERMINAL

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LPHT

Insulator Material:
Black LCP
Terminal Material:
Signal: Brass
Power: Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Power: 30 A per power blade (4 blades powered)
Signal: 1 A per signal contact
Operating Temp Range:
-40 °C to +105 °C
Voltage Rating:
250 VAC
Standard Creepage:
(1.21 mm) .048" (power)
Standard Clearance:
(1.36 mm) .054" (power)
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

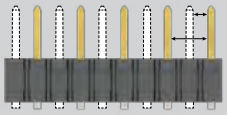
ALSO AVAILABLE (MOQ Required)

- Other platings
- 28 Signal positions
- No Guide post

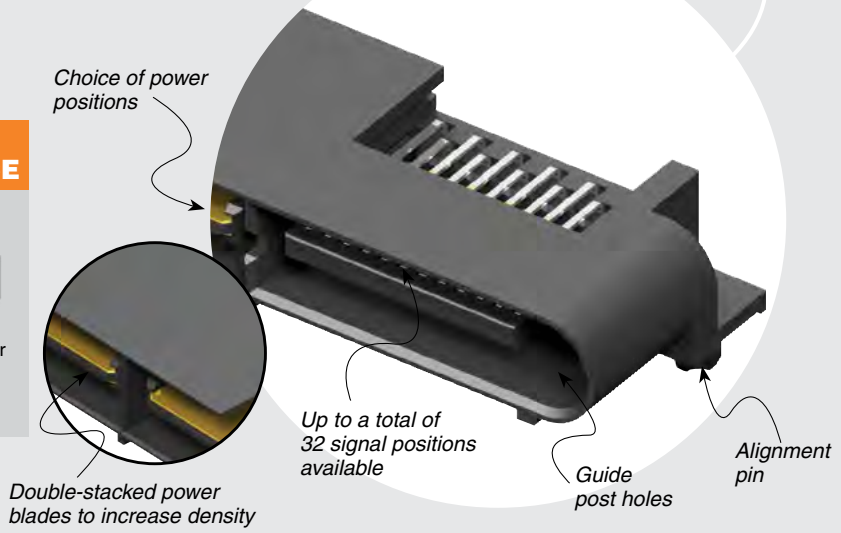
Contact Samtec.

Mates with:
LPHS

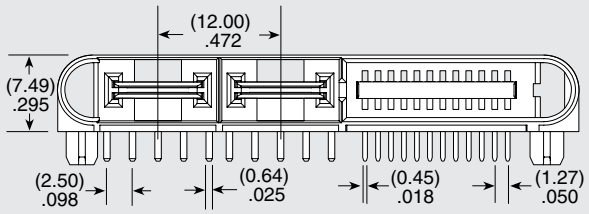
CREEPAGE AND CLEARANCE



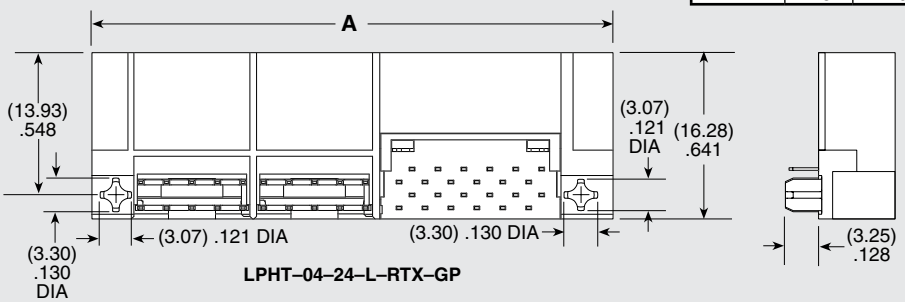
Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com



LPHT	–	POWER POSITIONS	–	SIGNAL POSITIONS	–	PLATING	–	TAIL	–	GP
		–02, –04, –06, –08, –10 (Total, 2 per power bank)		–16, –20, –24, –32 (Total)		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–RT1 = Right-angle Through-hole (Use with (1.60 mm) .062" thick board) –RT2 = Right-angle Through-hole (Use with (2.36 mm) .093" thick board)		



SIGNAL POSITIONS	POWER POSITIONS				
	A (–02)	A (–04)	A (–06)	A (–08)	A (–10)
–16	(33.97) 1.337	(45.97) 1.810	(57.97) 2.282	(69.97) 2.755	(81.97) 3.227
–20	(36.51) 1.437	(48.51) 1.910	(60.51) 2.382	(72.51) 2.855	(84.51) 3.327
–24	(39.05) 1.537	(51.05) 2.010	(63.05) 2.482	(75.05) 2.955	(87.05) 3.427
–32	(44.13) 1.737	(65.13) 2.210	(68.13) 2.682	(80.13) 3.155	(92.13) 3.627



LPHT–04–24–L–RTX–GP

Notes:
Series is rated up to 60 A per power bank.

Some lengths, styles and options are non-standard, non-returnable.

The Molex EXTreme LPHPower™ line is a second source to the Samtec LPHT Series

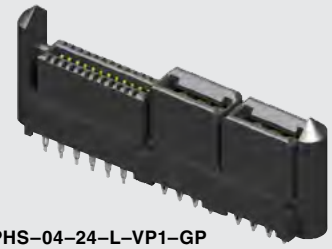
* EXTreme LPHPower™ is a trademark of Molex Incorporated.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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POWER STRIP™ EXTreme LPH



LPHS–04–24–L–VP1–GP



LPHS–04–24–L–RT1–GP

(12.00 mm) .472"(PWR) (1.27 mm) .050"(SIG)

LPHS SERIES

EXTreme LPHPower™ SOCKET ASSEMBLY

Mates with:
LPHT

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LPHS

Insulator Material:
Black LCP
Terminal Material:
Signal: Brass
Power: Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Power: 30 A per power blade (4 blades powered)
Signal: 1 A per signal contact
Operating Temp Range:
-40 °C to +105 °C
Voltage Rating: 250 VAC
Standard Creepage:
(2.86 mm) .113"
(with -VP1 power)
(5.63 mm) .222"
(with -RTX power)
Standard Clearance:
(2.69 mm) .105"
(with -VP1 power)
(1.36 mm) .054"
(with -RTX power)
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
(-RT1 & -RT2 option)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other platings
- 28 Signal positions
- No Guide post

Contact Samtec.

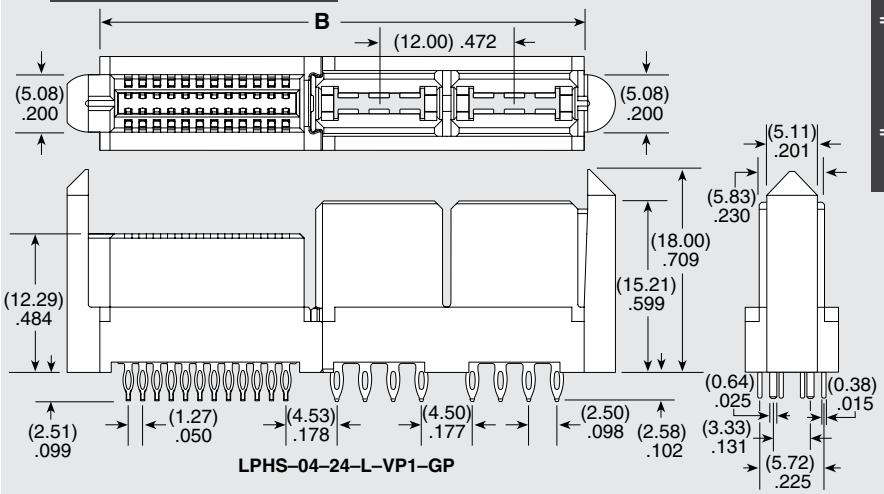
Notes:
Series is rated up to 60 A per power bank.

Some lengths, styles and options are non-standard, non-returnable.

The Molex EXTreme LPHPower™ line is a second source to the Samtec LPHS Series

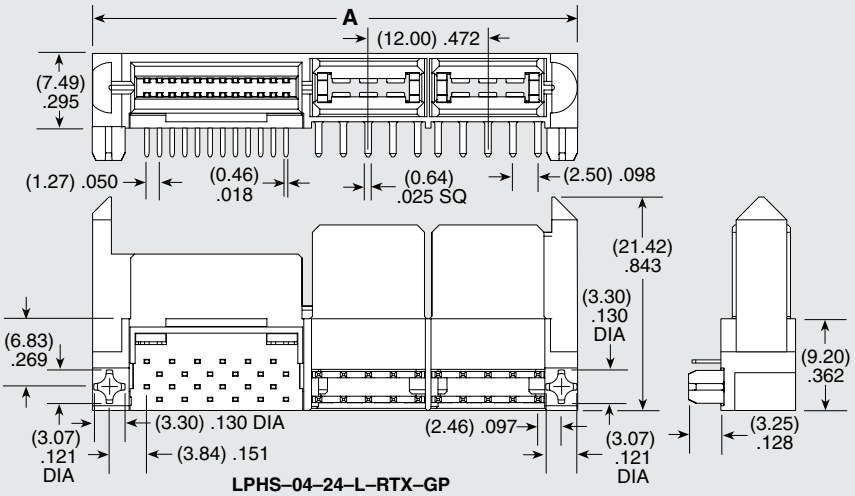
* EXTreme LPHPower™ is a trademark of Molex Incorporated.

LPHS	–	POWER POSITIONS	–	SIGNAL POSITIONS	–	PLATING	–	TAIL	–	GP
		–02, –04, –06, –08, –10 (Total, 2 per power bank)		–16, –20, –24, –32 (Total)		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–VP1 = Vertical Press-fit –RT1 = Right-angle Through-hole (Use with (1.60 mm) .062" thick board) –RT2 = Right-angle Through-hole (Use with (2.36 mm) .093" thick board)		



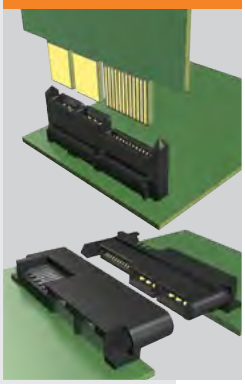
LPHS–04–24–L–VP1–GP

SIGNAL POSITIONS	POWER POSITIONS									
	A (–02)	B (–02)	A (–04)	B (–04)	A (–06)	B (–06)	A (–08)	B (–08)	A (–10)	B (–10)
–16	(31.64) 1.918	(25.88) 1.019	(43.64) 1.718	(37.88) 1.491	(55.64) 2.191	(49.88) 1.964	(67.64) 2.633	(61.88) 2.436	(79.64) 3.135	(73.88) 2.909
–20	(34.18) 1.346	(28.42) 1.119	(46.18) 1.818	(40.42) 1.591	(58.18) 2.291	(52.42) 2.064	(77.18) 2.763	(64.42) 2.536	(82.18) 3.235	(76.42) 3.009
–24	(36.72) 1.446	(30.96) 1.219	(48.72) 1.918	(42.96) 1.691	(60.72) 2.391	(54.96) 2.164	(72.72) 2.863	(66.96) 2.636	(84.72) 3.335	(78.96) 3.109
–32	(41.80) 1.646	(36.04) 1.419	(53.80) 2.118	(48.04) 1.891	(65.80) 2.591	(60.04) 2.364	(77.80) 3.063	(72.04) 2.836	(89.80) 3.535	(84.04) 3.309

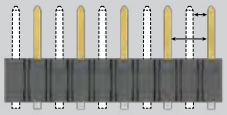


LPHS–04–24–L–RTX–GP

APPLICATION



CREEPAGE AND CLEARANCE



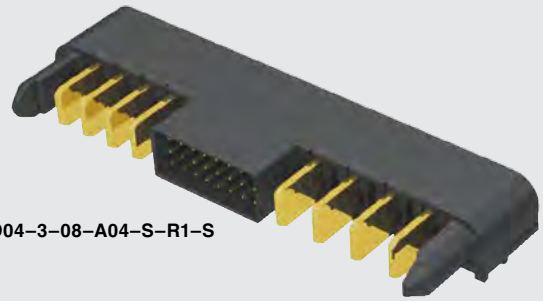
Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

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POWER™ EXTreme STRIP Ten60



ET60T–D04–3–08–A04–S–R1–S

RIGHT-ANGLE POWER/SIGNAL HEADER

Mates with:
ET60S

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ET60T

Insulator Material:
Black LCP
Terminal Material:
Signal:
Phosphor Bronze
Power:
Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Power: 60 A max per blade (2 pins powered)
Signal: 2.8 A max (6 pins powered)
Operating Temp Range:
-40 °C to +105 °C
Voltage Rating:
250 V max
RoHS Compliant:
Yes

PROCESSING

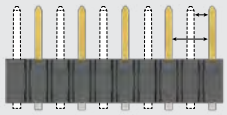
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

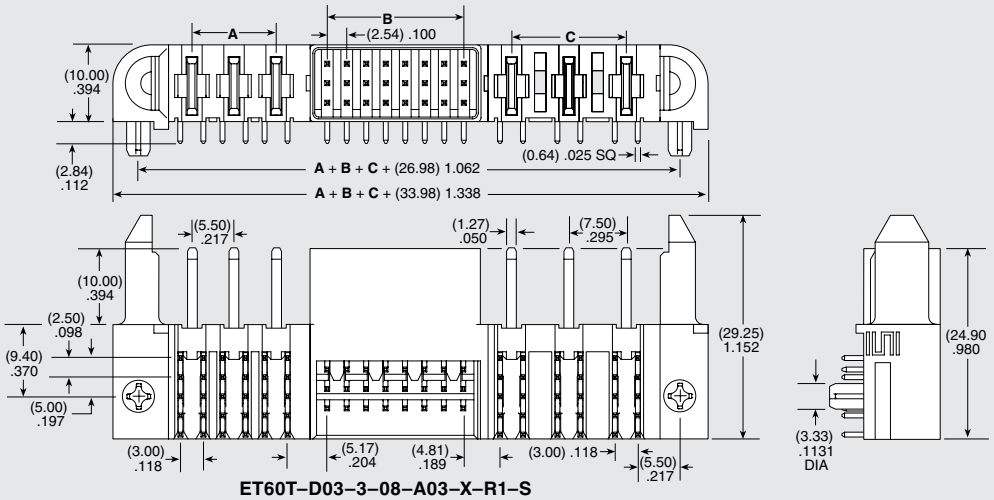
Contact asp@samtec.com

Notes:
Some lengths, styles and options are non-standard, non-returnable.

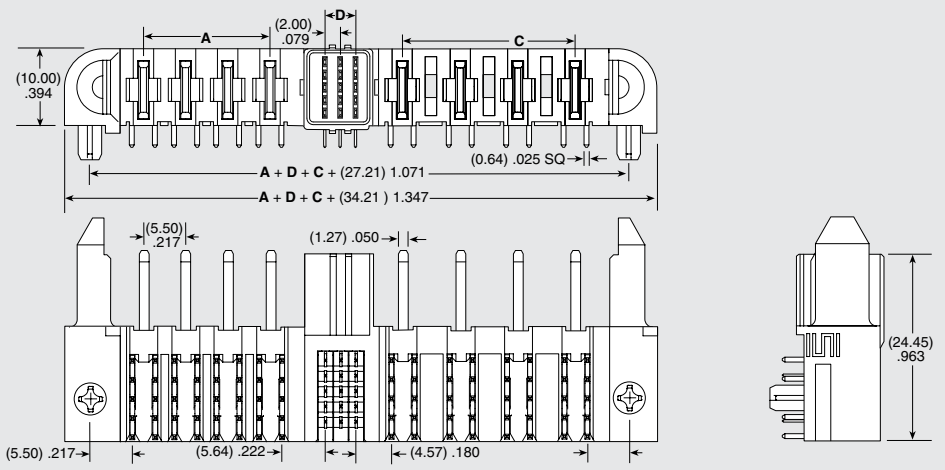
EXTreme Ten60Power™ is a trademark of Molex Incorporated and is dual sourced by Molex®

ET60T	– POWER POSITIONS (LEFT)	– ROWS	– SIGNAL POSITIONS
	–AXX* = AC Power Positions (–02, –03, –04, –05, –06) –DXX = DC Power Positions (–02, –03, –04, –05, –06, –07, –08, –09, –10) –SXX* = Split Power –000 = No Power	–0 = No Signal –3 = 3 Rows –5* = 5 Rows	–02, –04, –06, –08, –10, –12 = 3 Rows –01, –02, –03, –04, –05, –06, –07, –08 = 5 Rows –00 = No Signal

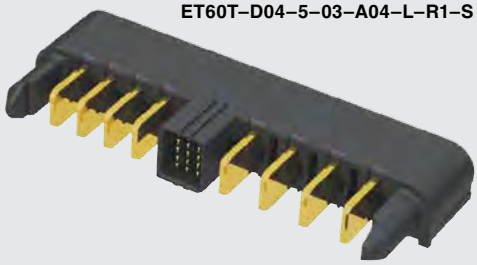
Note:
–AXX*, –SXX*, –5* & –T* are Preliminary



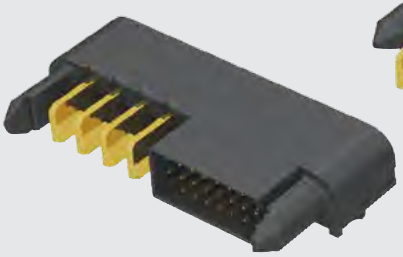
ET60T–D03–3–08–A03–X–R1–S



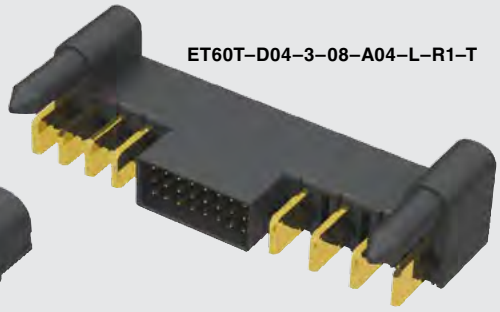
ET60T–D04–5–03–A04–X–R1–S



ET60T–D04–5–03–A04–L–R1–S



ET60T–D04–3–08–000–S–R1–S



ET60T–D04–3–08–A04–L–R1–T

ET60T SERIES

POWER POSITIONS (RIGHT)

–AXX*
= AC Power Positions
(–02, –03, –04, –05, –06)

–DXX
= DC Power Positions
(–02, –03, –04, –05, –06, –07, –08, –09, –10)

–SXX*
= Split Power

–000
= No Power

PLATING

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail
(Not available for 5 rows)

–S
= 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail

TAIL

–R1
= Right-angle Through-hole (Use with (1.60 mm) .062" thick card)

GUIDE POST

(Required callout)

–S
= Side Guide Post

–T*
= Top Guide Post

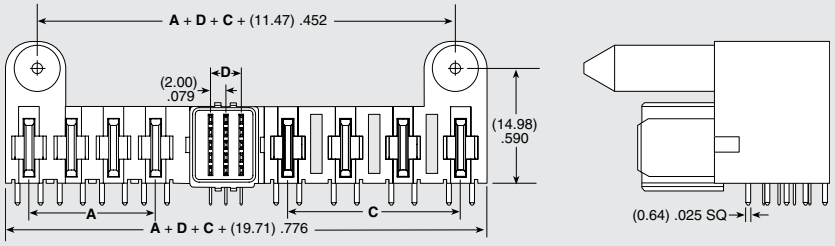
OPTION

–H
= Hot Swap
(Leave blank for no Hot Swap

Note:
–AXX*, –SXX*, –5* & –T* are Preliminary

POWER POSITIONS (LEFT)	POWER POSITIONS (RIGHT)	A DC POWER	C AC POWER
–02	–02	(5.50) .217	**(7.50) .295
–03	–03	(11.00) .433	**(15.00) .591
–04	–04	(16.50) .650	**(22.50) .886
–05	–05	**(22.00) .866	**(30.00) 1.181
–06	–06	**(27.50) 1.083	**(37.50) 1.476
–07	–07	**(33.00) 1.299	N/A
–08	–08	**(38.50) 1.516	N/A
–09	–09	**(44.00) 1.732	N/A
–10	–10	(49.50) 1.949	N/A

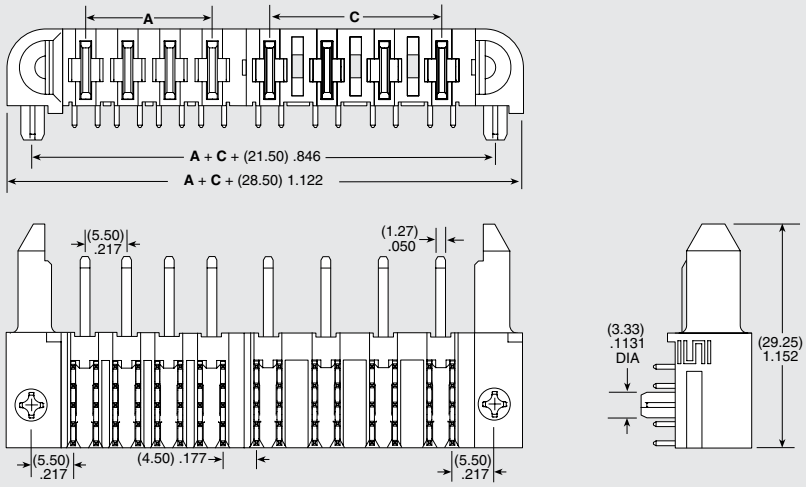
**Not Released



ET60T–D04–5–03–A04–X–R1–T

SIGNAL POSITIONS PER ROW (3 Row)	B	SIGNAL POSITIONS PER ROW (5 Row)	D
*–02	(2.54) .100	**–01	N/A
		**–02	(2.00) .079
*–04	(7.62) .300	**–03	(4.00) .157
		*–04	(6.00) .236
*–06	(12.70) .500	**–05	(8.00) .315
–08	(17.78) .700	**–06	(10.00) .394
*–10	(22.86) .900	**–07	(12.00) .472
*–12	(27.94) 1.100	**–08	(14.00) .551

*Not Tooled
**Not Released

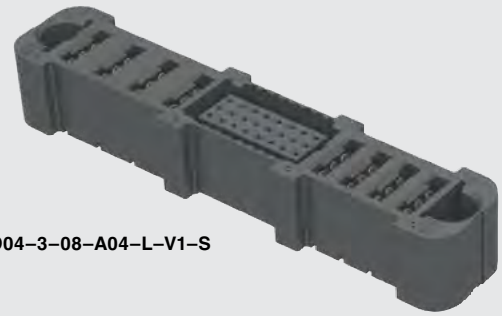


ET60T–D04–0–00–A04–X–R1–S

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

POWER™ EXTreme STRIP Ten60



ET60S–D04–3–08–A04–L–V1–S

EXTreme Ten60Power™ SOCKET

Mates with:
ET60T

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ET60S

Insulator Material:
Black LCP
Terminal Material:
Signal: Copper Alloy
Power: Copper Alloy
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
Power: 60 A max per blade (2 pins powered)
Signal: 2.8 A max (6 pins powered)
Operating Temp Range:
-40 °C to +105 °C
RoHS Compliant:
Yes

PROCESSING

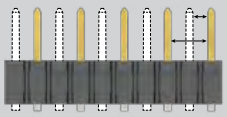
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

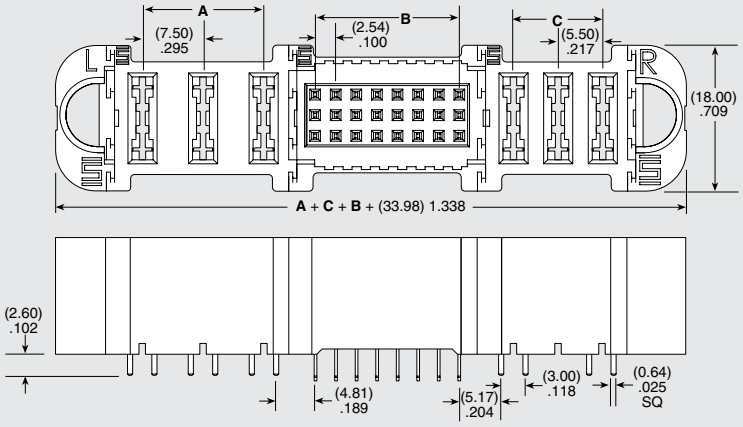
Contact asp@samtec.com

Notes:
Some lengths, styles and options are non-standard, non-returnable.

EXTreme Ten60Power™ is a trademark of Molex Incorporated and is dual sourced by Molex®

ET60S	–	POWER OPTION (RIGHT)	–	ROWS	–	SIGNAL POSITIONS PER ROW
		–AXX* = AC Power Positions (–02, –03, –04, –05, –06 positions only) –DXX = DC Power Positions (–02, –03, –04, –05, –06, –07, –08, –09, –10 positions only) –SXX* = Split Power –000 = No Power		–0 = No Signal –3 = 3 Rows –5* = 5 Rows		–02, –04, –06, –08, –10, –12 (3 Row only) –01, –02, –03, –04, –05, –06, –07, –08 (5 Row only) –00 = No Signal

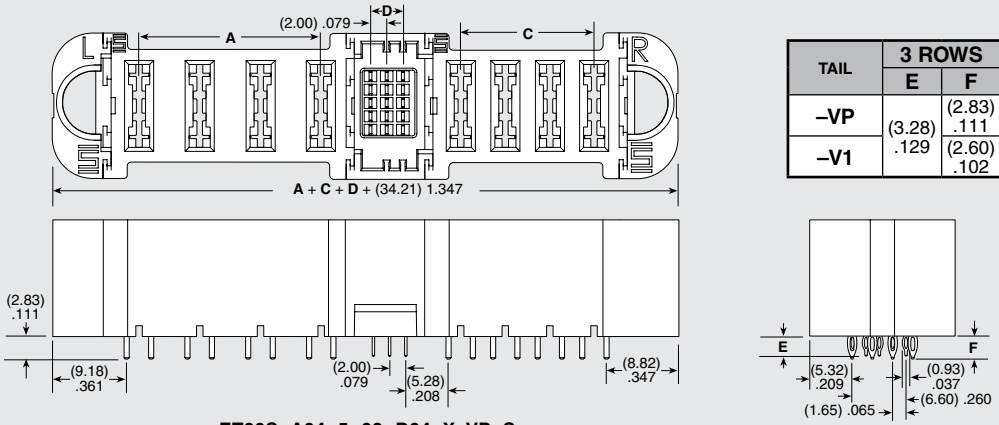
Note:
–AXX*, –SXX*, –5* & –T* are Preliminary



ET60S–D03–3–08–A03–X–V1–S

POWER POSITIONS (LEFT)	POWER POSITIONS (RIGHT)	A AC POWER	C DC POWER
–02	–02	**(7.50) .295	(5.50) .217
–03	–03	**(15.00) .591	(11.00) .433
–04	–04	**(22.50) .886	(16.50) .650
–05	–05	**(30.00) 1.181	**(22.50) .886
–06	–06	**(37.50) 1.476	(27.50) 1.083
–07	–07	N/A	**(33.00) 1.299
–08	–08	N/A	**(38.50) 1.516
–09	–09	N/A	**(44.00) 1.732
–10	–10	N/A	(49.50) 1.949

**Not Released

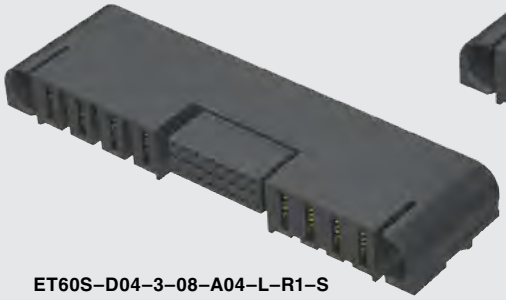


TAIL	3 ROWS E	3 ROWS F	5 ROWS E	5 ROWS F
–VP	(3.28) .129	(2.83) .111	(2.83) .111	(2.50) .098
–V1		(2.60) .102	N/A	

ET60S–A04–5–03–D04–X–VP–S



ET60S–A04–5–03–D04–L–VP–S



ET60S–D04–3–08–A04–L–R1–S



ET60S–D04–5–03–A04–S–R1–S

POWER OPTION (LEFT)

–AXX*
= AC Power Positions
(–02, –03, –04, –05, –06 positions only)

–DXX
= DC Power Positions
(–02, –03, –04, –05, –06, –07, –08, –09, –10 positions only)

–SXX*
= Split Power

–000
= No Power

PLATING

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail
(Not available for 5 rows)

–S
= 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail

TAIL

–VP
= Vertical Press-fit

–V1
= Vertical through-hole
(Use with (1.60 mm) .062" thick card)
(3 Row only)

–R1
= Right-angle through-hole
(Use with (1.60 mm) .062" thick card)

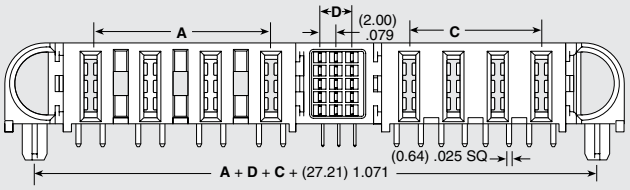
GUIDE POST

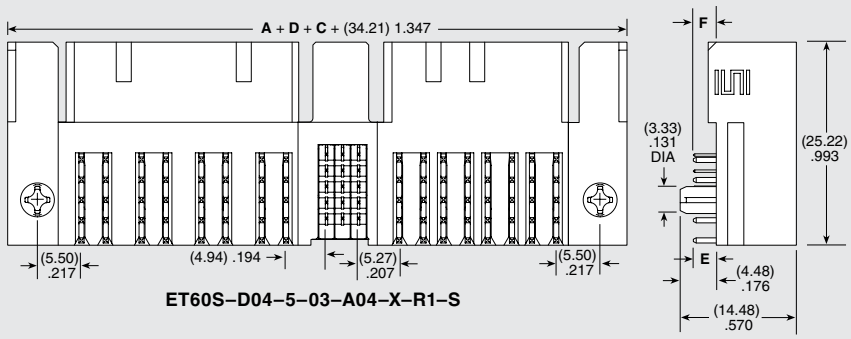
(Required callout)

–S
= Side Guide Post

–T*
= Top Guide Post

Note:
–AXX*, –SXX*, –5* & –T* are Preliminary

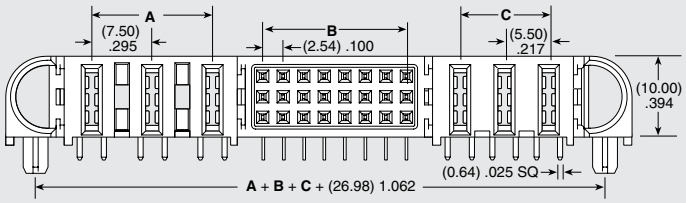


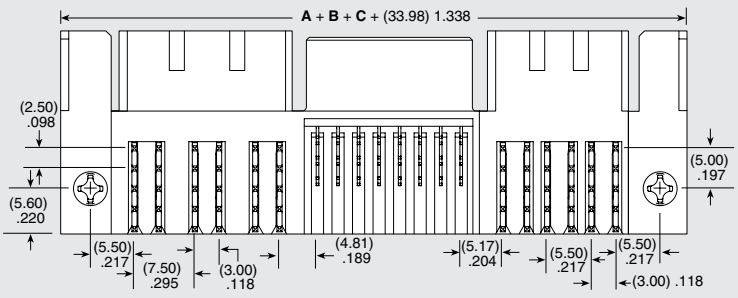


ET60S–D04–5–03–A04–X–R1–S

SIGNAL POSITIONS PER ROW (3 Row)	B	SIGNAL POSITIONS PER ROW (5 Row)	D
*–02	(2.54) .100	**–01	N/A
		**–02	(2.00) .079
*–04	(7.62) .300	**–03	(4.00) .157
		*–04	(6.00) .236
*–06	(12.70) .500	**–05	(8.00) .315
–08	(17.78) .700	**–06	(10.00) .394
*–10	(22.86) .900	**–07	(12.00) .472
*–12	(27.94) 1.100	**–08	(14.00) .551

*Not Tooled
**Not Released



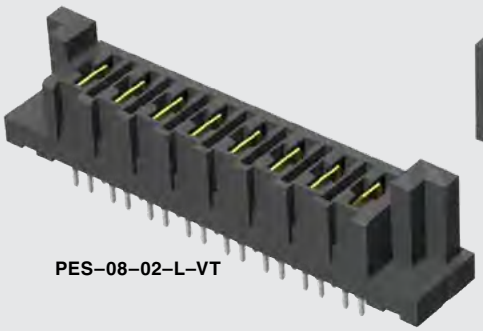


ET60S–D03–3–08–A03–X–R1–S

TAIL	E	F
–R1	(2.84) .112	

samtec

POWER STRIP 40


PES–08–02–L–VT


PET–04–01–L–VT

(6.35 mm) .250"

PES, PET SERIES

40 A HIGH POWER HEADER & SOCKET

PES Mates with:
PET

PET Mates with:
PES, PESS

SPECIFICATIONS

For complete specifications see www.samtec.com?PET or www.samtec.com?PES

Insulator Material:
Black LCP
Terminal Material:
Copper Alloy
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin
-55 °C to +125 °C with Gold
Voltage Rating:
725 VAC/1025 VDC
Wiping Distance (PES):
(0.38 mm) .015"
Standard Creepage:
(3.66 mm) .144"
Standard Clearance:
(3.31 mm) .130"
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

PET/PES	
PINS	CURRENT RATING (PER CONTACT)
1	58.7 A
2	48.5 A
3	41.1 A
4	38.0 A
8	29.4 A

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Locking Clip (Manual placement required)
- No Latch ears
- Other platings

Contact Samtec.

OTHER SOLUTIONS

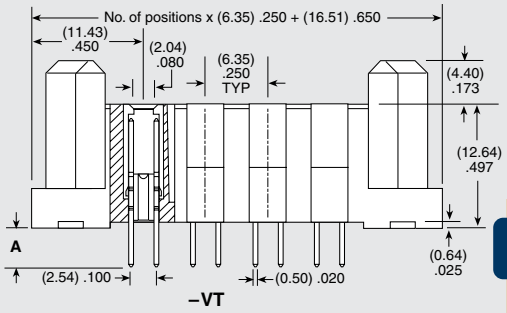
- Combination Signal/Power. See PESC or PETC Series.

Note: Some sizes, styles and options are non-standard, non-returnable.

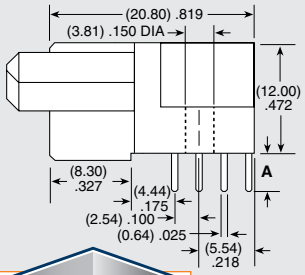
PES

NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	TAIL OPTION	OTHER OPTION
–02, –04, –06, –08	–01 = Use with (1.60 mm) .062" Thick PCB –02 = Use with (3.18 mm) .125" Thick PCB	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin	–VT = Vertical – RA = Right-angle (Screw Down option required)	–SD = Screw Down (Right-angle only)

LEAD STYLE	A
–01	(2.35) .093
–02	(3.95) .156



–VT

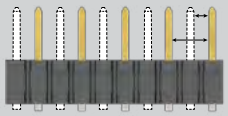


–RA–SD

RUGGEDIZED BY SAMTEC

- Screw down (right-angle)

CREEPAGE AND CLEARANCE



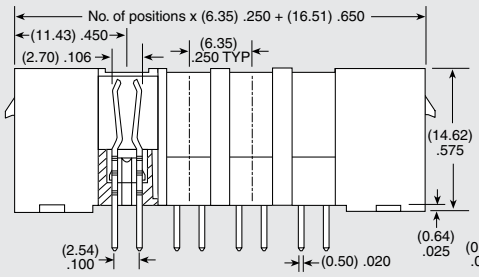
Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

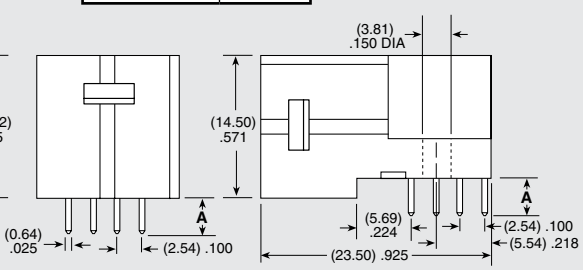
PET

NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	TAIL OPTION	OTHER OPTION
–02, –04, –06, –08	–01 = Use with (1.60 mm) .062" Thick PCB –02 = Use with (3.18 mm) .125" Thick PCB	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin	–VT = Vertical – RA = Right-angle (Screw Down option required)	–SD = Screw Down (Right-angle only)

LEAD STYLE	A
–01	(2.35) .093
–02	(3.95) .156



–VT



–RA–SD

samtec

POWER™ STRIP 40



(6.35 mm) .250"(PWR) (2.54 mm) .100"(SIG)

PETC, PESC SERIES

40 A SIGNAL/POWER COMBO SYSTEM

SPECIFICATIONS

For complete specifications see www.samtec.com?PETC or www.samtec.com?PESC

Insulator Material:
Black LCP
Terminal Material:
Copper Alloy
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating (Signal Pin):
5.7 A per pin
(4 pins powered)
Insertion Depth (Power Pin):
(5.00 mm) .197" to
(8.46 mm) .333"
Wiping Distance (Power Pin):
(0.38 mm) .015"
Operating Temp Range:
-55 °C to +125 °C for Au
-55 °C to +105 °C for Sn
Voltage Rating:
Signal: 450 VAC/636 VDC
Power: 650 VAC/919 VDC
Standard Creepage:
(3.66 mm) .144" (power)
Standard Clearance:
(3.31 mm) .130" (power)
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

PETC/PESC	
POWER PINS	CURRENT RATING (PER CONTACT)
1	31.4 A
2	28.0 A
3	24.4 A
4	22.9 A

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other signal pins
- Power pins
- Asymmetric power pin placement
- Other platings

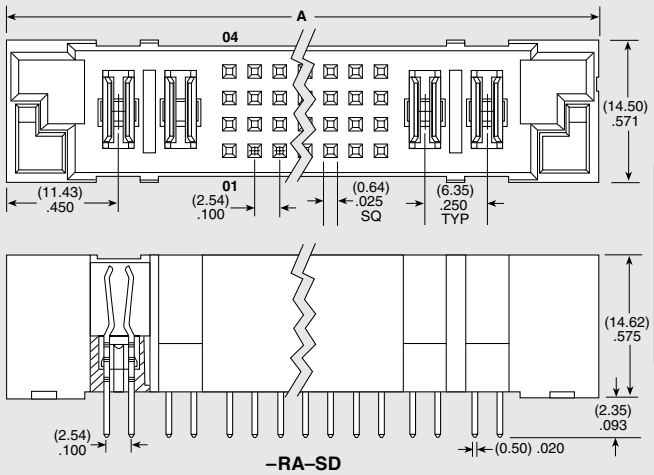
Contact Samtec.

Notes:
The number of power pins on each end must equal.

Some sizes, styles and options are non-standard, non-returnable.

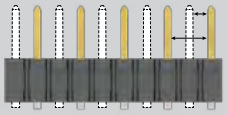
PETC – POWER PINS – SIGNAL PINS – POWER PINS – 01 – PLATING OPTION – TAIL – OTHER OPTION

POWER PINS	SIGNAL PINS	POWER PINS	01	PLATING OPTION	TAIL	OTHER OPTION
–01, –02, –04	–12 –40	–01, –02, –04		–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail –T = Matte Tin	–VT =Vertical –RA = Right-angle	–SD = Screw Down (Right- angle only) –LC = Locking Clip (Manual placement required)



POWER PINS/ END	A	
	12 SIGNAL PINS	40 SIGNAL PINS
–01	(39.37) 1.550	(57.15) 2.250
–02	(52.07) 2.050	(69.85) 2.750
–04	(77.47) 3.050	(95.25) 3.750

CREEPAGE AND CLEARANCE

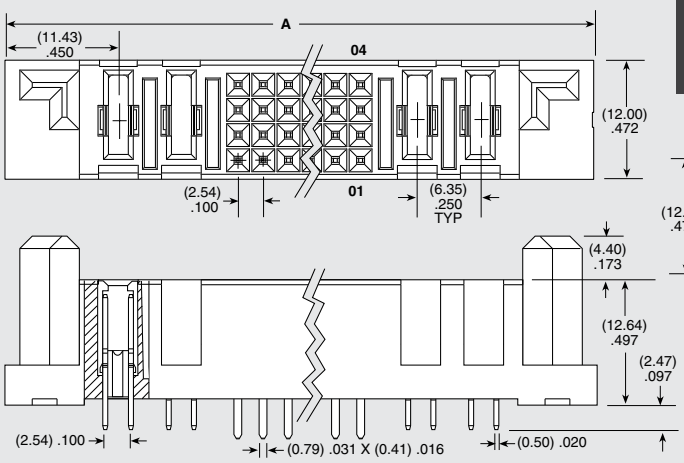


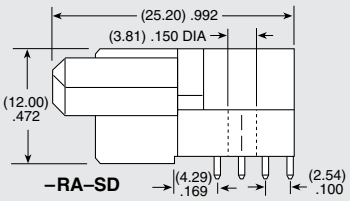
Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

PESC – POWER PINS – SIGNAL PINS – POWER PINS – 01 – PLATING OPTION – TAIL – OTHER OPTION

POWER PINS	SIGNAL PINS	POWER PINS	01	PLATING OPTION	TAIL	OTHER OPTION
–01, –02, –04	–12 –40	–01, –02, –04		–L = 10 µ" (0.25 µm) Gold on contact area, Matte Tin on tail –T = Matte Tin	–VT =Vertical –RA = Right-angle	–SD = Screw Down (Right-angle only) –LC = Locking Clip (Manual placement required)





POWER PINS/END	A	
	12 SIGNAL PINS	40 SIGNAL PINS
–01	(39.37) 1.550	(57.15) 2.250
–02	(52.07) 2.050	(69.85) 2.750
–04	(77.47) 3.050	(95.25) 3.750

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

POWER STRIP 30





(5.00 mm) .1969"

MPT SERIES

30 A DUAL BLADE HEADER

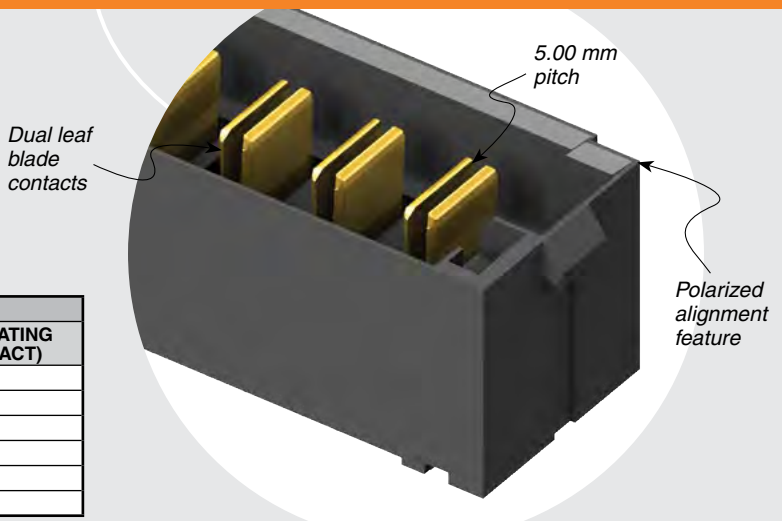
SPECIFICATIONS

For complete specifications see www.samtec.com?MPT

Insulator Material:
Black LCP
Terminal Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
575 VAC/812 VDC
Standard Creepage:
(2.86 mm) .113"
Standard Clearance:
(2.71 mm) .106"
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

Board Mates:
MPS

Cable Mates:
MPSS



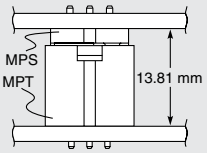
MPT-V/MPS-V	
POWER PINS	CURRENT RATING (PER CONTACT)
1	28.8 A
2	24.7 A
3	24.1 A
4	22.3 A
8	18.5 A
–T PLATING	

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT



OTHER SOLUTIONS

- Power/Signal combination Headers (see MPTC Series)
- High Power Headers. (see PET Series)
- Right-angle (see MPT-RA Series)

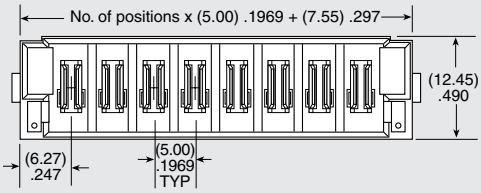
ALSO AVAILABLE (MOQ Required)

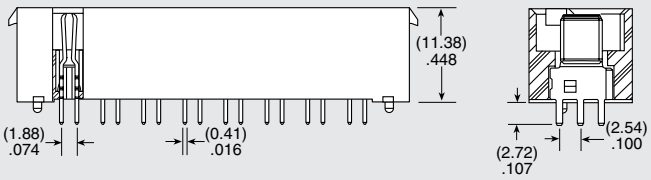
- Locking Clip (Manual placement required)

Contact Samtec.

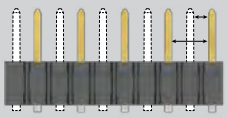
Note: Some sizes, styles and options are non-standard, non-returnable.

MPT	–	POWER PINS	–	LEAD STYLE	–	TAIL LENGTH	–	PLATING OPTION	–	V
		–02, –03, –04, –06, –08		–6.30 = (6.30 mm) 0.248"		–01 = Use with (1.60 mm) .062" Thick PCB –03 = Use with (2.36 mm) .093" Thick PCB		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin		





CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

samtec

POWER STRIP 30



MPS–02–7.70–01–L–V



MPS–06–7.70–01–L–V

MPS SERIES

(5.00 mm) .1969"

30 A DUAL LEAF SOCKET

SPECIFICATIONS

For complete specifications see www.samtec.com?MPT

Insulator Material:
Black LCP
Terminal Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
575 VAC/812 VDC
Standard Creepage:
(2.86 mm) .113"
Standard Clearance:
(2.71 mm) .106"
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

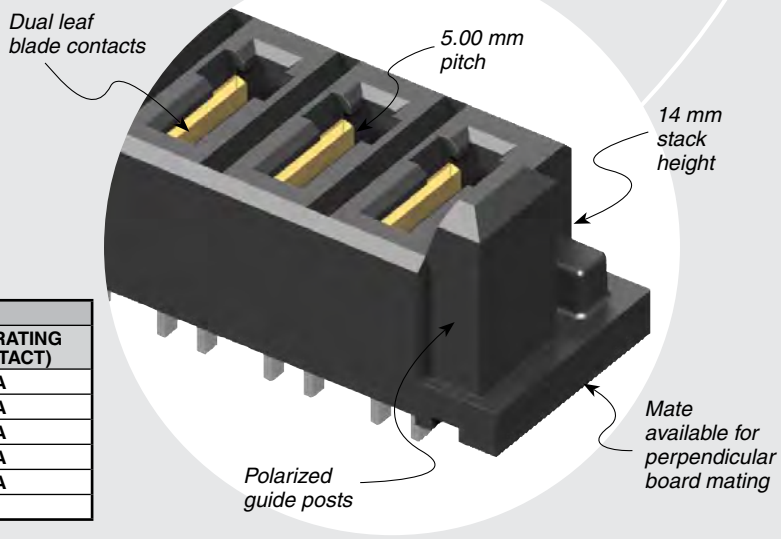
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

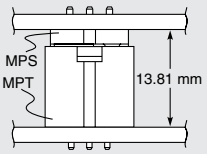
Mates with:
MPT

MPT-V/MPS-V	
POWER PINS	CURRENT RATING (PER CONTACT)
1	28.8 A
2	24.7 A
3	24.1 A
4	22.3 A
8	18.5 A
–T PLATING	



MPS	–	POWER PINS	–	LEAD STYLE	–	TAIL LENGTH	–	PLATING OPTION	–	V
		–02, –03, –04, –06, –08		–7.70 = (7.70 mm) .303"		–01 = Use with (1.60 mm) .062" Thick PCB –03 = Use with (2.36 mm) .093" Thick PCB		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin		

MATED HEIGHT



OTHER SOLUTIONS

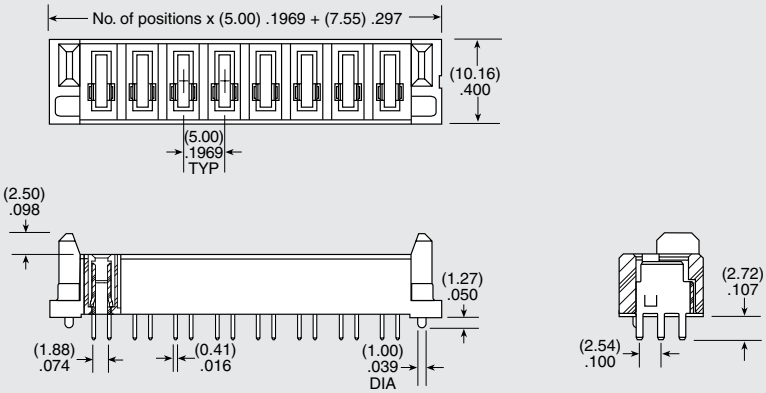
- Power/Signal combination Headers (see MPSC Series)
- High Power Headers (see PES Series)

ALSO AVAILABLE (MOQ Required)

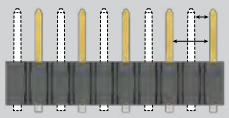
- Other sizes
- Locking Clip (Manual placement required)

Contact Samtec.

Note: Some sizes, styles and options are non-standard, non-returnable.



CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

POWER™ STRIP 30

MPS–06–01–01–L–RA–SD





MPT–04–01–01–L–RA–SD

(5.00 mm) .1969"

MPT-RA, MPS-RA SERIES

RIGHT-ANGLE 30 A POWER CONNECTORS

MPT-RA Mates with:
MPS, MPSS

MPS-RA Mates with:
MPT

SPECIFICATIONS

For complete specifications see www.samtec.com?MPT or www.samtec.com?MPS

Insulator Material:
Black LCP
Terminal Material:
Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
575 VAC/812 VDC
Standard Creepage:
(2.86 mm) .113"
Standard Clearance:
(2.71 mm) .106"
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

MPT-RA/MPS-RA	
POWER PINS	CURRENT RATING (PER CONTACT)
1	23.3 A
2	20.5 A
3	19.4 A
4	18.4 A
8	17.2 A
–L PLATING	

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

- Power/Signal combination headers & sockets (see MPTC or MPSC Series)
- High Power Headers (see PET Series)
- High Power Sockets (see PES Series)
- Vertical (see MPT or MPS Series)

Note: Some sizes, styles and options are non-standard, non-returnable.

MPT – POWER PINS – 01 – TAIL LENGTH – PLATING OPTION – RA – SD

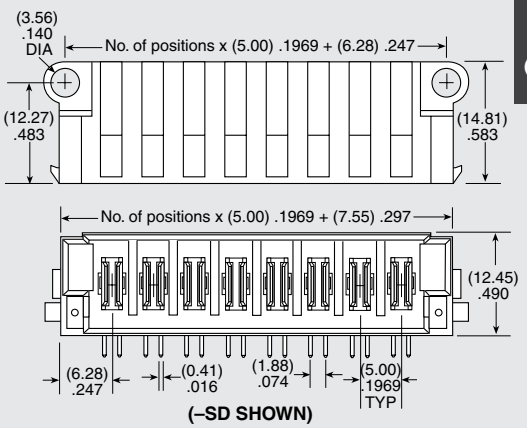
–02, –04, –06, –08

–01
= Use with (1.60 mm) .062" Thick PCB

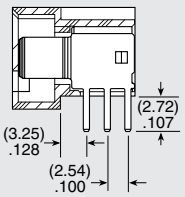
–03
= Use with (2.36 mm) .093" Thick PCB

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–T
= Matte Tin



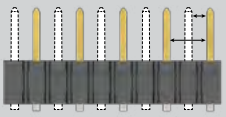
(–SD SHOWN)



RUGGEDIZED BY SAMTEC

- Screw downs

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

MPS – POWER PINS – 01 – TAIL LENGTH – PLATING OPTION – RA – SD

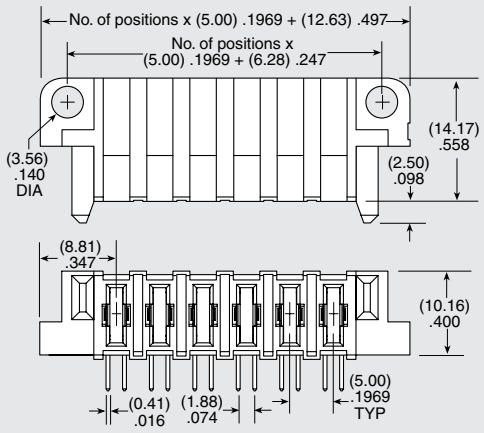
–02, –04, –06, –08

–01
= Use with (1.60 mm) .062" Thick PCB

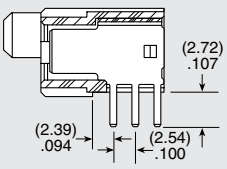
–03
= Use with (2.36 mm) .093" Thick PCB

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–T
= Matte Tin



(–SD SHOWN)



ALSO AVAILABLE (MOQ Required)

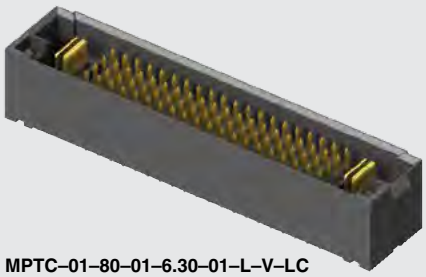
- Other sizes
- Locking Clip (Manual placement required)

Contact Samtec.

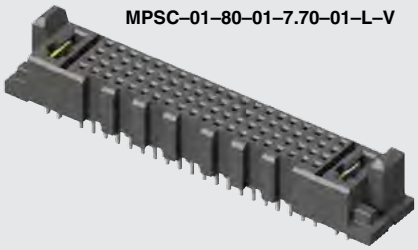
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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

POWER™ STRIP 30



MPTC–01–80–01–6.30–01–L–V–LC



MPSC–01–80–01–7.70–01–L–V

(5.00 mm) .197"(PWR) (2.00 mm) .079"(SIG)

MPTC, MPSC SERIES

30 A SIGNAL/POWER COMBO SYSTEM

MPTC Mates with:
MPSC, MPCC

MPSC Mates with:
MPTC

SPECIFICATIONS

For complete specifications see www.samtec.com?MPTC or www.samtec.com?MPSC

Insulator Material:
Black LCP
Terminal/Contact Material:
Signal: Phosphor Bronze
Power: Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin
-55 °C to +125 °C with Gold
Voltage Rating:
300 VAC/424 VDC
Standard Creepage:
MPTC: (2.86 mm) .113" (power)
MPSC: (2.86 mm) .113" (without -LC, power)
(2.69 mm) .105" (with -LC, power)
Standard Clearance:
(2.71 mm) .106" (without -LC, power)
MPTC: (2.54 mm) .100" (with -LC, power)
MPSC: (1.93 mm) .076" (with -LC, power)
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

MPTC-V/MPSC-V	
POWER PINS	CURRENT RATING (PER CONTACT)
1	28.8 A
2	24.7 A
3	24.1 A
4	22.3 A
–T PLATING	

RUGGEDIZED BY SAMTEC

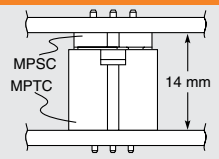
- Locking clip option

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT



ALSO AVAILABLE (MOQ Required)

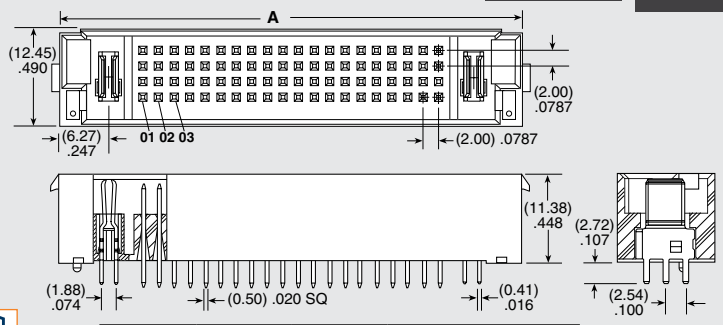
- 4, 8, 36 and 48 total signal pins

Contact Samtec.

Note: Some sizes, styles and options are non-standard, non-returnable.

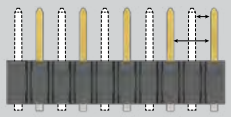
MPTC	PWR PINS	SIG PINS	PWR PINS	LEAD STYLE	TAIL LENGTH	PLATING OPTION	V	OTHER OPTION
	–01, –02 = Power Pins Per End	–16, –24, –40, –80	–01, –02 = Power Pins Per End	–6.30 = (6.30 mm) 0.248"	–01 = Use with (1.60 mm) .062" Thick PCB –03 = Use with (2.36 mm) .093" Thick PCB	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Power & Signal) –T = Matte Tin on contacts and tail (Power), Gold on contact, Matte Tin on tail (Signal)		–LC = Locking Clip (Manual placement required)

Note:
Available standard power pin combinations:
MPTC-01-XX-01 or MPTC-02-XX-02.
Contact Samtec for other options.



POWER PINS/END	A			
	16 SIGNAL PINS	24 SIGNAL PINS	40 SIGNAL PINS	80 SIGNAL PINS
–01	(27.44) 1.081	(31.45) 1.238	(39.44) 1.553	(59.44) 2.340
–02	(37.44) 1.474	(41.45) 1.632	(49.44) 1.946	(69.44) 2.734

CREEPAGE AND CLEARANCE

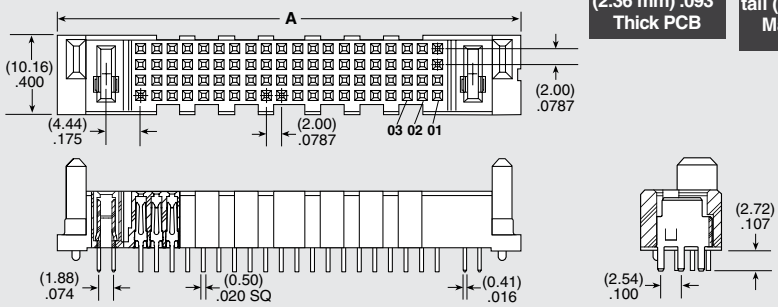


Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

MPSC	PWR PINS	SIG PINS	PWR PINS	LEAD STYLE	TAIL LENGTH	PLATING OPTION	V	OTHER OPTION
	–01, –02 = Power Pins Per End	–16, –24, –40, –80	–01, –02 = Power Pins Per End	–7.70 = (7.70 mm) .303"	–01 = Use with (1.60 mm) .062" Thick PCB –03 = Use with (2.36 mm) .093" Thick PCB	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Power & Signal) –T = Matte Tin on contacts and tail (Power), Gold on contact, Matte Tin on tail (Signal)		–LC = Locking Clip (Manual placement required) (Not available with –16 signal pins)

Note:
Available standard power pin combinations:
MPSC-01-XX-01 or MPSC-02-XX-02.
Contact Samtec for other options.



Due to technical progress, all designs, specifications and components are subject to change without notice.

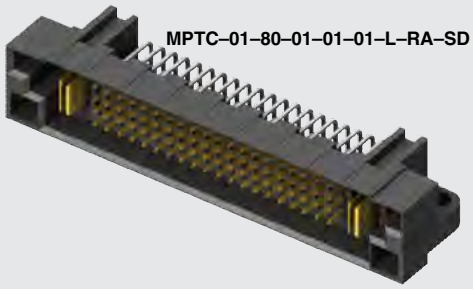
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POWER STRIP 30



MPSC–01–24–01–01–01–L–RA–SD



MPTC–01–80–01–01–01–L–RA–SD

(5.00 mm) .197"(PWR) (2.00 mm) .079"(SIG)

MPTC-RA, MPSC-RA SERIES

30 A RIGHT-ANGLE SIGNAL/POWER COMBO

MPTC-RA Mates with:
MPSC, MPCC

MPSC-RA Mates with:
MPTC

SPECIFICATIONS

For complete specifications see www.samtec.com?MPTC or www.samtec.com?MPSC

Insulator Material:
Black LCP
Terminal/Contact Material:
Signal: Phosphor Bronze
Power: Copper Alloy
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C
Voltage Rating:
Power:
600 VAC/848 VDC
Signal:
450 VAC/636 VDC
Standard Creepage:
(2.86 mm) .113"
(without -LC, power)
MPTC: (2.59 mm) .101"
(with -LC, power)
MPSC: (2.60 mm) .102"
(with -LC, power)
Standard Clearance:
MPTC: (2.72 mm) .107"
(without -LC, power)
(1.84 mm) .072"
(with -LC, power)
MPSC: (2.71 mm) .106"
(without -LC, power)
(1.85 mm) .073"
(with -LC, power)
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

MPTC-V/MPSC-V	
POWER PINS	CURRENT RATING (PER CONTACT)
1	28.8 A
2	24.7 A
3	24.1 A
4	22.3 A
–T PLATING	

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note: Some sizes, styles and options are non-standard, non-returnable.

MPTC – PWR PINS – SIG PINS – PWR PINS – 01 – TAIL LENGTH – PLATING OPTION – RA – OTHER OPTION

PWR PINS: –01, –02 = Power Pins Per End

SIG PINS: –24 = Total Signal Pins; –80 = Total Signal Pins

PWR PINS: –01, –02 = Power Pins Per End

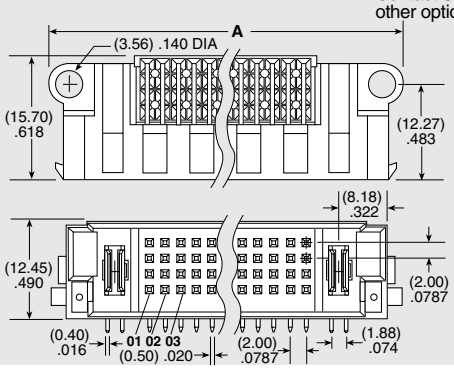
Note: Available standard power pin combinations: MPTC-01-XX-01 or MPTC-02-XX-02. Contact Samtec for other options.

TAIL LENGTH: –01 = Use with (1.60 mm) .062" Thick PCB; –03 = Use with (2.36 mm) .093" Thick PCB

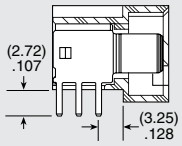
PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Power & Signal); –T = Matte Tin on contacts and tail (Power), Gold on contact, Matte Tin on tail (Signal)

RA

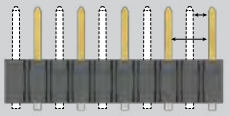
OTHER OPTION: –SD or –LC is a required callout; –SD = Screw Down; –LC = Locking Clip (Manual placement required)



POWER PINS/END	A	
	24 SIGNAL PINS	80 SIGNAL PINS
–01	(35.25) 1.388	(63.25) 2.490
–02	(45.25) 1.781	(73.25) 2.884



CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com

MPSC – PWR PINS – SIG PINS – PWR PINS – 01 – TAIL LENGTH – PLATING OPTION – RA – OTHER OPTION

PWR PINS: –01, –02 = Power Pins Per End

SIG PINS: –24 = Total Signal Pins; –80 = Total Signal Pins

PWR PINS: –01, –02 = Power Pins Per End

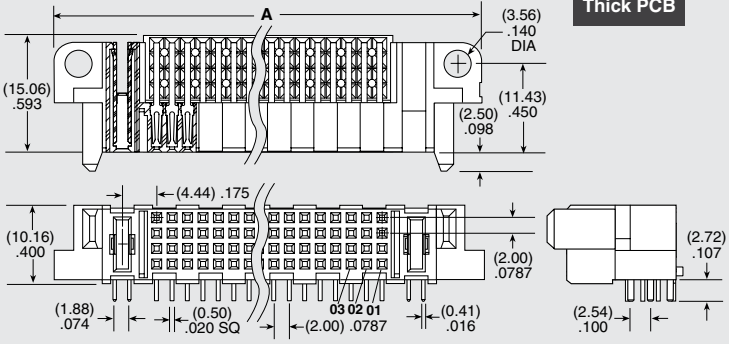
Note: Available standard power pin combinations: MPSC-01-XX-01 or MPSC-02-XX-02. Contact Samtec for other options.

TAIL LENGTH: –01 = Use with (1.60 mm) .062" Thick PCB; –03 = Use with (2.36 mm) .093" Thick PCB

PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Power & Signal); –T = Matte Tin on contacts and tail (Power), Gold on contact, Matte Tin on tail (Signal)

RA

OTHER OPTION: –SD or –LC is a required callout; –SD = Screw Down; –LC = Locking Clip (Manual placement required)



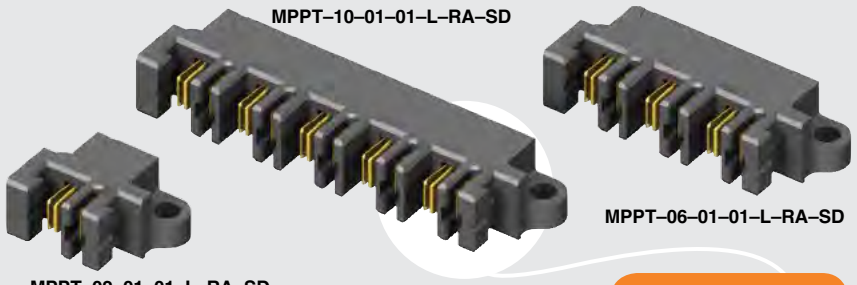
POWER PINS/END	A	
	24 SIGNAL PINS	80 SIGNAL PINS
–01	(36.52) 1.438	(64.52) 2.540
–02	(46.52) 1.831	(74.52) 2.934

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

POWER STRIP 30



(5.00 mm) .1969"

MPPT SERIES

HERMAPHRODITIC 30 A POWER SYSTEM

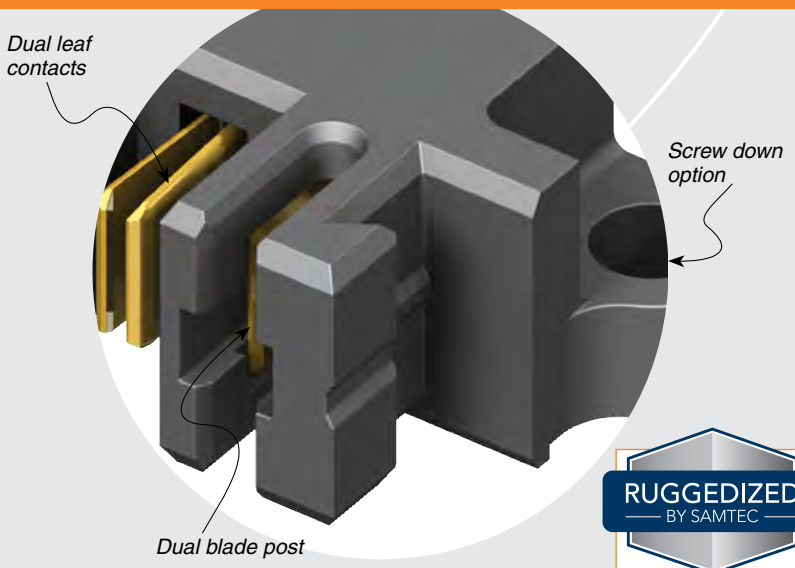
SPECIFICATIONS

Mates with:
MPPT

For complete specifications see www.samtec.com?MPPT

Insulator Material:
Black LCP
Terminal Material:
Copper Alloy
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin; -55 °C to +125 °C with Gold
Voltage Rating:
600 VAC/848 VDC
Standard Creepage:
(2.95 mm) .116"
Standard Clearance:
(2.71 mm) .106"
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

MPPT/MPPT	
POWER PINS	CURRENT RATING (PER CONTACT)
1	23.3 A
2	20.5 A
3	19.4 A
4	18.4 A
10	17.2 A



RUGGEDIZED BY SAMTEC
• Screw down option

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

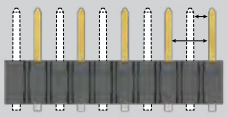
ALSO AVAILABLE (MOQ Required)

- Locking Clip (Manual placement required)
- Solder Leads for (2.36 mm) .093" thick board

Contact Samtec.

MPPT	–	NO. OF POSITIONS	–	01	–	TAIL LENGTH	–	PLATING	–	RA	–	SD	–	OPTION
		–02, –04, –06, –08, –10				–01 = (1.60 mm) .062" Thick PCB		–L =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin				–SD = Screw Down		–TR = Tape & Reel

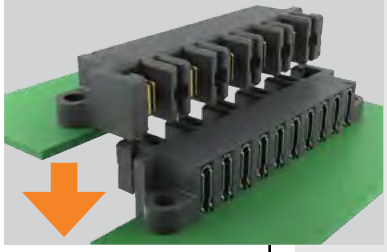
CREEPAGE AND CLEARANCE

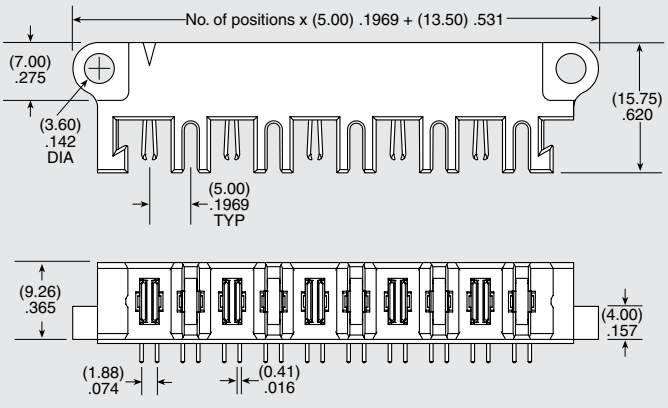


Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

APPLICATION





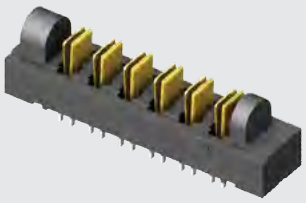
Note: Some sizes, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

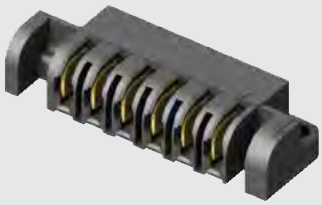
All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

POWER STRIP 30



FMPT–06–01–L–S–V



FMPS–06–01–L–S–RA–SD

(5.00 mm) .1969"

FMPS, FMPT SERIES

"HINGING" 30 A POWER HEADER & SOCKET

SPECIFICATIONS

For complete specifications see www.samtec.com?FMPS or www.samtec.com?FMPT

Insulator Material: Black LCP
Terminal Material: Copper Alloy
Plating: Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +105 °C with Tin; -55 °C to +125 °C with Gold
Voltage Rating: 525 VAC/742 VDC
Standard Creepage: FMPS: (3.67 mm) .144" FMPT: (6.53 mm) .257"
Standard Clearance: (2.71 mm) .106"
RoHS Compliant: Yes
Lead–Free Solderable: Yes

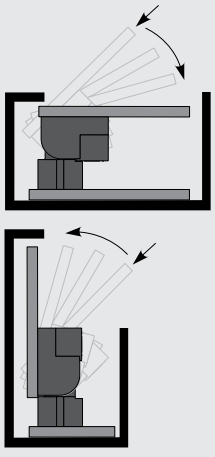
FMPT/FMPS	
PINS	CURRENT RATING (PER CONTACT)
1	26.7 A
2	22.9 A
3	19.1 A
4	17.6 A
8	15.8 A
–L PLATING	

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATION



Ideal for blind mating applications.

Note: Some sizes, styles and options are non-standard, non-returnable.

FMPS	–	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	S	–	RA	–	OPTION

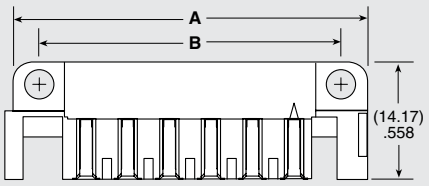
02, 04, 06, 08
(Standard sizes)

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

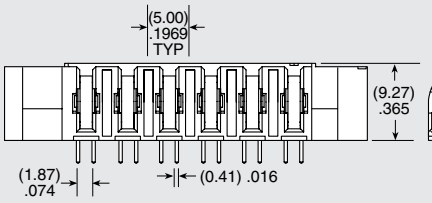
–T
= Matte Tin

–SD
= Screw Down
(Not Available with –LC)

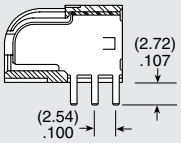
–LC
= Locking Clip
(Manual placement required)
(Not Available with –SD)

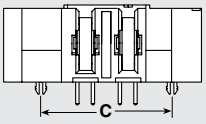


NUMBER OF POSITIONS	A	B	C
–02	(22.63) .891	(16.28) .641	(15.63) .615
–04	(32.63) 1.285	(26.28) 1.035	(25.63) 1.009
–06	(42.63) 1.678	(36.28) 1.428	(35.63) 1.403
–08	(52.63) 2.072	(46.28) 1.822	(45.63) 1.796



–SD OPTION
(6 POSITIONS SHOWN)





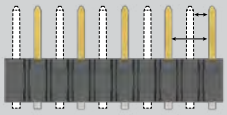
–LC OPTION
(2 POSITIONS SHOWN)

ALSO AVAILABLE
(MOQ Required)

- Other sizes

Contact Samtec.

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

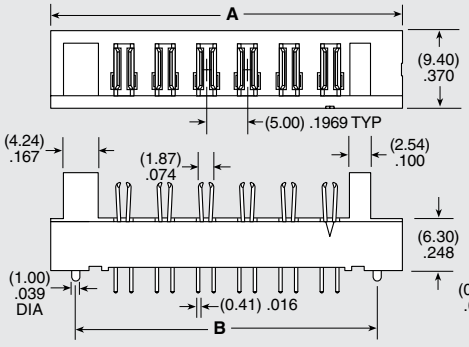
FMPT	–	NO. OF POSITIONS	–	01	–	PLATING OPTION	–	S	–	V	–	OPTION

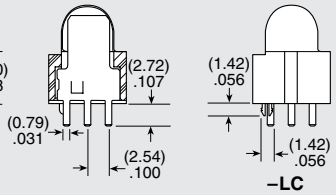
02, 04, 06, 08
(Standard sizes)

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–T
= Matte Tin

–LC
= Locking Clip
(Manual placement required)





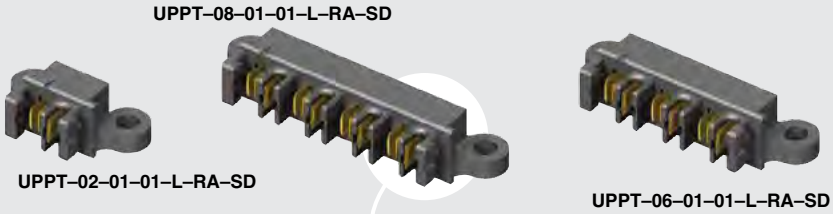
–LC

NUMBER OF POSITIONS	A	B
–02	(22.63) .891	(16.53) .651
–04	(32.63) 1.285	(26.53) 1.044
–06	(42.63) 1.678	(36.53) 1.438
–08	(52.63) 2.072	(46.53) 1.832

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POWER STRIP 20



(3.81 mm) .150"

UPPT SERIES

HERMAPHRODITIC 20 A POWER SYSTEM

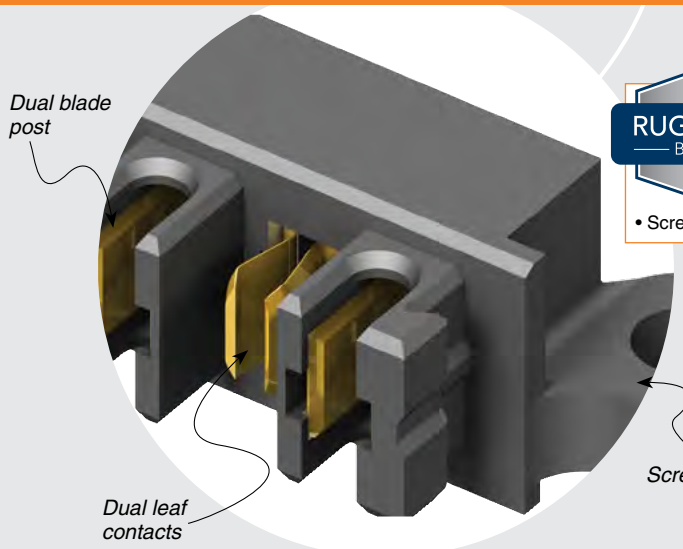
SPECIFICATIONS

Mates with: UPPT

For complete specifications see www.samtec.com?UPPT

Insulator Material: Black LCP
Terminal Material: Copper Alloy
Plating: Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +105 °C with Tin; -55 °C to +125 °C with Gold
Voltage Rating: 425 VAC/600 VDC
Standard Creepage: (1.91 mm) .075"
Standard Clearance: (1.51 mm) .059"
RoHS Compliant: Yes
Lead–Free Solderable: Yes

UPPT/UPPT	
PINS	CURRENT RATING (PER CONTACT)
1	21.4 A
2	19.8 A
3	17.1 A
4	16.9 A
8	14.1 A



RUGGEDIZED BY SAMTEC

• Screw down option

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

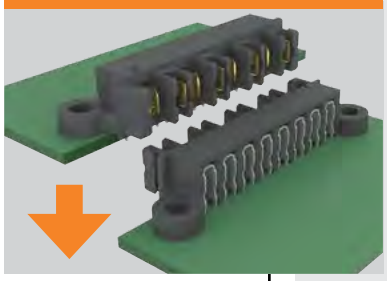
ALSO AVAILABLE (MOQ Required)

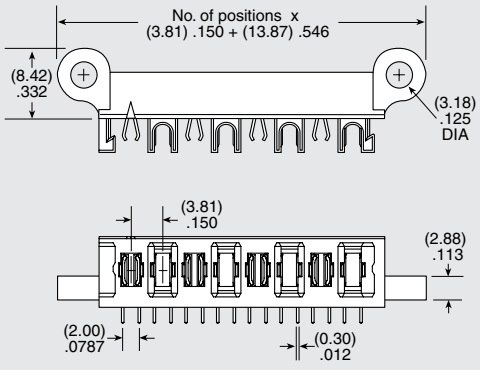
- Solder Leads for (2.36 mm) .093" thick board
- Locking Clip (Manual placement required)
- Tape & Reel Packaging

Contact Samtec.

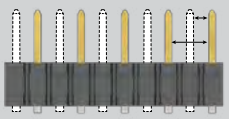
UPPT	–	NO. OF POSITIONS	–	01	–	TAIL LENGTH	–	PLATING	–	RA	–	SD
		–02, –04, –06, –08		–01 = (1.60 mm) .062" Thick PCB				–L =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin				

APPLICATION





CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com

Note: Some sizes, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

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samtec

POWER STRIP 20



(3.81 mm) .150"

UPT SERIES

DUAL BLADE 20 A POWER HEADER

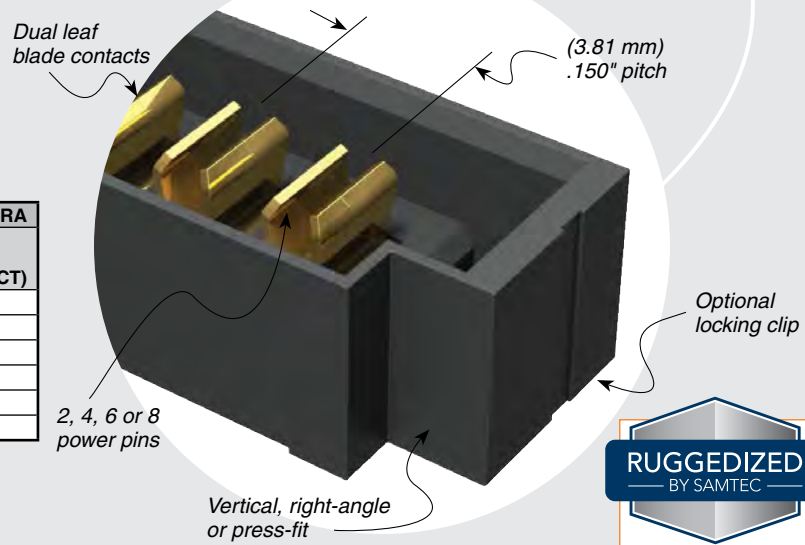
SPECIFICATIONS

Mates with:
UPS

For complete specifications see www.samtec.com?UPT

Insulator Material:
Black LCP
Terminal Material:
BeCu
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
438 VAC/620 VDC
Standard Creepage:
(5.5 mm) .217" (with -V)
(2.97 mm) .117" (with -RA)
Standard Clearance:
(1.51 mm) .059")
RoHS Compliant:
Yes
Lead–Free Solderable:
Wave only (-V, -RA options)

	UPT-V/UPS-V	UPT-RA/UPS-RA
PINS	CURRENT RATING (PER CONTACT)	CURRENT RATING (PER CONTACT)
1	23 A	23.5 A
2	18.6 A	20.1 A
3	17.5 A	16.9 A
4	16.7 A	15.5 A
8	14 A	13.3 A
-L PLATING		



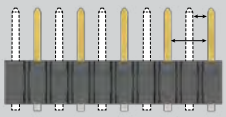
RUGGEDIZED BY SAMTEC
• Locking clip option

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com

ALSO AVAILABLE (MOQ Required)

- Solder leads for (2.36 mm) .093" thick board

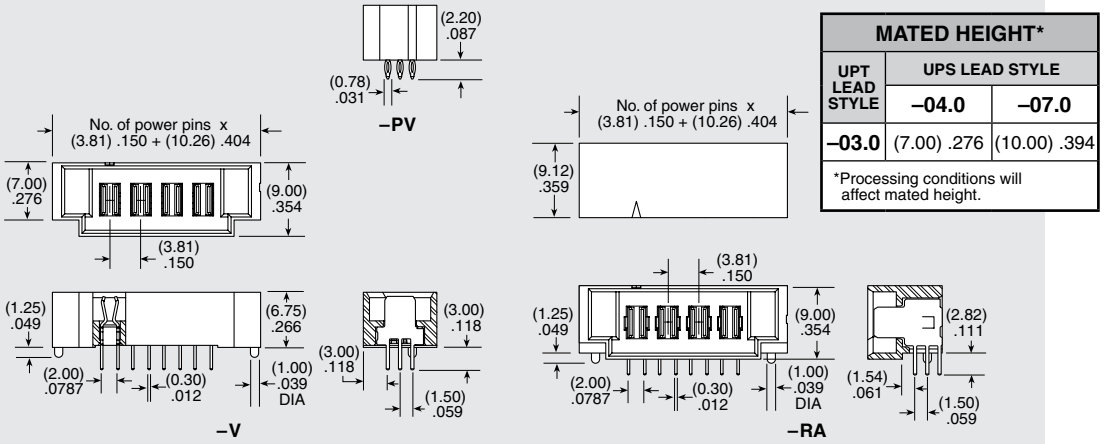
Contact Samtec.

TOOLING

Press-fit tooling available.
Contact Samtec.

Note: Some sizes, styles and options are non-standard, non-returnable.

UPT	POWER PINS	LEAD STYLE	TAIL LENGTH	PLATING OPTION	TAIL	OTHER OPTION
	–02, –04, –06, –08	–01 = RA only –03.0 = (03.0 mm) .118" (–V & –PV only)	–01 = Use with (1.60 mm) .062" Thick PCB (–V & –RA only) –03 = Use with (1.60 mm) .062" Thick PCB (–PV only)	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin (–RA option only)	–V = Vertical (Not available with –T plating) –RA = Right-angle –PV = Press-fit, Vertical	–LC = Locking Clip (Manual placement required) Not available with –PV option



MATED HEIGHT*		
UPT LEAD STYLE	UPS LEAD STYLE	
	–04.0	–07.0
–03.0	(7.00) .276	(10.00) .394

*Processing conditions will affect mated height.

Due to technical progress, all designs, specifications and components are subject to change without notice.

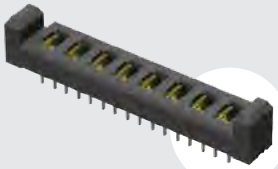
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POWER STRIP 20



UPS–04–01–01–L–RA–LC



UPS–08–04.0–01–L–V



UPS–04–07.0–03–L–PV

(3.81 mm) .150"

UPS SERIES

DUAL LEAF 20 A POWER SOCKET

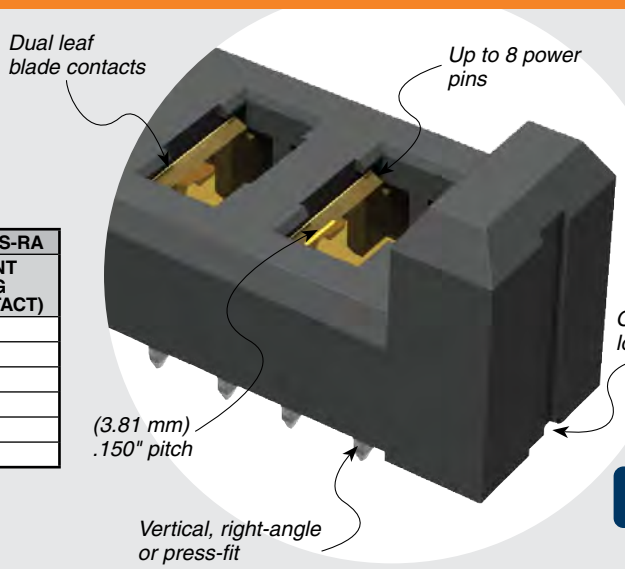
SPECIFICATIONS

For complete specifications see www.samtec.com?UPS

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin; -55 °C to +125 °C with Gold
Voltage Rating:
375 VAC/530 VDC
Standard Creepage:
(5.8 mm) .228" (with –V)
(2.97 mm) .117" (with –RA)
Standard Clearance:
(1.51 mm) .059"
RoHS Compliant:
Yes
Lead–Free Solderable:
Wave only (-V, -RA options)

Mates with:
UPT

PINS	UPT-V/UPS-V CURRENT RATING (PER CONTACT)	UPT-RA/UPS-RA CURRENT RATING (PER CONTACT)
1	23 A	23.5 A
2	18.6 A	20.1 A
3	17.5 A	16.9 A
4	16.7 A	15.5 A
8	14 A	13.3 A
-L PLATING		



RUGGEDIZED BY SAMTEC

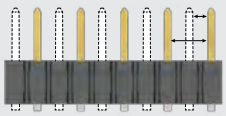
• Locking clip option

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com

ALSO AVAILABLE (MOQ Required)

- Solder leads for (2.36 mm) .093" thick board

Contact Samtec.

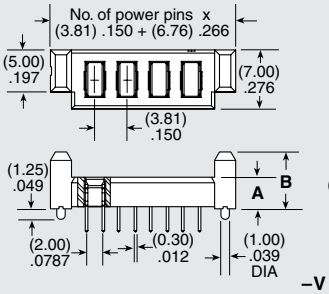
TOOLING

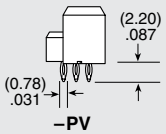
Press-fit tooling available.
Contact Samtec.

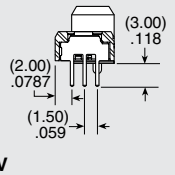
Note: Some sizes, styles and options are non-standard, non-returnable.

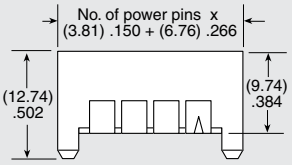
UPS	POWER PINS	LEAD STYLE	TAIL LENGTH	PLATING OPTION	TAIL	OTHER OPTION
	–02, –04, –06, –08	–01 = RA only –04.0 = (04.0 mm) .157" (–V & –PV only) –07.0 = (07.0 mm) .276" (–V & –PV only)	–01 = Use with (1.60 mm) .062" Thick PCB (–V & –RA only) –03 = Use with (1.60 mm) .062" Thick PCB (–PV only)	–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin (–RA option only)	–V = Vertical (Not available with –T plating) –RA = Right-angle –PV = Press-fit, Vertical	–LC = Locking Clip (Manual placement required) Not available with –PV option

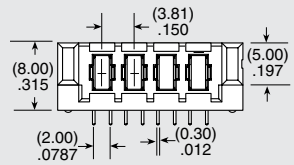
LEAD STYLE	A	B
–04.0	(3.75) .148	(6.75) .266
–07.0	(6.75) .266	(9.75) .384

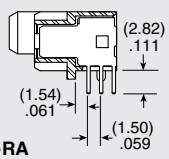












MATED HEIGHT*	
UPS LEAD STYLE	UPT LEAD STYLE –03.0
–04.0	(7.00) .276
–07.0	(10.00) .394

*Processing conditions will affect mated height.

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samtec

UMPT–04–07.0–L–VT–WT





UMPT–04–07.0–T–VT–WT

(2.00 mm) .0787"

UMPT SERIES

ULTRA MICRO POWER TERMINAL

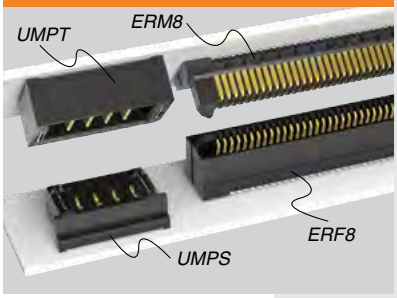
SPECIFICATIONS

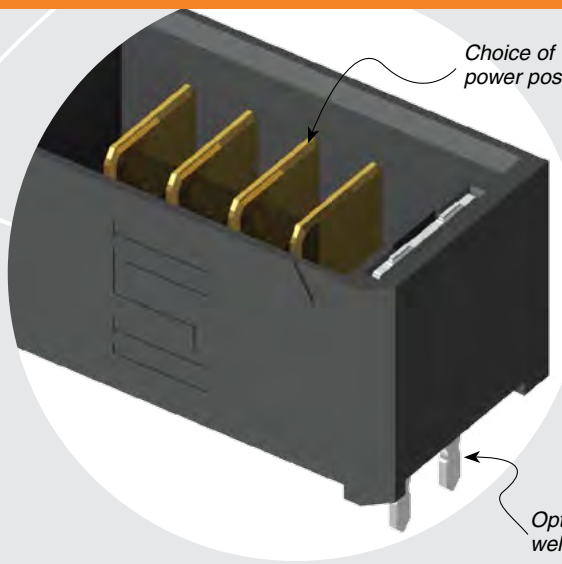
For complete specifications see www.samtec.com?UMPT

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Weld Tab:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating:
12 A to 15 A per pin
(4 pins powered)
Operating Temp Range:
Testing Now!
Voltage Rating:
Testing Now!
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

Mates with:
UMPS

APPLICATION





IN DESIGN

- Modular interlocking
- Shielding
- Right-angle

Contact Samtec.

Note:
Some sizes, styles and options are non-standard, non-returnable.

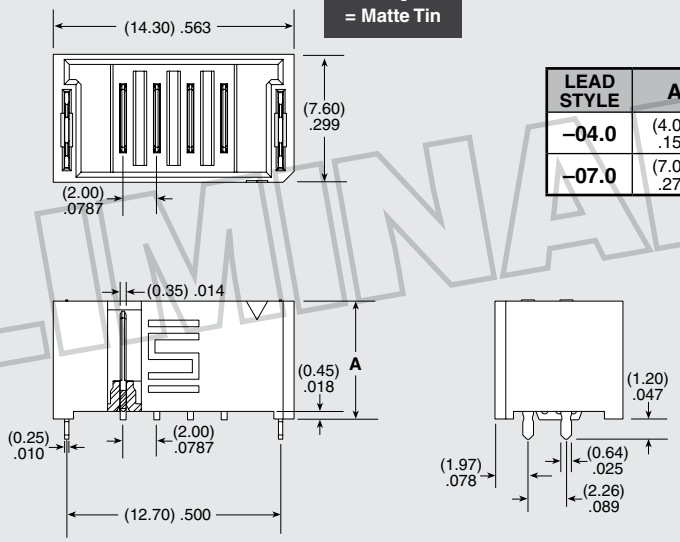
UMPT	NO. OF POSITIONS	LEAD STYLE	PLATING	ORIENTATION	OPTION
	–02, –03, –04, –05	–04.0 = (04.0 mm) .157" –07.0 = (07.0 mm) .276"	–L =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin	–VT = Vertical	–WT =Weld Tab –K = Pick & Place Pad

POWER/SIGNAL APPLICATION

Create a unique power/signal system by combining UMPT/UMPS with a variety of Samtec connectors at various stack heights.
Contact microrugged@samtec.com.

SERIES	STACK HEIGHT				
	5 mm	7 mm	8 mm	9 mm	10 mm
BXE	X		X		
BXH	X		X		
BXS	X		X		
EDX6	X				
ERX5		X			X
ERX8		X			X
ESX6	X				
LPAX	X				
LSEM		X	X	•	X
LSHM	X	X	X	•	X
LSS		X	X	•	X
QMS/QFS					X
QRX8		X		•	X
QXE	X		X		
QXH	X		X		
QXS	X		X		
SEAX		X			X
SEAX8		X			X
SX4	X				
SX5	X				
XEM		X			X

• In Development



LEAD STYLE	A
–04.0	(4.00) .157
–07.0	(7.00) .276

UMPT–04–07.0–X–VT–X SHOWN
(Dimensions above for –04 position only)

PRELIMINARY

samtec

UMPS–04–03.0–T–VT–WT





UMPS–04–03.0–L–VT–WT

(2.00 mm) .0787"

UMPS SERIES

ULTRA MICRO POWER SOCKET

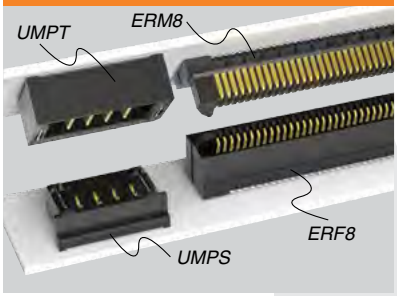
SPECIFICATIONS

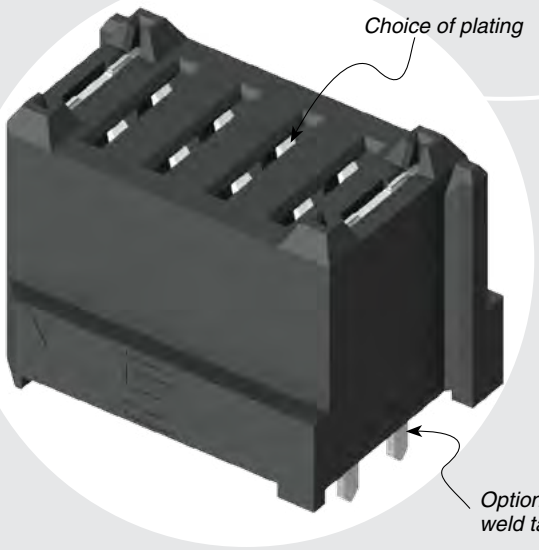
For complete specifications see www.samtec.com?UMPS

Insulator Material:
Black LCP
Contact Material:
Copper Alloy
Weld Tab:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating:
12 A to 15 A per pin
(4 pins powered)
Operating Temp Range:
Testing Now!
Voltage Rating:
Testing Now!
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

Mates with:
UMPT

APPLICATION





IN DESIGN

- Modular interlocking
- Shielding
- Right-angle

Contact Samtec.

Note:
Some sizes, styles and options are non-standard, non-returnable.

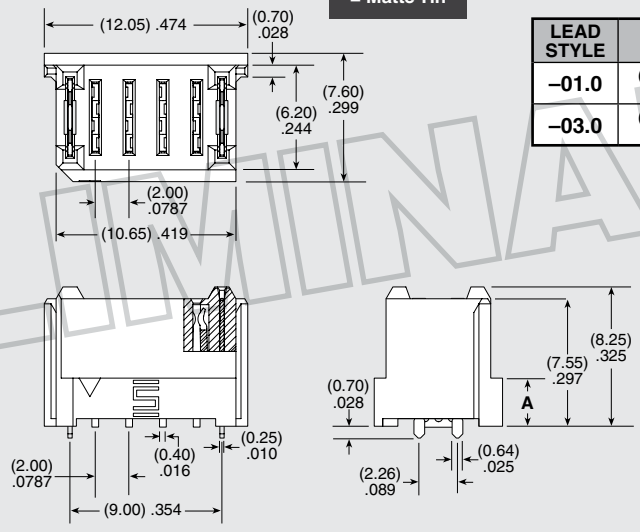
UMPS	NO. OF POSITIONS	LEAD STYLE	PLATING	ORIENTATION	OPTION
	–02, –03, –04, –05	–01.0 = (01.0 mm) .039" –03.0 = (2.85 mm) .112"	–L =10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –T = Matte Tin	–VT = Vertical	–WT =Weld Tab –K = Pick & Place Pad

POWER/SIGNAL APPLICATION

Create a unique power/signal system by combining UMPT/UMPS with a variety of Samtec connectors at various stack heights.
Contact microrugged@samtec.com.

SERIES	STACK HEIGHT				
	5 mm	7 mm	8 mm	9 mm	10 mm
BXE	X		X		
BXH	X		X		
BXS	X		X		
EDX6	X				
ERX5		X			X
ERX8		X			X
ESX6	X				
LPAX	X				
LSEM		X	X	•	X
LSHM	X	X	X	•	X
LSS		X	X	•	X
QMS/QFS					X
QRX8		X		•	X
QXE	X		X		
QXH	X		X		
QXS	X		X		
SEAX		X			X
SEAX8		X			X
SX4	X				
SX5	X				
XEM		X			X

• In Development



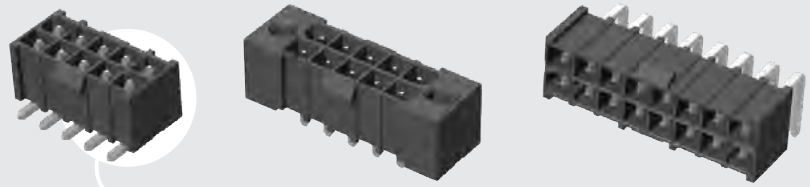
LEAD STYLE	A
–01.0	(1.00) .039
–03.0	(2.85) .112

UMPS–04–03.0–X–VT–X SHOWN
(Dimensions above for –04 position only)

PRELIMINARY

samtec

POWERMATE®



(4.19 mm) .165"

IPBT SERIES

ISOLATED TERMINAL POWER HEADER

SPECIFICATIONS

For complete specifications see www.samtec.com?IPBT

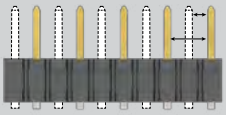
Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
High Copper Alloy
Plating:
Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C
Voltage Rating:
400 VAC/565 VDC
Standard Creepage:
(3.66 mm) .144" (-S)
(3.63 mm) .143" (-D)
Standard Clearance:
(3.05 mm) .120"
RoHS Compliant: Yes
Lead–Free Solderable: Yes

IPBT/IPBS	
PINS POWERED	CURRENT RATING (PER CONTACT)
2	10.3 A
4	8.4 A
6	7.6 A
8	7.1 A
30	6.0 A

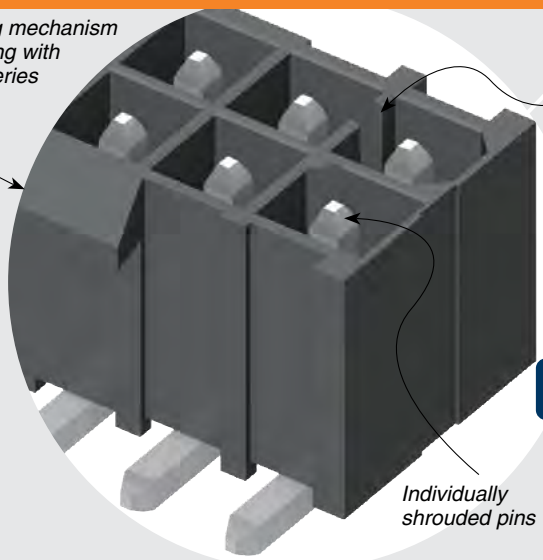
Board Mates:
IPBS, IPBD

Cable Mates:
PMSD, PMSS

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com



RUGGEDIZED BY SAMTEC

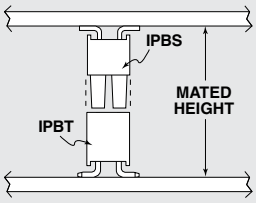
- Individually shrouded contacts
- Polarized guide post hole option

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594
FILE NO: 090871_0_000

APPLICATION



IPBT/IPBS LEAD STYLE	MATED HEIGHT*
H1/–01	(15.25) .600
–H2/–02	(16.84) .663
*Processing conditions will affect mated height.	

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other lead styles

Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

IPBT – 1 – NO. OF POSITIONS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – OPTION

NO. OF POSITIONS PER ROW

02, 03, 04, 05, 08, 10, 15
(–D only)

02, 03, 04, 05, 08, 10
(–S only)

(Standard sizes)

LEAD STYLE

–H1
= Through-hole

–H2
= Surface Mount

PLATING OPTION

–T
= Matte Tin

ROW OPTION

–S
= Single Row

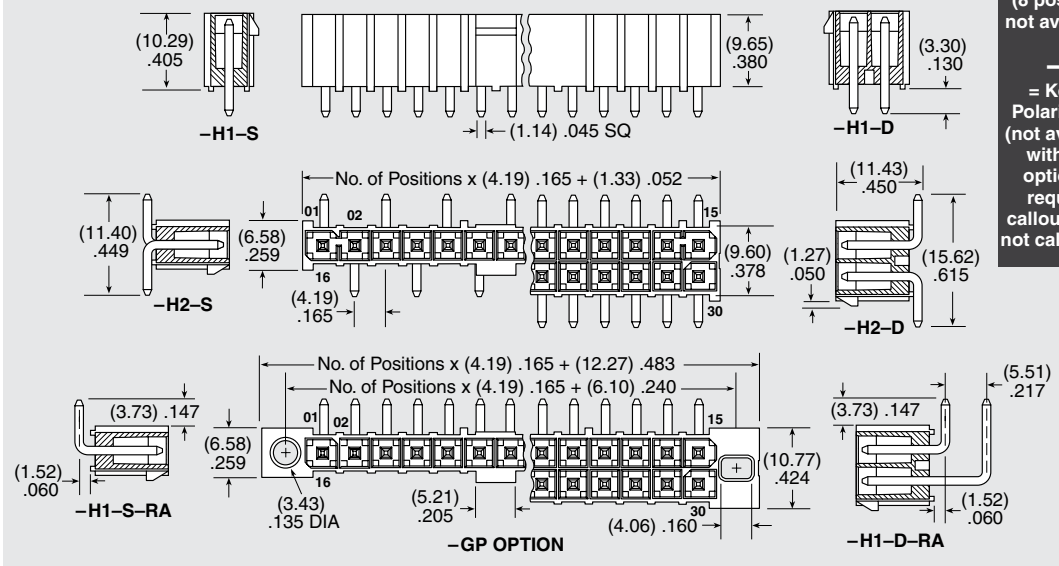
–D
= Double Row

OPTION

–RA
= Right-angle (Lead Style –H1 only)

–GP
= Guide Post Holes (8 positions not available)

–K
= Keyed Polarization (not available with -GP option, is required callout if -GP not called out)



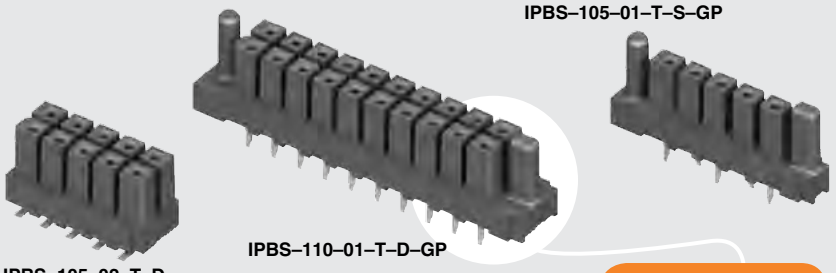
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samtec

POWERMATE®

(4.19 mm) .165"



IPBS SERIES

ISOLATED CONTACT POWER SOCKET

SPECIFICATIONS

For complete specifications see www.samtec.com?IPBS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C
Insertion Depth:
(6.15 mm) .242" to
(7.24 mm) .285"
Wiping Distance:
(0.38 mm) .015" min.
Voltage Rating:
400 VAC/565 VDC
Standard Creepage:
(4.27 mm) .168" (-S)
(1.68 mm) .066" (-D)
Standard Clearance:
(2.16 mm) .085" (-S)
(1.14 mm) .045" (-D)
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

IPBT/IPBS	
PINS POWERED	CURRENT RATING (PER CONTACT)
2	10.3 A
4	8.4 A
6	7.6 A
8	7.1 A
30	6.0 A

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

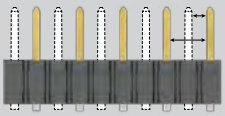
- Other sizes

Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

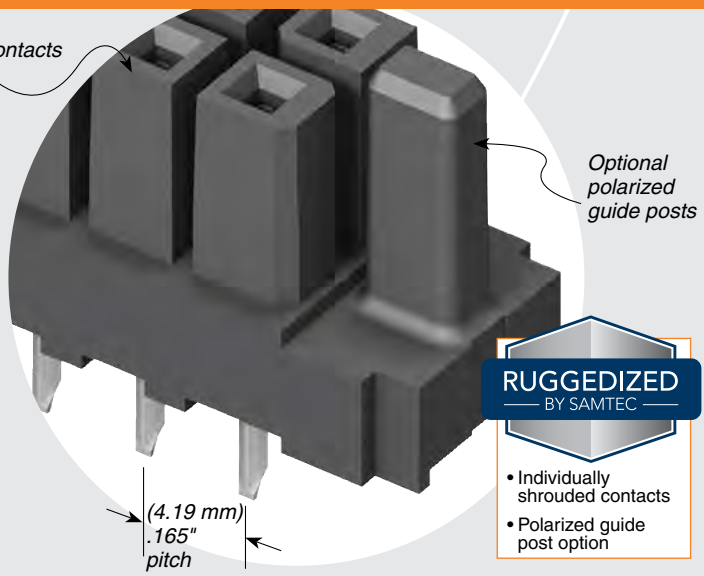
Mates with:
IPBT

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

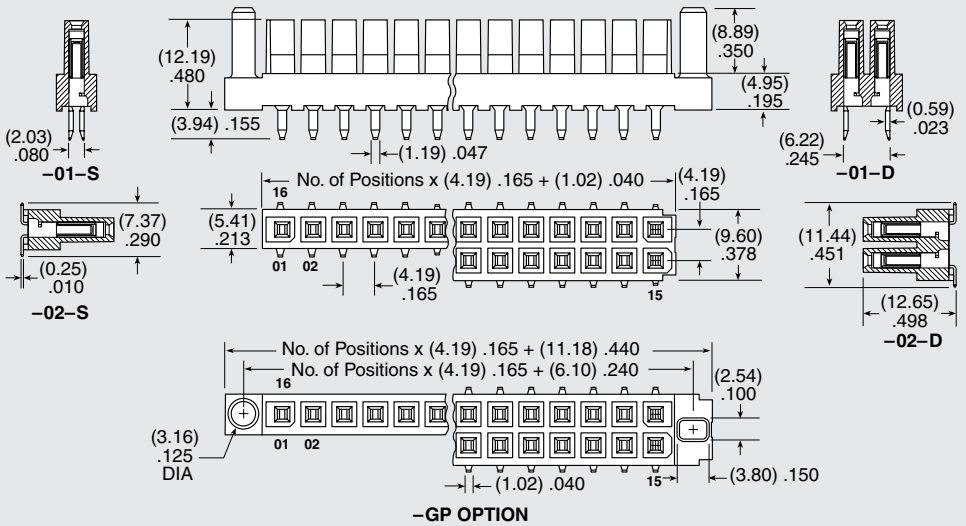
Contact asp@samtec.com



RUGGEDIZED BY SAMTEC

- Individually shrouded contacts
- Polarized guide post option

IPBS	1	NO. OF POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OPTION
		02, 03, 04, 05, 08, 10, 15 (–D only) 02, 03, 04, 05, 08, 10 (–S only) (Standard sizes)	–01 = Standard Power –02 = Standard Power Surface Mount	–T = Matte Tin	–S = Single Row –D = Double Row	–GP = Guide Post



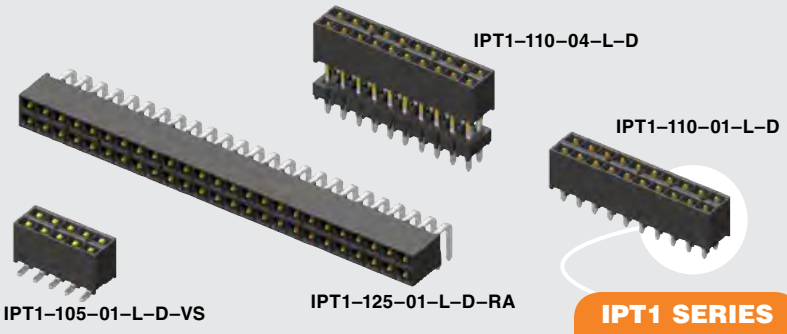
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samtec

miniMATE®

(2.54 mm) .100"



IPT1 SERIES

SHROUDED POWER CONNECTOR SET

SPECIFICATIONS

For complete specifications see www.samtec.com?IPT1

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Insertion Depth:
(3.81 mm) .150" to
(6.48 mm) .255"
Wiping Distance:
(0.38 mm) .015"
Voltage Rating:
775 VAC/1095 VDC
Standard Creepage:
(2.49 mm) .098" (without -LC)
(1.28 mm) .050" (with -LC)
Standard Clearance:
(1.91 mm) .075" (without -LC)
(0.91 mm) .036" (with -LC)
RoHS Compliant: Yes

IPT1/IPS1	
PINS	CURRENT RATING (PER CONTACT)
1	5.9 A
2	4.8 A
3	4.1 A
4	3.6 A
50	2.3 A

PROCESSING

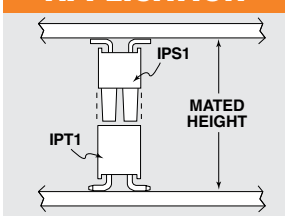
Lead-Free Solderable: Yes
SMT Lead Coplanarity:
(0.13 mm) .005" max (05-10)
(0.15 mm) .006" max (15-25)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

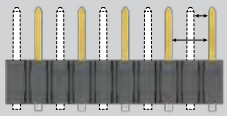
APPLICATION



Note:
Some sizes, styles and options are non-standard, non-returnable.

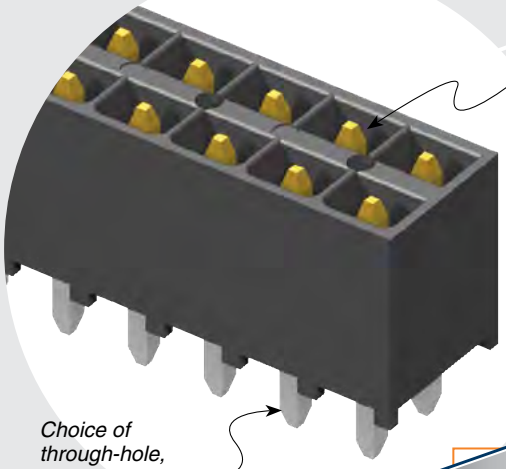
Mates with:
IPS1

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.

Contact asp@samtec.com



RUGGEDIZED BY SAMTEC

- Individually shrouded contacts
- Locking clip option

IPT1	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	TAIL OPTION	–	OTHER OPTION

05, 10, 15, 20, 25
(Standard sizes)

Specify LEAD STYLE from chart

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

Requires –01 Lead Style (Leave blank for Through-hole)

–RA
= Right-angle

–VS
= Surface Mount

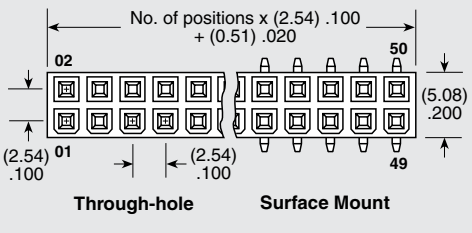
–A
= Alignment Pin (–VS only) (N/A with -LC)

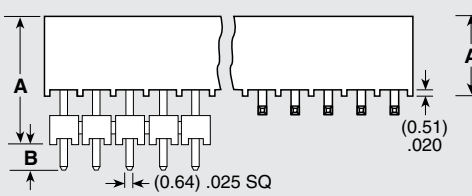
–LC
= Locking Clip (Manual placement required) (–VS only) (N/A with -A)

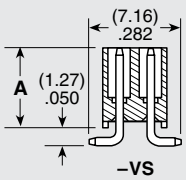
–K
= (6.00 mm) .236" DIA Polyimide film Pick & Place Pad (–VS only)

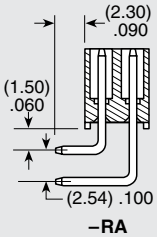
–TR
= Tape & Reel Packaging (–VS only)

LEAD STYLE	MATED HEIGHT	A	B
–01	(11.05) .435	(6.35) .250	(2.16) .085
-01-VS	(13.59) .535	(6.35) .250	N/A
–02	(14.00) .551	(9.30) .366	(2.64) .104
–03	(16.00) .630	(11.30) .445	(2.16) .085
–04	(17.00) .669	(12.30) .484	(2.69) .106
–05	(19.00) .748	(14.30) .563	(2.46) .097
–06	(20.00) .787	(15.30) .602	(2.35) .093
–07	(25.00) .984	(20.30) .799	(2.31) .091
–08	(30.00) 1.181	(25.30) .996	(2.39) .094
–09	(35.00) 1.378	(30.30) 1.193	(2.46) .097









ALSO AVAILABLE
(MOQ Required)

- Other sizes
- Other platings
- Latching feature
- No. 1 position polarized

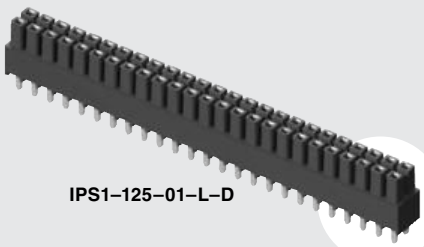
Contact Samtec.

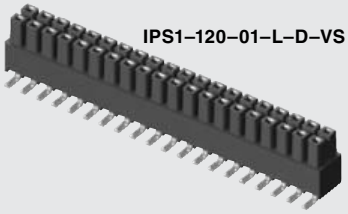
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samtec

miniMATE®





(2.54 mm) .100"

IPS1 SERIES

SHROUDED POWER CONNECTOR SET

SPECIFICATIONS

For complete specifications see www.samtec.com?IPS1

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Insertion Depth:
(3.81 mm) .150" to
(6.48 mm) .255"
Wiping Distance:
(0.38 mm) .015"
Voltage Rating:
775 VAC/1095 VDC
Standard Creepage:
(2.55 mm) .100" (without -LC)
(1.08 mm) .043" (with -LC)
Standard Clearance:
(1.75 mm) .069" (without -LC)
(0.62 mm) .024" (with -LC)
RoHS Compliant:
Yes

IPT1/IPS1	
PINS	CURRENT RATING (PER CONTACT)
1	5.9 A
2	4.8 A
3	4.1 A
4	3.6 A
50	2.3 A

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.13 mm) .005" max (05-10)
(0.15 mm) .006" max (15-25)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other sizes
- Other platings
- Latching feature
- No. 1 position polarized

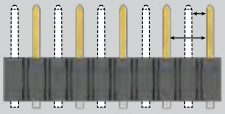
Contact Samtec.

Note:
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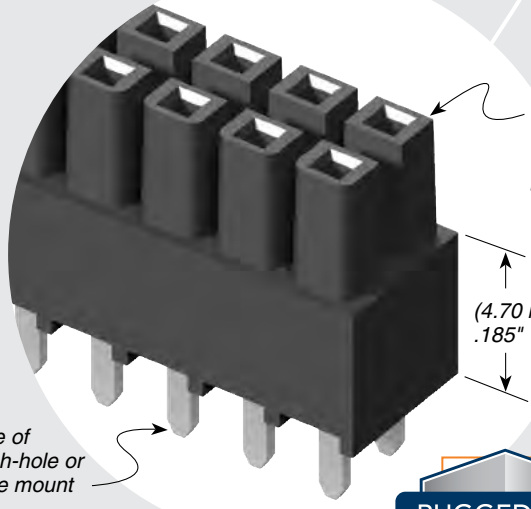
Mates with:
IPT1

TIGER BUY™ CONTACT

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com



RUGGEDIZED BY SAMTEC

- Individually shrouded contacts
- Locking clip option

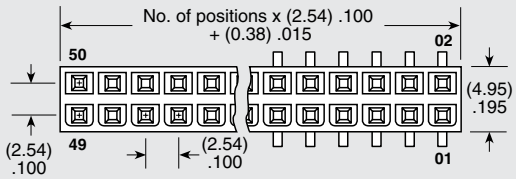
IPS1	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	D	–	TAIL OPTION	–	OTHER OPTION

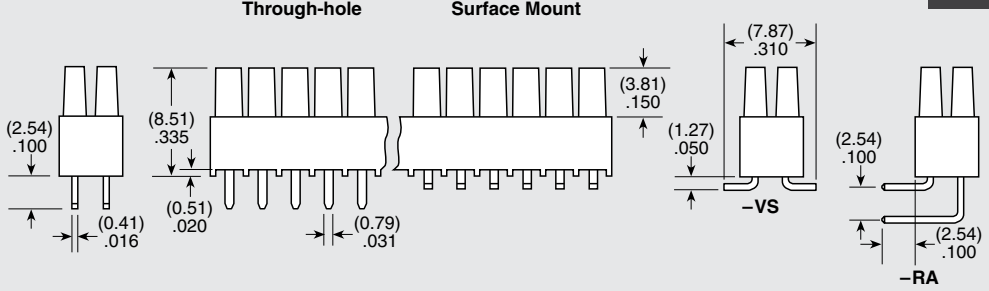
NO. PINS PER ROW: 05, 10, 15, 20, 25 (Standard sizes)

PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

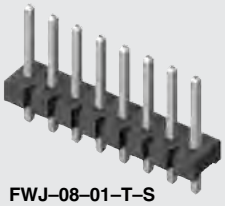
TAIL OPTION:
Leave blank for Through-hole
–VS = Surface Mount
–RA = Right-angle

OTHER OPTION:
–LC = Locking Clip (Manual placement required) (–VS only)
–K = (5.50 mm) .217" DIA Polyimide film Pick & Place Pad (–VS only)
–TR = Tape & Reel Packaging (–VS only)

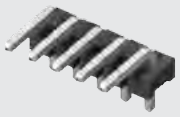




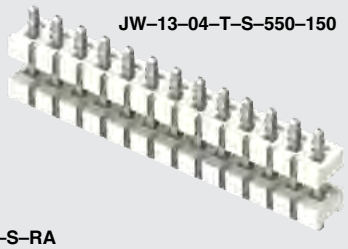
samtec



FWJ–08–01–T–S



FWJ–05–02–T–S–RA



JW–13–04–T–S–550–150

(3.96 mm) .156"

FWJ, HFWJ, JW SERIES

POWER HEADERS & BOARD STACKERS

Mates with:
FHP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FWJ, www.samtec.com?HFWJ or www.samtec.com?JW

Insulator Material:
FWJ = Black Glass Filled Polyester
HFWJ, JW = Natural Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C
Voltage Rating:
600 VAC/845 VDC
Standard Creepage:
FWJ: (2.82 mm) .111"
HFWJ, JW: (3.92 mm) .154"
Standard Clearance:
(2.82 mm) .111
RoHS Compliant:
Yes

PROCESSING

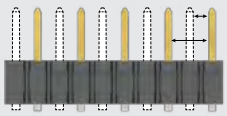
Lead–Free Solderable:
FWJ = Wave only
HFWJ, JW = Yes
SMT Lead Coplanarity:
(0.20 mm) .008" max (02-16)
(0.25 mm) .010" max (17-24)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com

TYPE STRIP	NO. OF PINS	LEAD STYLE	PLATING OPTION	S	OTHER OPTION

FWJ = Standard Header

HFWJ = High Temp Header

FHP/HFWJ	
PINS	CURRENT RATING (PER CONTACT)
1	13.1 A
2	11.2 A
3	10.3 A
4	9.2 A
24	6.7 A

Note: Some lengths, styles and options are non-standard, non-returnable.

–T = Matte Tin

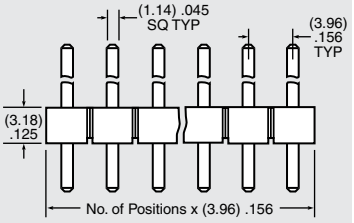
Leave blank for Through-hole

–RA = Right-angle (Style –02 & –04 only)

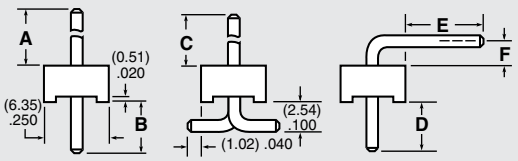
–VS = Surface Mount Requires HFWJ (2 pins/row minimum) Style –05 not available.

–P = Pick & Place Pad (3 Pos. min.) (6.98 mm) .275" min. post height (–VS only)

01 thru 24



Specify LEAD STYLE from chart below.



LEAD STYLE	A	B	C	D	E	F
–01	(11.43) .450	(4.45) .175	(10.46) .412	———	———	———
–02	(12.70) .500		(11.73) .462	(4.45) .175	(8.13) .320	(2.54) .100
–04	(20.55) .809	(3.96) .156	(19.10) .752	(3.96) .156	(13.56) .534	(4.95) .195
* –05	(3.81) .150	(12.07) .475	———	———	———	———

*FWJ Only

JW	NO. OF PINS	04	PLATING OPTION	S	STACK HEIGHT	POST HEIGHT	OTHER OPTION

–T = Matte Tin

–"XXX" = Stacker Height (in inches) (0.13 mm) .005" increments
Example: –250 = (6.35 mm) .250"

–"XXX" = Post Height (in inches)

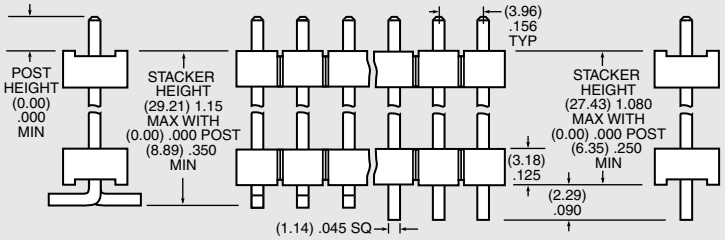
Note: This Series is non-standard, non-returnable.

Leave blank for Through-hole

–VS = Surface Mount (2 pins/row minimum)

–P = Pick & Place Pad (3 Pos. min.) (6.98 mm) .275" min. post height (–VS only)

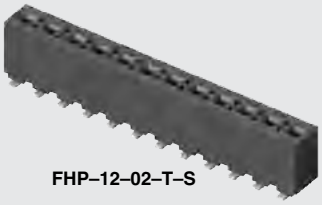
02 thru 24

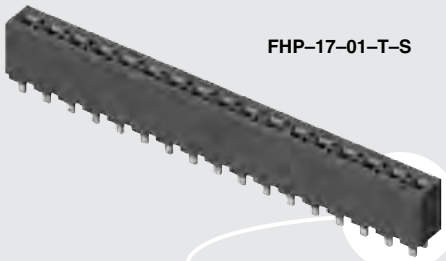


Due to technical progress, all designs, specifications and components are subject to change without notice.

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(3.96 mm) .156"

FHP SERIES

POWER SOCKETS

SPECIFICATIONS

Mates with:
FWJ, HFWJ, JW

For complete specifications and recommended PCB layouts see www.samtec.com?FHP

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C
Voltage Rating:
600 VAC/845 VDC
Insertion Depth:
(3.57 mm) .140" to
(8.76 mm) .345" or
pass-through from top
Wiping Distance:
(0.38 mm) .015"
Standard Creepage:
(1.74 mm) .069" (without -LC)
(0.89 mm) .035" (with -LC)
Standard Clearance:
(1.39 mm) .055" (without -LC)
(0.59 mm) .023" (with -LC)
RoHS Compliant:
Yes

FHP/HFWJ	
PINS	CURRENT RATING (PER CONTACT)
1	13.1 A
2	11.2 A
3	10.3 A
4	9.2 A
24	6.7 A

PROCESSING

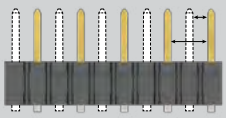
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

CREEPAGE AND CLEARANCE



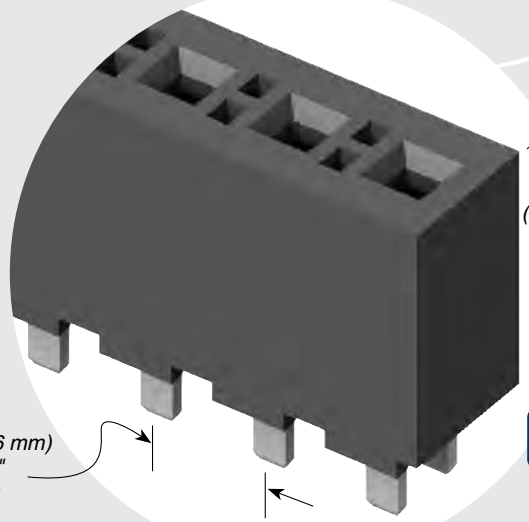
Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com

ALSO AVAILABLE (MOQ Required)

- Alignment pins

Contact Samtec.

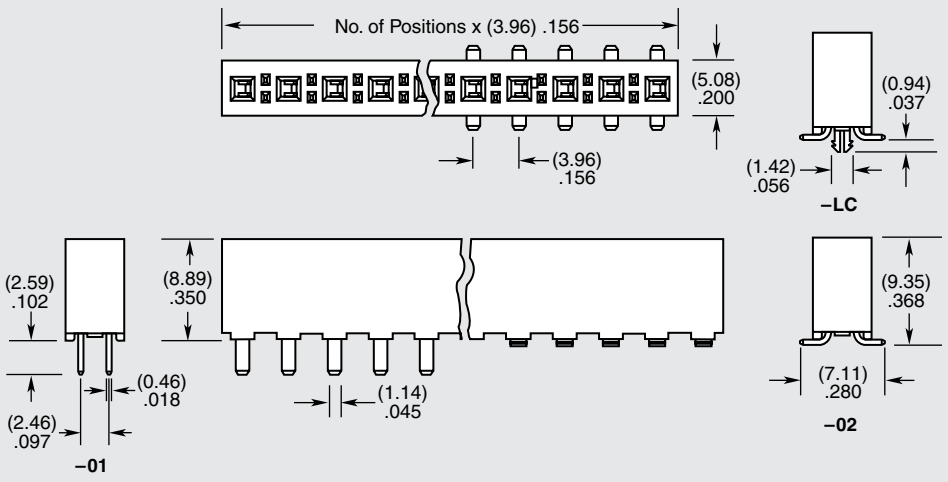
Note: Some lengths, styles and options are non-standard, non-returnable.



RUGGEDIZED BY SAMTEC

- Three-finger Power Eye contact
- Locking clip option

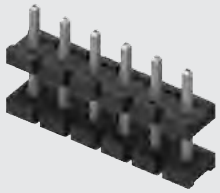
FHP	–	NO. OF PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	S	–	OTHER OPTION
		02 thru 24		–01 = Through-hole –02 = Surface Mount		–T = Matte Tin				–LC = Locking Clip (Manual placement required) (–02 lead style only) –K = (6.50 mm) .256" DIA Polyimide film Pick & Place Pad (2-4 positions require –TR) (–02 lead style only) –TR = Tape & Reel Packaging (Available on positions 2-18) –02 lead style only



Due to technical progress, all designs, specifications and components are subject to change without notice.

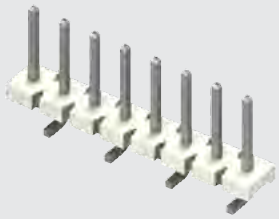
All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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HPW–06–04–T–S–350–150

HPM–08–01–T–S–VS





HPM–04–01–T–S

(5.08 mm) .200"

HPM, HPW SERIES

POWER HEADERS & BOARD STACKERS

SPECIFICATIONS

For complete specifications see www.samtec.com?HPM

Insulator Material: Glass Filled Polyester (TH) Natural Liquid Crystal Polymer (SMT)
Terminal Material: Copper Alloy
Plating: Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +105 °C
Voltage Rating: 850 VAC/1200 VDC
Standard Creepage: (3.94 mm) .155"
Standard Clearance: (3.94 mm) .155"
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Surface Mount: Yes Through-hole & Right-angle: Wave only
SMT Lead Coplanarity: (0.20 mm) .008" max (02-15) (0.25 mm) .010" max (16-20)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

TYPE STRIP – NO. PINS – LEAD STYLE – PLATING OPTION – S – TAIL OPTION – OTHER OPTION

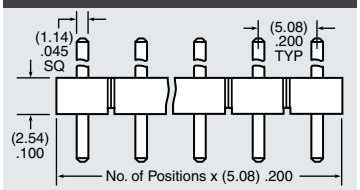
HPM
= High Temp High Power Header

Mates with:
HPF

Note: Some lengths, styles and options are non-standard, non-returnable.

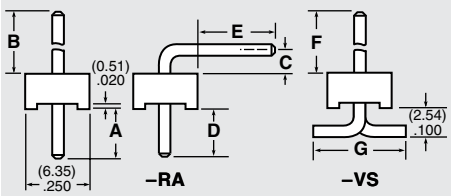
HPF/HPM	
PINS	CURRENT RATING (PER CONTACT)
1	16.6 A
2	14.4 A
3	13.2 A
4	12.7 A
20	8.9 A

01 thru 20



–T
= Matte Tin

Specify LEAD STYLE from chart below.



LEAD STYLE	A	B	C	D	E	F	G
–01	(4.57) .180	(11.94) .470	___	___	___	(10.72) .422	(8.64) .340
–02	(4.57) .180	(13.21) .520	(2.54) .100	(4.57) .180	(8.08) .318	(12.24) .482	(8.38) .330
–04	(4.09) .161	(21.06) .829	(4.95) .195	(3.96) .156	(13.82) .544	___	___
–05	(4.57) .180	(3.81) .150	___	___	___	___	___

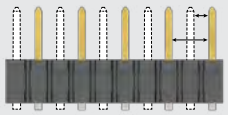
Leave blank for Through-hole

–RA
= Right-angle (-02 & -04 lead style only)

–VS
= Surface Mount (2 pins/row minimum) (-01 & -02 lead style only)

–P
= Pick & Place Pad (3 Pos. min.) (–VS only) (Not Available with -05 lead style)

CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com

SPECIFICATIONS

For complete specifications see www.samtec.com?HPW

Insulator Material: Liquid Crystal Polymer
Terminal Material: Copper Alloy
Plating: Sn over 50 µ" (1.27 um) Ni
Operating Temp Range: -55 °C to + 105 °C
Standard Creepage: (3.94 mm) .155"
Standard Clearance: (3.94 mm) .155"
RoHS Compliant: Yes

PROCESSING

Lead-Free Solderable: Yes
SMT Lead Coplanarity: (0.20 mm) .008" max.

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

TYPE STRIP – NO. PINS – 04 – PLATING OPTION – S – STACK HEIGHT – POST HEIGHT – TAIL OPTION

HPW
= High Temp High Power

Mates with:
HPF

Note:
Some lengths, styles and options are non-standard, non-returnable.

–T
= Matte Tin

–"XXX"
= Stacker Height (in inches) (0.13 mm) .005" increments
Example: –250 = (6.35 mm) .250"

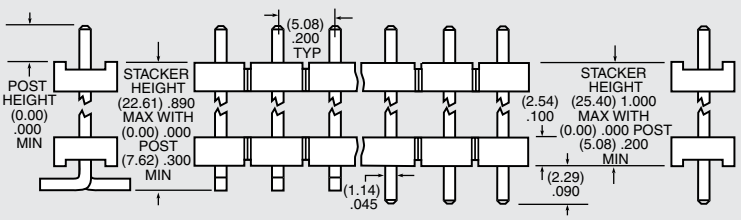
–"XXX"
= Post Height (in inches)

Leave blank for Through-hole

–VS
= Surface Mount (2 pins/row minimum)

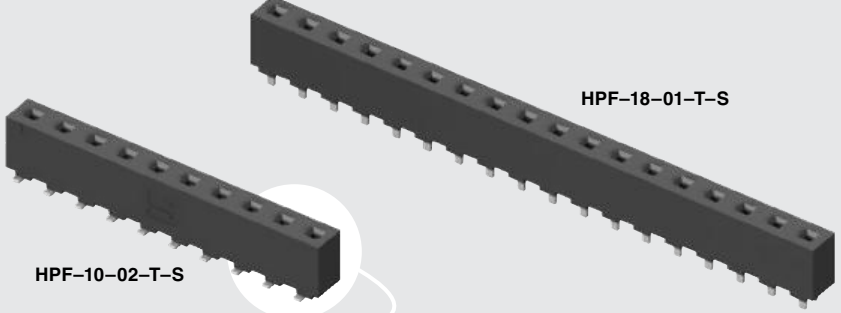
–P
= Pick & Place Pad (3 Pos. min.) (6.98 mm) .275" max. post height (–VS only)

02 thru 20



Due to technical progress, all designs, specifications and components are subject to change without notice.
WWW.SAMTEC.COM
All parts within this catalog are built to Samtec's specifications.
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samtec



(5.08 mm) .200"

HPF SERIES

POWER SOCKETS

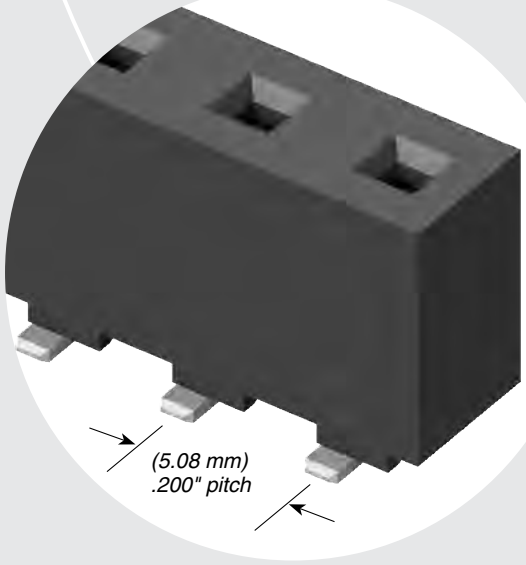
SPECIFICATIONS

Mates with:
HPM, HPW

For complete specifications and recommended PCB layouts see www.samtec.com?HPF

Insulator Material:
Black LCP
Contact Material:
BeCu
Plating:
Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C
Voltage Rating:
850 VAC/1200 VDC
Insertion Depth:
(3.68 mm) .145" to (8.26 mm) .325" (.368" (9.35 mm) plus board thickness minimum for bottom entry)
Wiping Distance:
(0.38 mm) .015"
Standard Creepage:
(2.82 mm) .111" (without -LC)
(1.38 mm) .054" (with -LC)
Standard Clearance:
(2.5 mm) .098" (without -LC)
(1.05 mm) .041" (with -LC)
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max (02-10)
(0.20 mm) .008" max (11-20)
RoHS Compliant:
Yes

HPF/HPM	
PINS	CURRENT RATING (PER CONTACT)
1	16.6 A
2	14.4 A
3	13.2 A
4	12.7 A
20	8.9 A



Surface Mount or Through-hole

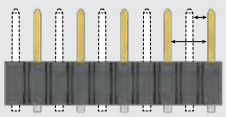
RUGGEDIZED BY SAMTEC
- Three-finger Power Eye contact
- Locking clip option

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594
FILE NO: 090871_0_000

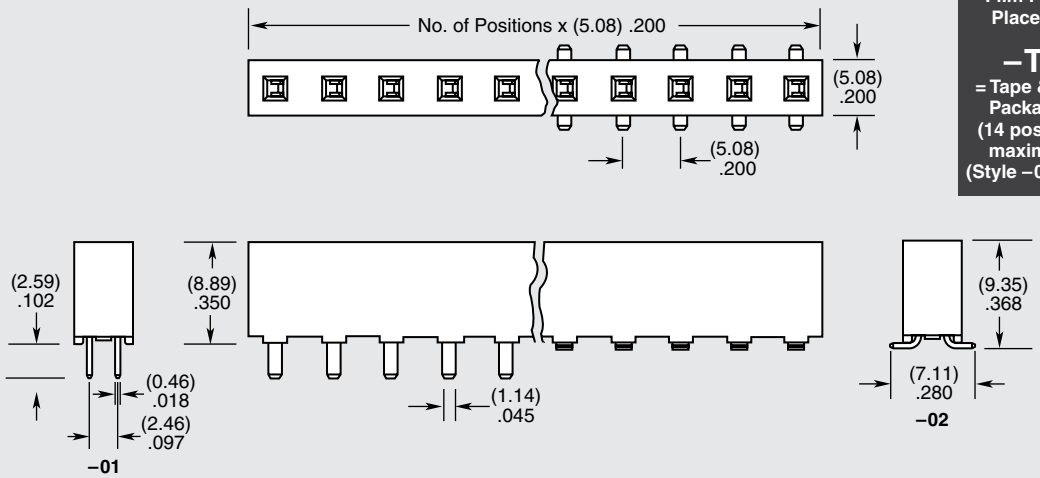
CREEPAGE AND CLEARANCE



Selectively loading contacts achieves customer specific creepage and clearance requirements.
Contact asp@samtec.com

Note: Some lengths, styles and options are non-standard, non-returnable.

HPF	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	S	–	OTHER OPTIONS
		02 thru 20		–01 = Through-hole –02 = Surface Mount		–T = Matte Tin				–LC = Locking Clip (Manual placement required) (Style –02 only) –K = (6.50 mm) .256" DIA Polyimide Film Pick & Place Pad –TR = Tape & Reel Packaging (14 positions maximum) (Style –02 only)



RUGGED FEATURES & OPTIONS

Ruggedized Board-to-Board Interfaces

RUGGEDIZED BY SAMTEC

- Retention pins
- Positive latching systems
- Friction locks
- Board locks
- Threaded screw down hardware
- Weld tabs
- Standoffs
- Alignment pins
- Shielding

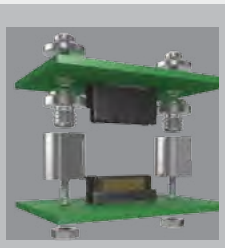
Ruggedized Cable Assemblies

- Retention pins
- Friction locks
- Captive panel screws
- Screw downs and mounting brackets
- Ejector headers with locking caps
- AccliMate™ sealed circular & rectangular cable systems
- Positive latching systems

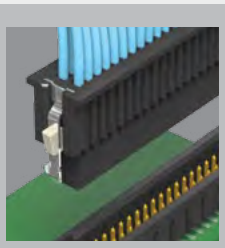
Power Integrity Services

- Standard power test data, including current carrying capacity, working voltage, voltage drop and resistance, creepage and clearance, is available for select power systems
- Current Cycling Test Data, which demonstrates connector performance in realistic and common applications, is available for select series
- Power Integrity Guidelines are based on test data and proven design parameters, and are designed to help in connector selection and PCB design maximization
- Power Integrity Certified products undergo testing and additional requirements unique to Samtec. To be certified, products must pass Current Cycling Test EIA 365-55, have current carrying capacity, resistance and amps vs. number of contacts data available and Power Integrity Guidelines developed
- Visit **samtec.com/powerintegrity** for more information

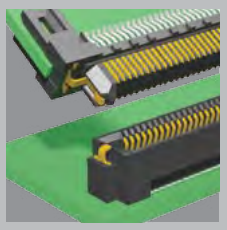
POWER INTEGRITY CERTIFIED



JACK SCREWS
Ideal for high normal force, zippering and other rugged applications



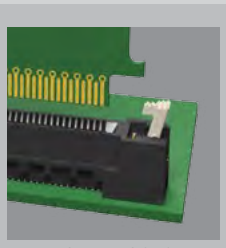
POSITIVE LATCHING
Manually activated latches increase unmating force by up to 200%



FRICTION LOCKS
Metal or plastic friction locks increase retention/withdrawal force



RETENTION PINS
Increase unmating force by up to 50%



BOARD LOCKS
Boards are mechanically locked together



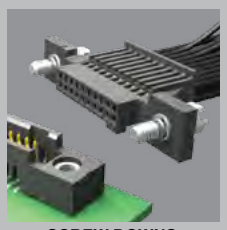
WELD TABS
Significantly increase sheer resistance of connector to PCB



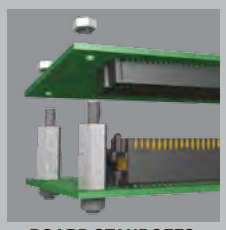
GUIDE POSTS
Easy and secure mating



SHIELDING
360° shielding reduces EMI



SCREW DOWNS
Secure mechanical attachment to the board



BOARD STANDOFFS
Precision machined standoffs for 5 mm to 25 mm board spacing

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SEALED I/O

ACCLIMATE™ SOLDERED IP68 SEALED SYSTEMS

M12 (ACP-12, ACR-12, ACPK-12, ACRK-12) 262-265

M16 (ACP-16, ACR-16, ACPK-16, ACRK-16) 266-269

M22 (ACP-22, ACR-22, ACPK-22, ACRK-22) 270-273

ACCLIMATE™ CRIMPED IP68 SEALED SYSTEMS

Crimped 12 (CCP-12, CCR-12, CCRB-12) 274-275

ACCLIMATE™ IP67 SEALED SYSTEMS

Mini Push-Pull (MCP, MCR) 276

ACCLIMATE™ CIRCULAR IP68 SEALED SYSTEMS

USB (SCRUS) 277

Ethernet (SCRES) 277

ACCLIMATE™ RECTANGULAR IP68 SEALED SYSTEMS

Ethernet (RPBE, RPCE) 278

USB (RPBU, RPCU, SSU) 279-280

APPLICATIONS

Power and Panel Systems 36-37

ACCLIMATE™



ACP-12 SERIES

IP68 SEALED 12 mm CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?ACP-12

Insulator Material:
Thermoplastic
Terminal Material:
Brass
Contact Material:
Brass/BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-40 °C to +80 °C
Housing:
–P: Black Nylon
–M: Zinc Alloy
Cable Jacket:
TPU
RoHS Compliant:
Yes

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	4	3.8 A
–02	5	3.6 A
–05	2 (plus 4 signal pins powered @ 1.2 A)	5.0 A

For general reference only. See www.samtec.com?ACP-12 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Mates with:
ACR-12, ACRK-12

Solutionator®
DESIGN IN A MINUTE

- Easy sealed cable solutions
- Build a standard or flexible custom online
- Calculate performance, current rating, voltage drop
- Live chat with AccliMate™ engineers for custom options
- Variety of shells, pin sizes, signal, power, I/O interfaces
- Assembly and field kits available



ALSO AVAILABLE
(MOQ Required)

- Other assembly lengths Contact Samtec.

DUST CAPS

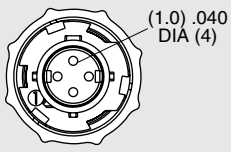
- DCA-ACP-12-M-X (Metal)
- DCA-ACP-12-P-X (Plastic)



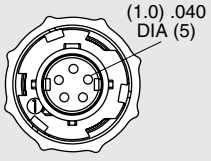
- Visit sealedio.samtec.com for a complete list of sealed systems

Note: Some lengths, styles and options are non-standard, non-returnable.

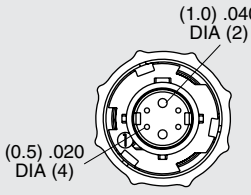
ACP	12	LEAD STYLE	PLATING	LENGTH	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 1.0 mm DIA (4) terminals or sockets (24 AWG) –02 = 1.0 mm DIA (5) terminals or sockets (24 AWG) –05 = 1.0 mm DIA (2) terminals or sockets (24 AWG) + 0.5 mm DIA (4) terminals or sockets (28 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–"XX.XX" = Length in meters (00.25 m min. to 50.00 m max.) Standard lengths	–T = Terminal –S = Socket (N/A with End 2 -T)	–T = Terminal –S = Socket –BC = Blunt Cut	–P = Plastic –M = Metal	–1 = Orange, 45°



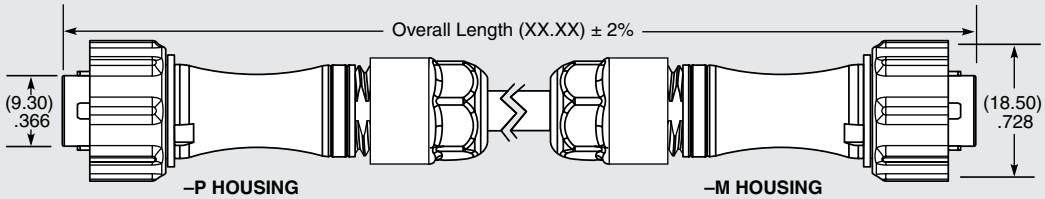
–01



–02



–05

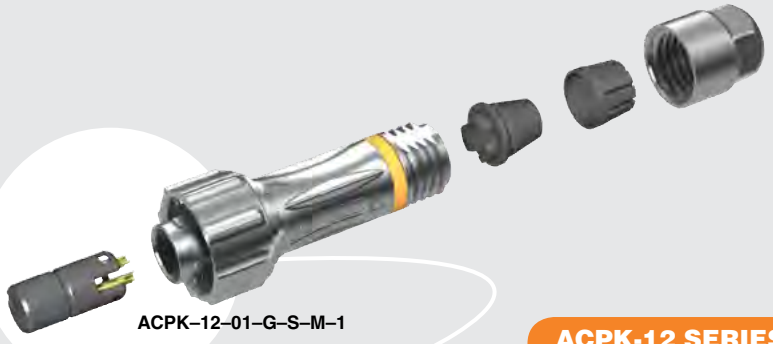


Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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ACCLIMATE™



ACPK–12–01–G–S–M–1

ACPK-12 SERIES

12 mm IP68 FIELD TERMINATION KIT

SPECIFICATIONS

Mates with:
ACR-12, ACRK-12

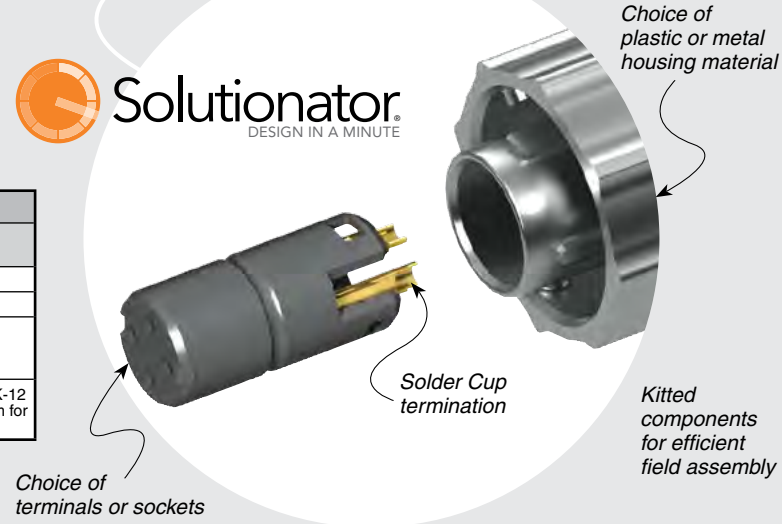
For complete specifications and processing guidelines see www.samtec.com?ACPK-12

Insulator Material: Thermoplastic
Terminal Material: Brass
Contact Material: Brass/BeCu
Plating: Au over 50 µ" (1.27 µm) Ni
Operating Temp Range: -40 °C to +80 °C
Housing: –P: Black Nylon –M: Zinc Alloy
RoHS Compliant: Yes

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	4	3.8 A
–02	5	3.6 A
–05	2 (plus 4 signal pins powered @ 1.2 A)	5.0 A

For general reference only. See www.samtec.com?ACPK-12 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Solutionator® DESIGN IN A MINUTE



DUST CAPS

- DCA-ACP-12-M-X (Metal)
- DCA-ACP-12-P-X (Plastic)



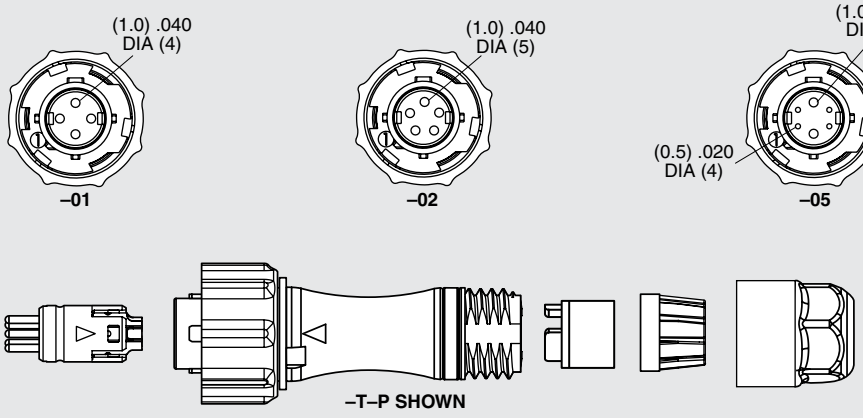
- Visit sealedio.samtec.com for a complete list of sealed systems

NOTE

For complete specifications and processing guidelines see www.samtec.com?ACPK-12

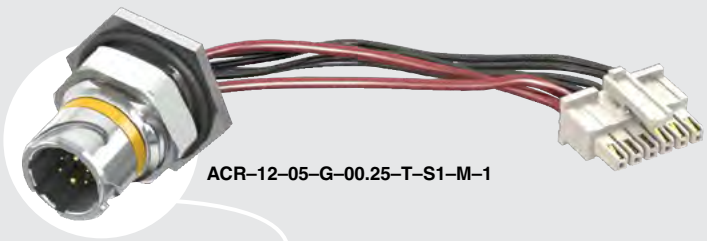
Note: Some lengths, styles and options are non-standard, non-returnable.

ACPK	12	LEAD STYLE	PLATING	GENDER	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 1.0 mm DIA (4) terminals or sockets (20-24 AWG) –02 = 1.0 mm DIA (5) terminals or sockets (20-24 AWG) –05 = 1.0 mm DIA (2) terminals or sockets (20-24 AWG) + 0.5 mm DIA (4) terminals or sockets (26-30 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–T = Terminal –S = Socket	–P = Plastic –M = Metal	–1 = Orange, 45°



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ACCLIMATE™



ACR-12 SERIES

IP68 SEALED 12 mm PANEL ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?ACR-12

Insulator Material:
Thermoplastic
Terminal Material:
Brass
Contact Material:
Brass/BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-40 °C to +80 °C
Housing:
–P: Black Nylon
–M: Zinc Alloy
RoHS Compliant:
Yes

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	4	3.8 A
–02	5	3.6 A
–05	2 (plus 4 signal pins powered @ 1.2 A)	5.0 A

For general reference only. See www.samtec.com?ACR-12 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Mates with:
ACP-12, ACPK-12

Solutionator®
DESIGN IN A MINUTE

- Easy sealed cable solutions
- Build a standard or flexible custom online
- Calculate performance, current rating, voltage drop
- Live chat with AccliMate™ engineers for custom options
- Variety of shells, pin sizes, signal, power, I/O interfaces
- Assembly and field kits available



ALSO AVAILABLE (MOQ Required)

- Other assembly lengths Contact Samtec.

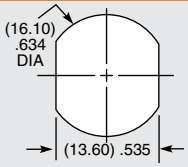
DUST CAPS

- DCA-ACR-12-M-X (Metal)
- DCA-ACR-12-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

PANEL OPENING



Note: Some lengths, styles and options are non-standard, non-returnable.

ACR	12	LEAD STYLE	PLATING	LENGTH	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS

LEAD STYLE

–01
= 1.0 mm DIA (4) terminals or sockets (24 AWG)

–02
= 1.0 mm DIA (5) terminals or sockets (24 AWG)

–05
= 1.0 mm DIA (2) terminals or sockets (24 AWG) + 0.5 mm DIA (4) terminals or sockets (28 AWG)

PLATING

–G
= 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact

LENGTH

–"XX.XX"
= Length in meters (00.20 m min. to 50.00 m max.)
Standard lengths

END 1

–T
= Terminal

–S
= Socket

END 2

–BC
= Blunt Cut

–S1
= Connector determined by lead style. (Specify LEAD STYLE from chart)

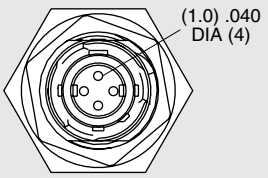
HOUSING MATERIAL

–P
= Plastic

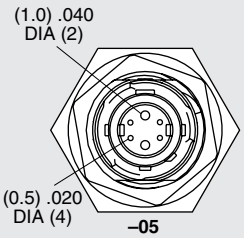
–M
= Metal

KEYING OPTIONS

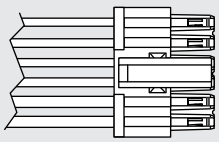
–1
= Orange, 45°



–01

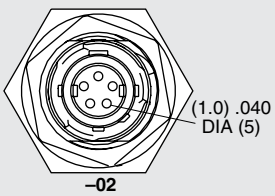


–05

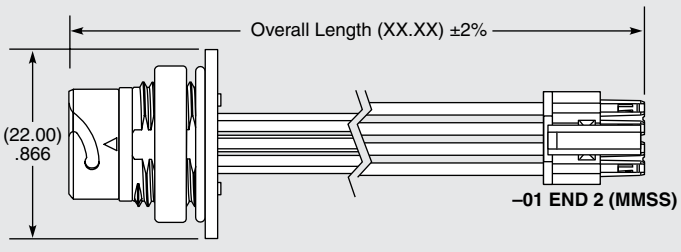


–05 END 2 (MMSS)

LEAD STYLE	–S1 END 2	MATES WITH –S1
–01	MMSS (24 AWG)	IPL1
–02	MMSS (24 AWG)	
–05	MMSS (24 AWG (2x), 28 AWG (4x))	



–02



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ACCLIMATE™



ACRK–12–05–G–T–C–P–1

ACRK-12 SERIES

12 mm IP68 FIELD TERMINATION KIT

SPECIFICATIONS

Mates with:
ACP-12, ACPK-12

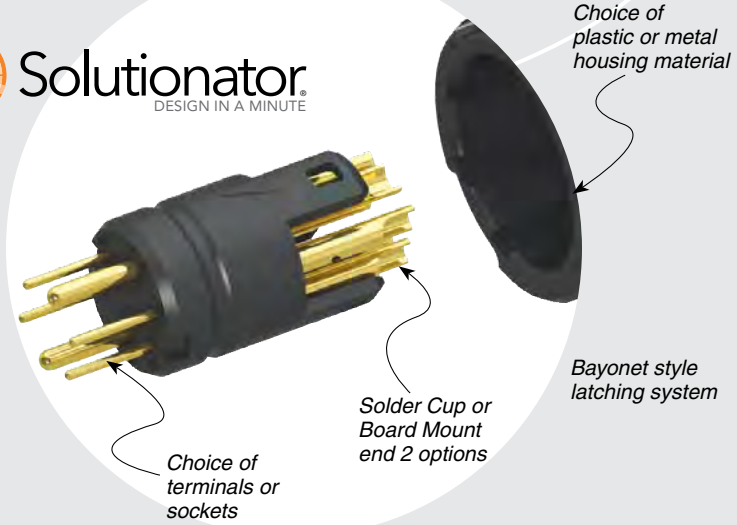
For complete specifications and processing guidelines see www.samtec.com?ACRK-12

Insulator Material: Thermoplastic
Terminal Material: Brass
Contact Material: Brass/BeCu
Plating: Au over 50 µ" (1.27 µm) Ni
Operating Temp Range: -40 °C to +80 °C
Housing: –P: Black Nylon –M: Zinc Alloy
RoHS Compliant: Yes

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	4	3.8 A
–02	5	3.6 A
–05	2 (plus 4 signal pins powered @ 1.2 A)	5.0 A

For general reference only. See www.samtec.com?ACRK-12 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Solutionator® DESIGN IN A MINUTE



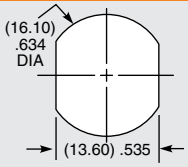
DUST CAPS

- DCA-ACR-12-M-X (Metal)
- DCA-ACR-12-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

PANEL OPENING

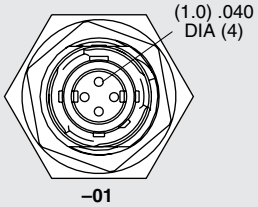


NOTE

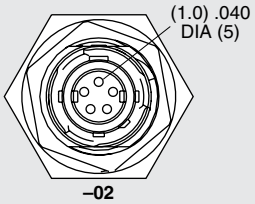
For complete specifications and processing guidelines see www.samtec.com?ACRK-12

Note: Some lengths, styles and options are non-standard, non-returnable.

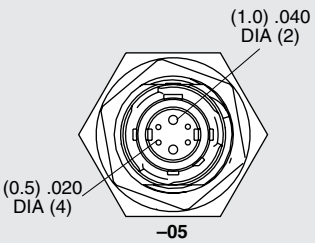
ACRK	12	LEAD STYLE	PLATING	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 1.0 mm DIA (4) terminals or sockets (20-24 AWG) –02 = 1.0 mm DIA (5) terminals or sockets (20-24 AWG) –05 = 1.0 mm DIA (2) terminals or sockets (20-24 AWG) + 0.5 mm DIA (4) terminals or sockets (26-30 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–T = Terminal –S = Socket	–C = Solder Cup –B1 = (1.60 mm) .062" Board Mount	–P = Plastic –M = Metal	–1 = Orange, 45°



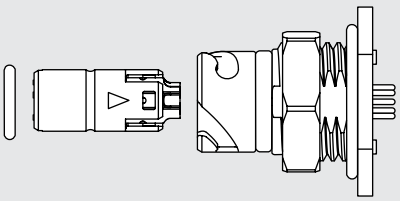
–01

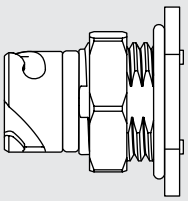


–02



–05


–B1 END SHOWN


–C END SHOWN

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ACCLIMATE™



ACP–16–06–G–00.25–T–T–M–1



ACP–16–01–G–00.25–S–S–P–1

ACP-16 SERIES

IP68 SEALED 16 mm CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?ACP-16

Insulator Material:
Thermoplastic
Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
Cable Jacket:
TPU
RoHS Compliant:
Yes

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	14	1.3 A
–02	10	2.6 A
–06	2 (plus 8 signal pins powered @ 1A)	11.6 A

For general reference only. See www.samtec.com?ACP-16 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Mates with:
ACR-16, ACRK-16

Solutionator®
DESIGN IN A MINUTE

- Easy sealed cable solutions
- Build a standard or flexible custom online
- Calculate performance, current rating, voltage drop
- Live chat with AccliMate™ engineers for custom options
- Variety of shells, pin sizes, signal, power, I/O interfaces
- Assembly and field kits available



Field termination kit option

Choice of terminals or sockets

DUST CAPS

- DCA-ACP-16-M-X (Metal)
- DCA-ACP-16-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

ALSO AVAILABLE (MOQ Required)

- Other assembly lengths
  Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

ACP – 16 – LEAD STYLE – PLATING – LENGTH – END 1 – END 2 – HOUSING MATERIAL – KEYING OPTIONS

LEAD STYLE

–01
= 0.5 mm DIA (14) terminals or sockets (28 AWG)

–02
= 1.0 mm DIA (10) terminals or sockets (24 AWG)

–06
= 1.5 mm DIA (2) terminals or sockets (16 AWG) + 0.5 mm DIA (8) terminals or sockets (28 AWG)

PLATING

–G
= 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact

LENGTH

–"XX.XX"
= Length in meters (00.25 m min. to 50.00 m max.)
Standard lengths

END 1

–T
= Terminal

–S
= Socket

END 2

–T
= Terminal

–S
= Socket

–BC
= Blunt Cut

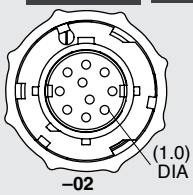
HOUSING MATERIAL

–P
= Plastic

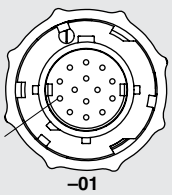
–M
= Metal

KEYING OPTIONS

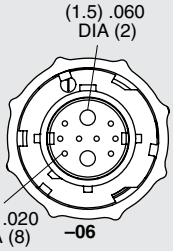
–1
= Orange, 45°



–02



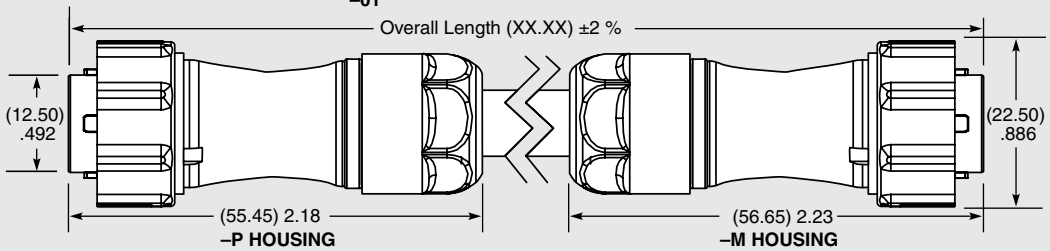
–01



–06

APPLICATION



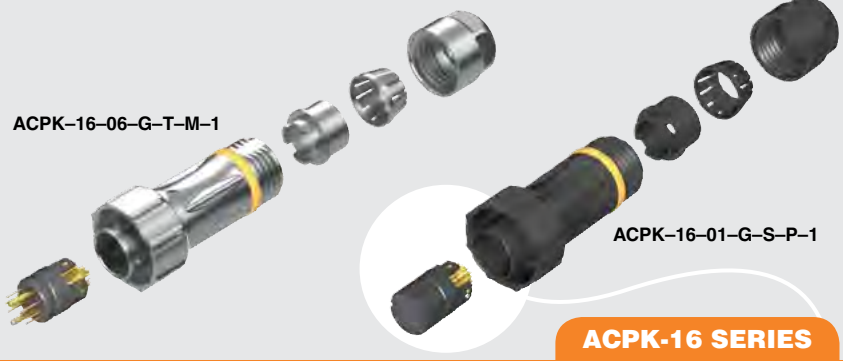


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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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ACCLIMATE™



ACPK-16 SERIES

16 mm IP68 FIELD TERMINATION KIT

SPECIFICATIONS

For complete specifications and processing guidelines see www.samtec.com?ACPK-16

Insulator Material:
Thermoplastic
Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
RoHS Compliant:
Yes

Mates with:
ACR-16, ACRK-16

Solutionator
DESIGN IN A MINUTE

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	14	1.3 A
–02	10	2.6 A
–06	2 (plus 8 signal pins powered @ 1A)	11.6 A

For general reference only. See www.samtec.com?ACPK-16 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.



DUST CAPS

- DCA-ACP-16-M-X (Metal)
- DCA-ACP-16-P-X (Plastic)

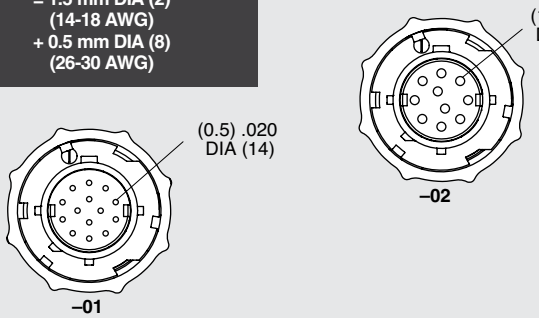


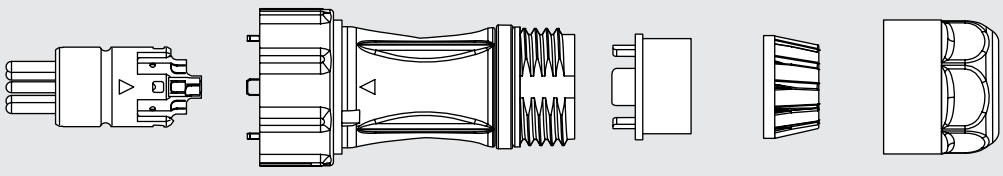
- Visit sealedio.samtec.com for a complete list of sealed systems

NOTE

For complete specifications and processing guidelines see www.samtec.com?ACPK-16

ACPK	16	LEAD STYLE	PLATING	GENDER	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 0.5 mm DIA (14) (26-30 AWG) –02 = 1.0 mm DIA (10) (20-24 AWG) –06 = 1.5 mm DIA (2) (14-18 AWG) + 0.5 mm DIA (8) (26-30 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–T = Terminal –S = Socket	–P = Plastic –M = Metal	–1 = Orange, 45°





–T–M SHOWN

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ACCLIMATE™

ACR–16–01–G–00.25–S–S1–P–1



ACR–16–02–G–00.25–S–S1–M–1

ACR-16 SERIES

IP68 SEALED 16 mm PANEL ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?ACR-16

Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
RoHS Compliant:
Yes

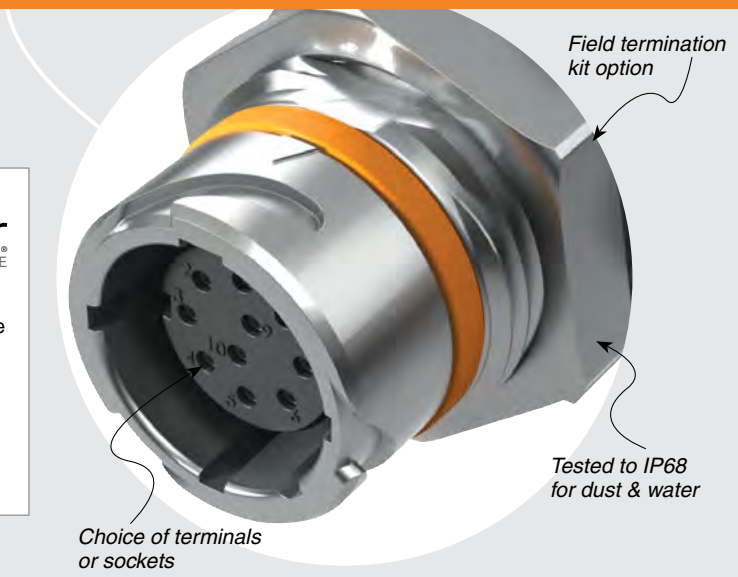
Mates with:
ACP-16, ACPK-16

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	14	1.3 A
–02	10	2.6 A
–06	2 (plus 8 signal pins powered @ 1A)	11.6 A

For general reference only. See www.samtec.com?ACR-16 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

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DESIGN IN A MINUTE

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- Variety of shells, pin sizes, signal, power, I/O interfaces
- Assembly and field kits available



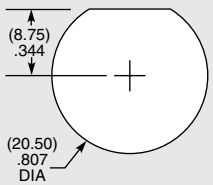
DUST CAPS

- DCA-ACR-16-M-X (Metal)
- DCA-ACR-16-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

PANEL OPENING



Note: Some lengths, styles and options are non-standard, non-returnable.

ACR	16	LEAD STYLE	PLATING	LENGTH	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS

LEAD STYLE
–01 = 0.5 mm DIA (14) terminals or sockets (28 AWG)
–02 = 1.0 mm DIA (10) terminals or sockets (24 AWG)
–06 = 1.5 mm DIA (2) terminals or sockets (16 AWG) + 0.5 mm DIA (8) terminals or sockets (28 AWG)

PLATING
–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact

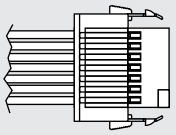
LENGTH
–"XX.XX" = Length in meters (00.20 m min. to 50.00 m max.)
Standard lengths

END 1
–T = Terminal
–S = Socket

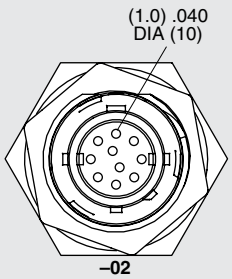
END 2
–BC = Blunt Cut
–S1 = Connector determined by lead style. (Specify LEAD STYLE from chart)

HOUSING MATERIAL
–P = Plastic
–M = Metal

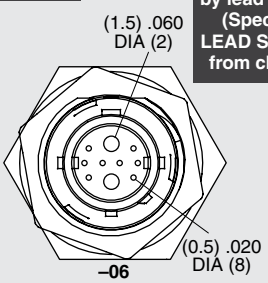
KEYING OPTIONS
–1 = Orange, 45°



–01 END 2 (SFSD)

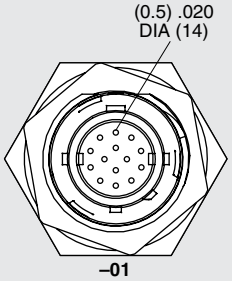


–02

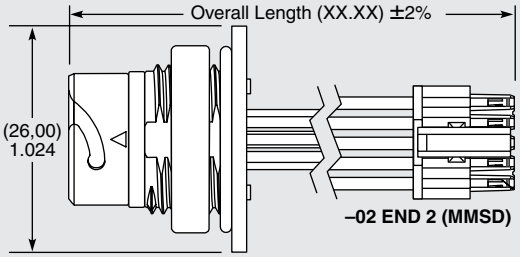


–06

LEAD STYLE	-S1 END 2	MATES WITH -S1
–01	SFSD (28 AWG)	TFM
–02	MMSD (24 AWG)	IPL1
–06	1 x SFSD (28 AWG)	TFM
	1 x MPSS (16 AWG)	MPT

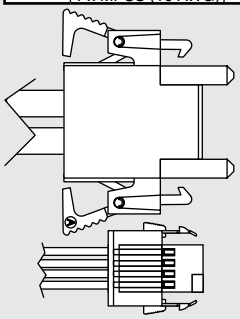


–01



END 1

–02 END 2 (MMSD)



–06 END 2 (MPSS, SFSD)

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

ACCLIMATE™



ACRK-16 SERIES

16 mm IP68 FIELD TERMINATION KIT

SPECIFICATIONS

Mates with:
ACP-16, ACPK-16

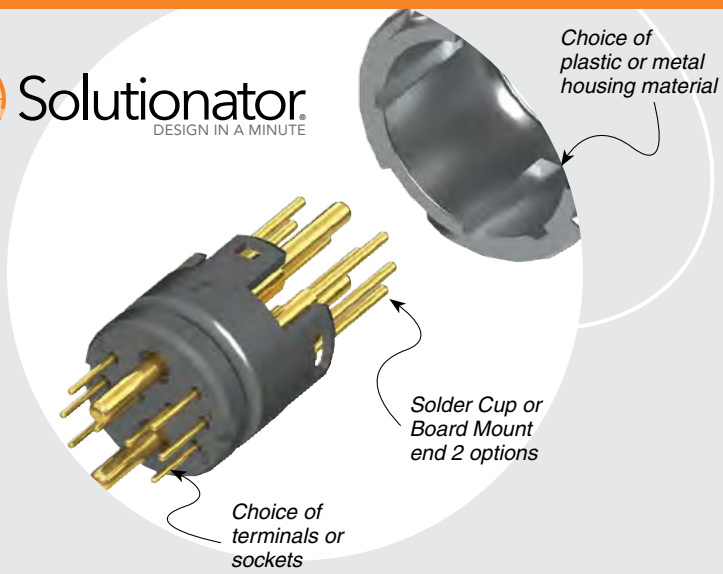
For complete specifications and processing guidelines see www.samtec.com?ACRK-16

Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
RoHS Compliant:
Yes

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	14	1.3 A
–02	10	2.6 A
–06	2 (plus 8 signal pins powered @ 1A)	11.6 A

For general reference only. See www.samtec.com?ACRK-16 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Solutionator® DESIGN IN A MINUTE



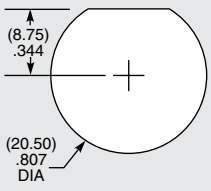
DUST CAPS

- DCA-ACR-16-M-X (Metal)
- DCA-ACR-16-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

PANEL OPENING

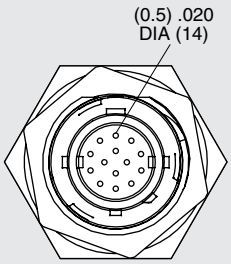


NOTE

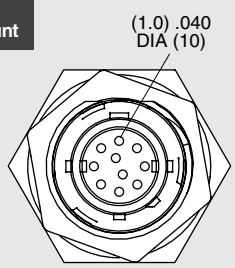
For complete specifications and processing guidelines see www.samtec.com?ACRK-16

Note: Some lengths, styles and options are non-standard, non-returnable.

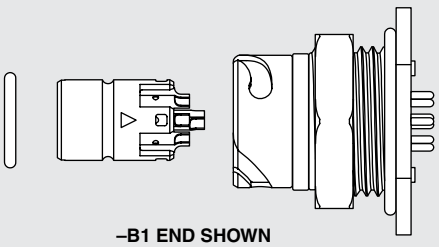
ACRK	16	LEAD STYLE	PLATING	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 0.5 mm DIA (14) (26-30 AWG) –02 = 1.0 mm DIA (10) (20-24 AWG) –06 = 1.5 mm DIA (2) (14-18 AWG) + 0.5 mm DIA (8) (26-30 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–T = Terminal –S = Socket	–C = Solder Cup –B1 = (1.60 mm) .062" Board Mount	–P = Plastic –M = Metal	–1 = Orange, 45°



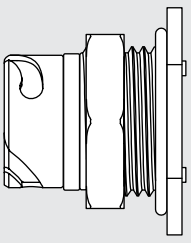
–01



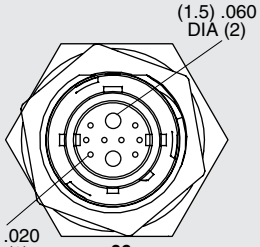
–02



–B1 END SHOWN



–C END SHOWN



–06

samtec

ACCLIMATE™



ACP-22 SERIES

IP68 SEALED 22 mm CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?ACP-22

Insulator Material:
Thermoplastic
Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
Cable Jacket:
TPU
RoHS Compliant:
Yes

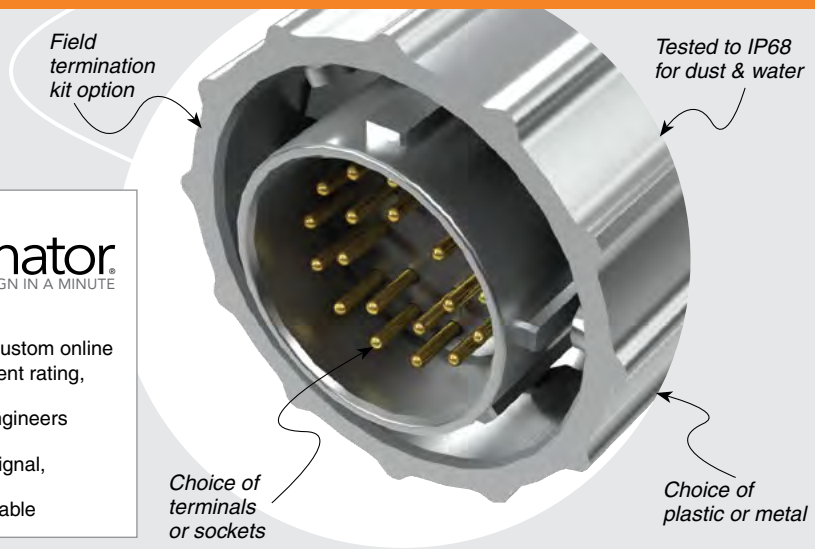
CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	30	2.0 A
–02	20	2.3 A
–03	8	8.3 A

For general reference only. See www.samtec.com?ACP-22 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Mates with:
ACR-22, ACRK-22

Solutionator®
DESIGN IN A MINUTE

- Easy sealed cable solutions
- Build a standard or flexible custom online
- Calculate performance, current rating, voltage drop
- Live chat with AccliMate™ engineers for custom options
- Variety of shells, pin sizes, signal, power, I/O interfaces
- Assembly and field kits available



DUST CAPS

- DCA-ACP-22-M-X (Metal)
- DCA-ACP-22-P-X (Plastic)



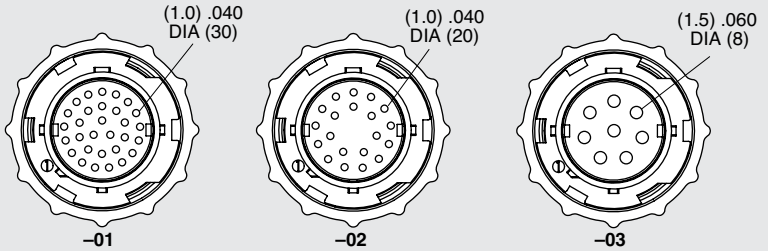
- Visit sealedio.samtec.com for a complete list of sealed systems

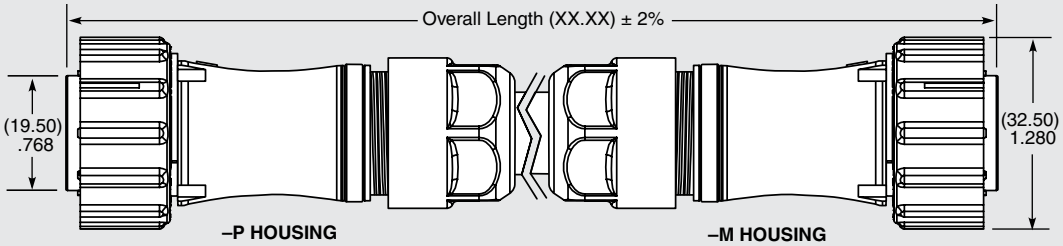
ALSO AVAILABLE
(MOQ Required)

- Other assembly lengths
Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

ACP	22	LEAD STYLE	PLATING	LENGTH	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 1.0 mm DIA (30) terminals or sockets (24 AWG) –02 = 1.0 mm DIA (20) terminals or sockets (24 AWG) –03 = 1.5 mm DIA (8) terminals or sockets (16 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–"XX.XX" = Length in meters (00.25 m min. to 50.00 m max.) Standard lengths	–T = Terminal –S = Socket	–T = Terminal –S = Socket –BC = Blunt Cut	–P = Plastic –M = Metal	–1 = Orange, 45°





Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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ACCLIMATE™



ACPK–22–02–G–T–P–1

ACPK-22 SERIES

22 mm IP68 FIELD TERMINATION KIT

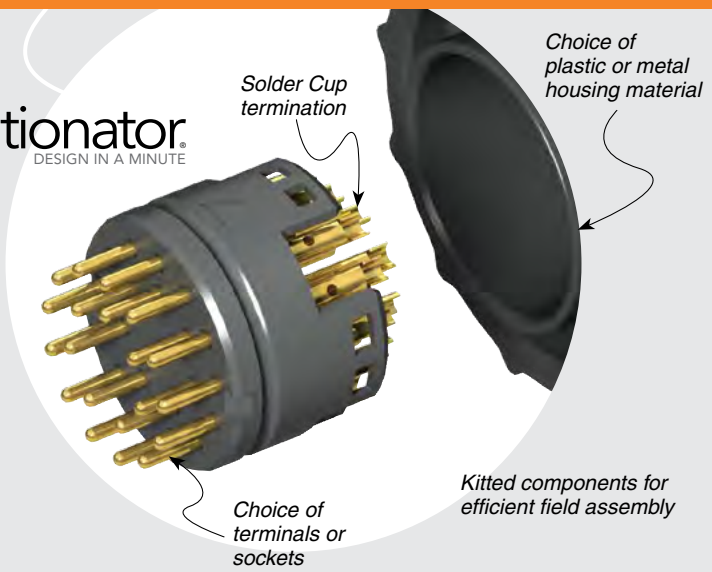
SPECIFICATIONS

For complete specifications and processing guidelines see www.samtec.com?ACPK-22

Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
RoHS Compliant:
Yes

Mates with:
ACR-22, ACRK-22

Solutionator
DESIGN IN A MINUTE



CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	30	2.0 A
–02	20	2.3 A
–03	8	8.3 A

For general reference only. See www.samtec.com?ACPK-22 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

DUST CAP

- DCA-ACP-22-M-X (Metal)
- DCA-ACP-22-P-X (Plastic)



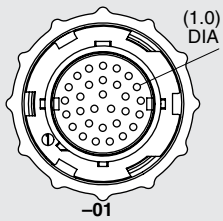
- Visit sealedio.samtec.com for a complete list of sealed systems

NOTE

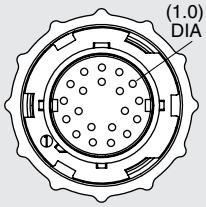
For complete specifications and processing guidelines see www.samtec.com?ACPK-22

Note: Some lengths, styles and options are non-standard, non-returnable.

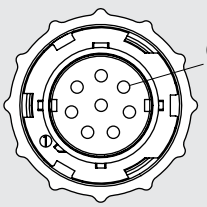
ACPK	22	LEAD STYLE	PLATING	GENDER	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 1.0 mm DIA (30) (20-24 AWG) –02 = 1.0 mm DIA (20) (20-24 AWG) –03 = 1.5 mm DIA (8) (14-18 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–T = Terminal –S = Socket	–P = Plastic –M = Metal	–1 = Orange, 45°



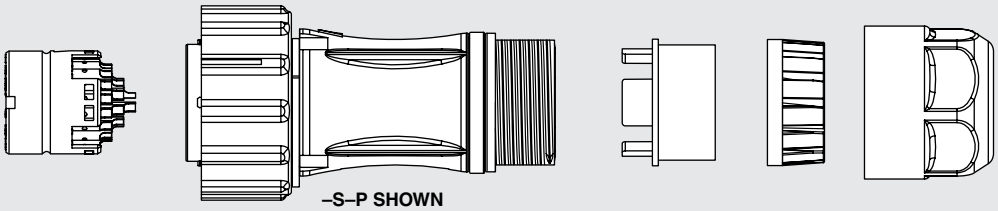
–01



–02



–03



–S–P SHOWN

samtec

ACCLIMATE™

ACR–22–03–G–00.25–S–S1–P–1



ACR-22 SERIES

IP68 SEALED 22 mm PANEL ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?ACR-22

Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
RoHS Compliant:
Yes

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	30	2.0 A
–02	20	2.3 A
–03	8	8.3 A

For general reference only. See www.samtec.com?ACR-22 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Mates with:
ACP-22, ACPK-22

Solutionator
DESIGN IN A MINUTE

- Easy sealed cable solutions
- Build a standard or flexible custom online
- Calculate performance, current rating, voltage drop
- Live chat with AccliMate™ engineers for custom options
- Variety of shells, pin sizes, signal, power, I/O interfaces
- Assembly and field kits available



Choice of terminal or sockets

Tested to IP68 for dust & water

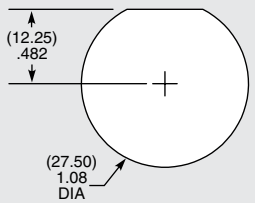
DUST CAPS

- DCA-ACR-22-M-X (Metal)
- DCA-ACR-22-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

PANEL OPENING



ALSO AVAILABLE
(MOQ Required)

- Other assembly lengths
Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

ACR	22	LEAD STYLE	PLATING	LENGTH	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS

LEAD STYLE
–01 = 1.0 mm DIA (30) terminals or sockets (24 AWG)
–02 = 1.0 mm DIA (20) terminals or sockets (24 AWG)
–03 = 1.5 mm DIA (8) terminals or sockets (16 AWG)

PLATING
–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact

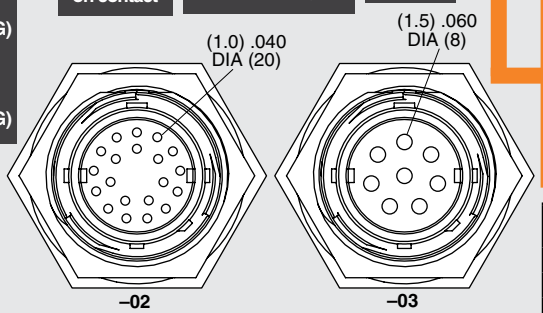
LENGTH
–"XX.XX" = Length in meters (00.25 m min. to 50.00 m max.)
Standard lengths

END 1
–T = Terminal
–S = Socket

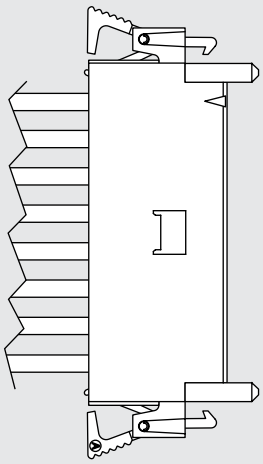
END 2
–BC = Blunt Cut
–S1 = Connector determined by lead style. (Specify LEAD STYLE from chart)

HOUSING MATERIAL
–P = Plastic
–M = Metal

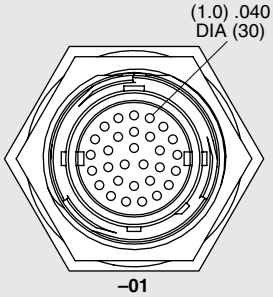
KEYING OPTIONS
–1 = Orange, 45°



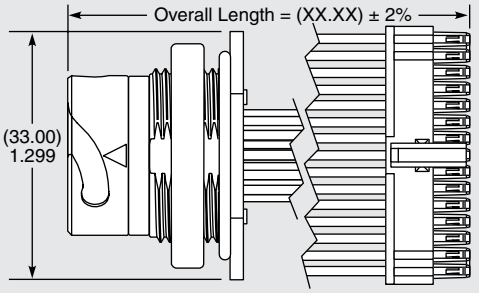
LEAD STYLE	-S1 END 2	MATES WITH -S1
–01	MMSD (24 AWG)	IPL1
–02		
–03	MPSS (16 AWG)	MPT



–03 END 2 (MPSS)



–01



–01 END

–01 END 2 (MMSD)

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samtec

ACCLIMATE™



ACRK–22–01–G–T–B1–P–1



ACRK–22–05–G–T–B1–M–1

ACRK-22 SERIES

22 mm IP68 FIELD TERMINATION KIT

SPECIFICATIONS

Mates with:
ACP-22, ACPK-22

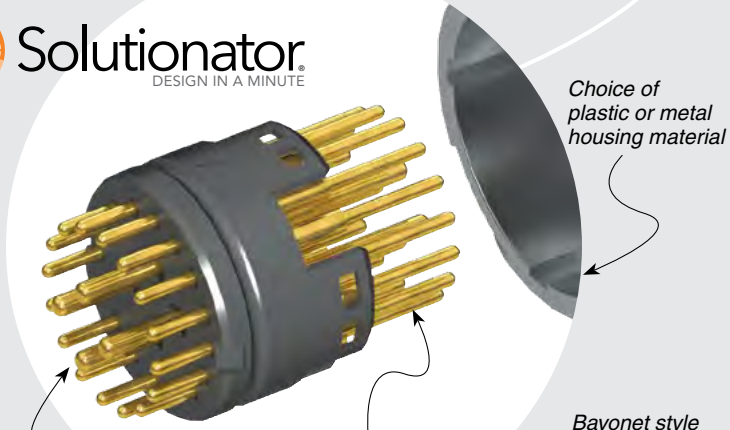
For complete specifications and processing guidelines see www.samtec.com?ACRK-22

Terminal Material:
Brass
Contact Material:
Brass/BeCu
Operating Temp Range:
-40 °C to +105 °C
Housing:
–P: Thermoplastic
–M: Zinc Alloy
RoHS Compliant:
Yes

CURRENT RATING		
LEAD STYLE	PINS POWERED	CCC per PIN
–01	30	2.0 A
–02	20	2.3 A
–03	8	8.3 A

For general reference only. See www.samtec.com?ACRK-22 for complete test data or contact AccliMate@samtec.com for applications requiring higher current carrying capacity.

Solutionator
DESIGN IN A MINUTE



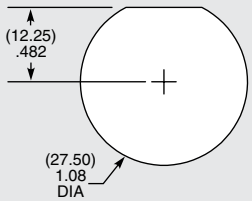
DUST CAPS

- DCA-ACR-22-M-X (Metal)
- DCA-ACR-22-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

PANEL OPENING

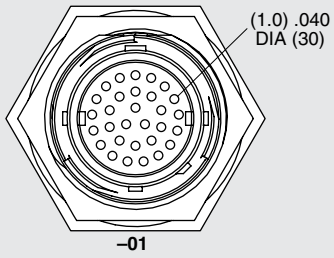


NOTE

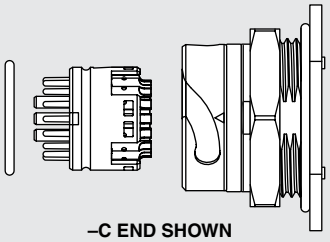
For complete specifications and processing guidelines see www.samtec.com?ACRK-22

Note: Some lengths, styles and options are non-standard, non-returnable.

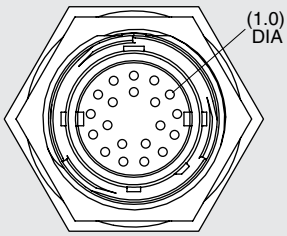
ACRK	22	LEAD STYLE	PLATING	END 1	END 2	HOUSING MATERIAL	KEYING OPTIONS
		–01 = 1.0 mm DIA (30) (20-24 AWG) –02 = 1.0 mm DIA (20) (20-24 AWG) –03 = 1.5 mm DIA (8) (14-18 AWG)	–G = 10 µ" (0.25 µm) Gold over 50 µ" (1.27 µm) Ni on contact	–T = Terminal –S = Socket	–C = Solder Cup –B1 = (1.60 mm) .062" Board Mount	–P = Plastic –M = Metal	–1 = Orange, 45°



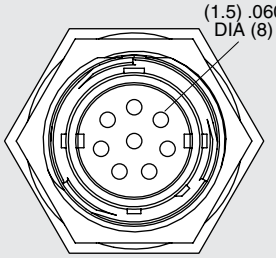
–01



–C END SHOWN



–02



–03

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CCP–12–1–L–00.3–T–S–M



CCP–12–1–L–00.3–S–S–P

COST-EFFECTIVE

CCP-12 SERIES

IP68 12 mm CRIMP CABLE ASSEMBLY

SPECIFICATIONS

For complete specifications see www.samtec.com?CCP-12

Insulator Material:
PBT
Terminal Material:
Phosphor Bronze
Contact Material:
BeCu
Housing:
–P: Black Nylon
–M: Zinc Alloy
Cable Jacket:
TPU
RoHS Compliant:
Yes

COMPONENTS

- For body, see www.samtec.com?CCPK-12
- For contacts, see www.samtec.com?T1M82-L www.samtec.com?T1M82-R www.samtec.com?CC81L www.samtec.com?CC81R

DUST CAPS

- DCA-ACP-12-M-X (Metal)
- DCA-ACP-12-P-X (Plastic)



- Visit sealedio.samtec.com for a complete list of sealed systems

ALSO AVAILABLE (MOQ Required)

- Other assembly lengths

Contact Samtec.

OTHER SOLUTIONS

- Solder cup version available

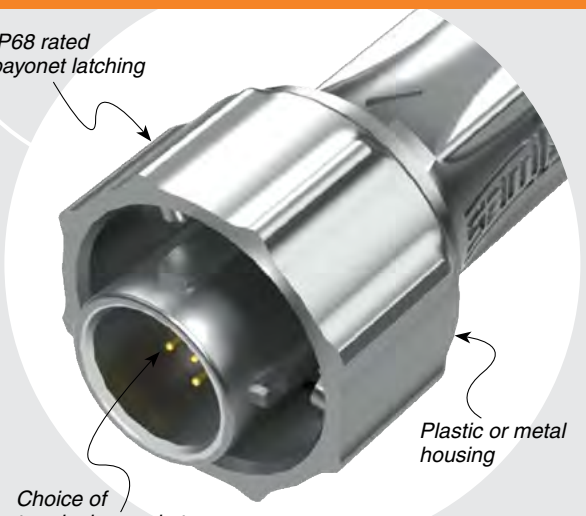
For specifications, see www.samtec.com?ACP-12

Note: Some lengths, styles and options are non-standard, non-returnable.

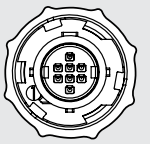
Mates with:
CCR-12, CCRK-12, CCRB-12

Solutionator®
DESIGN IN A MINUTE

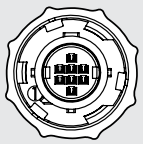
- Easy sealed cable solutions
- Build a standard or flexible custom online
- Calculate performance, current rating, voltage drop
- Live chat with AccliMate™ engineers for custom options
- Variety of shells, pin sizes, signal, power, I/O interfaces
- Assembly and field kits available



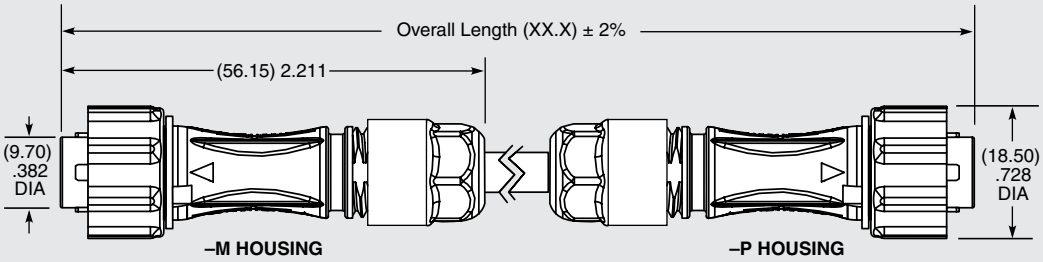
CCP	12	LEAD STYLE	PLATING	LENGTH	END 1	END 2	HOUSING MATERIAL
		–1 = 8 Positions, 28 AWG	–L = 10 µ" (0.25 µm) Gold in contact area, Matte Tin on tail	–"XX.X" = Length in meters (00.3 m min. to 50.0 m max.) Standard lengths	–T = Terminal –S = Socket (Not available with End 2 -T)	–T = Terminal –S = Socket –B = Blunt Cut	–P = Plastic –M = Metal



–T END



–S END



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CCRB–12–1–L–T–B1–P



CCR–12–1–L–00.3–S–B–M

COST-EFFECTIVE

CCR-12, CCRB-12 SERIES

IP68 12 mm CRIMP CABLE ASSEMBLY

Mates with:
CCP-12, CCPK-12

SPECIFICATIONS

For complete specifications see www.samtec.com?CCR-12

Insulator Material:
PBT
Terminal Material:
Phosphor Bronze
Contact Material:
BeCu
Housing:
–P: Black Nylon
–M: Zinc Alloy
RoHS Compliant:
Yes

COMPONENTS

- For body, see www.samtec.com?CCRK-12
- For contacts, see
  www.samtec.com?T1M82-L
  www.samtec.com?T1M82-R
  www.samtec.com?CC81L
  www.samtec.com?CC81R

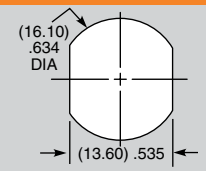
DUST CAPS

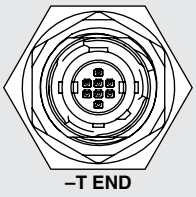
- DCA-ACR-12-M-X (Metal)
- DCA-ACR-12-P-X (Plastic)

Visit sealedio.samtec.com for a complete list of sealed systems

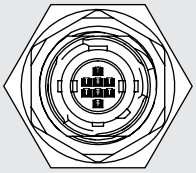
CCR	12	LEAD STYLE	PLATING	LENGTH	END 1	END 2	HOUSING MATERIAL
		–1 = 8 Positions, 28 AWG	–L = 10 µ" (0.25 µm) Gold in contact area, Matte Tin on tail	–"XX.X" = Length in meters (00.1 m min. to 50.0 m max.) Standard lengths	–T = Terminal –S = Socket	–B = Blunt Cut –S1 = Connector	–P = Plastic –M = Metal

PANEL OPENING

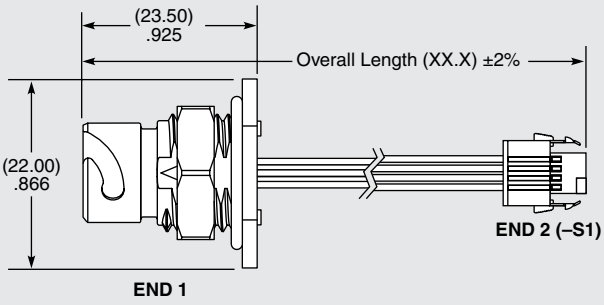




–T END



–S END



ALSO AVAILABLE
(MOQ Required)

- Other assembly lengths
  Contact Samtec.

Mates with:
CCP-12

SPECIFICATIONS

For complete specifications see www.samtec.com?CCRB-12

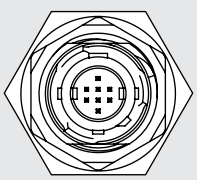
Insulator Material:
PBT
Terminal Material:
Phosphor Bronze
Housing:
–P: Black Nylon
–M: Zinc Alloy
RoHS Compliant:
Yes

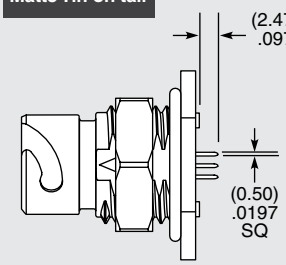
OTHER SOLUTIONS

- Solder cup version available

For specifications, see www.samtec.com?ACR-12

CCRB	12	LEAD STYLE	PLATING	END 1	END 2	HOUSING MATERIAL
		–1 = 8 Positions	–L = 10 µ" (0.25 µm) Gold in contact area, Matte Tin on tail	–T = Terminal	–B1 = (1.60 mm) .062" Board Mount	–P = Plastic –M = Metal





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MCR, MCP SERIES

IP67 SEALED 8 SERIES PANEL ASSEMBLY

FEATURES

- IP67 dust and water protected when submerged 1 m deep for 30 minutes
- Lightweight plastic shell
- Push-pull latching system
- 11.05 mm (.435") DIA panel opening
- Polarizing keys protect from misalignment
- Visual alignment indicators
- Cable-to-cable or cable-to-panel solutions

SPECIFICATIONS

For complete specifications see www.samtec.com?MCR or www.samtec.com?MCP

Insulator Material: PPS
Terminal Material (MCP): Phosphor Bronze
Contact Material: Phosphor Bronze
Operating Temp Range: -20 °C to +80 °C
Gasket Material: Neoprene Rubber (MCR) Silicone (MCP)
Lock Washer (MCR): Phosphor Bronze, Ni plated
Hex Nut (MCR): Brass, Ni plated
Spring Material (MCP): Stainless Steel
Coupling Ring Spacer (MCP): PBT
Cable Clamp (MCP): POM
RoHS Compliant: Yes

COMPONENTS

- For body, see www.samtec.com?MCRK or www.samtec.com?MCPK
- For contacts, see www.samtec.com?CC393 or www.samtec.com?TC114

DUST CAPS

- -S (Socket) = DCA-MCR-8
- -T (Terminal) = DCA-MCP-8

Visit sealedio.samtec.com for a complete list of sealed systems

ALSO AVAILABLE (MOQ Required)

- Other lengths

Contact Samtec.

Note: Samtec's MCR, MCP Series is dual sourced by Hirose Electric Co., LTD.

MCR – 8 – LEAD STYLE – PLATING – LENGTH – END 1 OPTION – END 2 OPTION

Mates with: MCP(K)

LEAD STYLE
–02 = 12 positions, 28 AWG

PLATING
–L = 10 µ" (0.25 µm) Gold on contact area

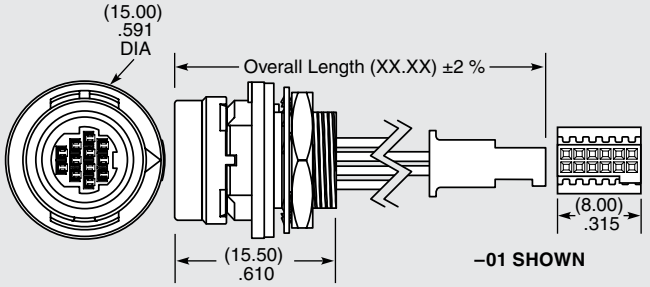
LENGTH
–00.25 = 0.25 meter
–00.50 = 0.50 meter
Standard lengths

END 1 OPTION
–S = Socket

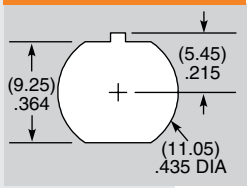
END 2 OPTION
–BC = Blunt Cut (Color wire only, see chart)
–01 = 2x6 SFSD (Pin1 to Pin1) (Black wire only)

APPLICATION

–BC CABLE COLOR CODING	
PIN	COLOR
1	BROWN
2	RED
3	ORANGE
4	YELLOW
5	GREEN
6	DARK BLUE
7	VIOLET
8	GRAY
9	WHITE
10	BLACK
11	GREEN/BLACK
12	TAN



PANEL OPENING



MCP – 8 – LEAD STYLE – PLATING – LENGTH – END 1 OPTION – END 2 OPTION

Mates with: MCR(K), MCP(K)

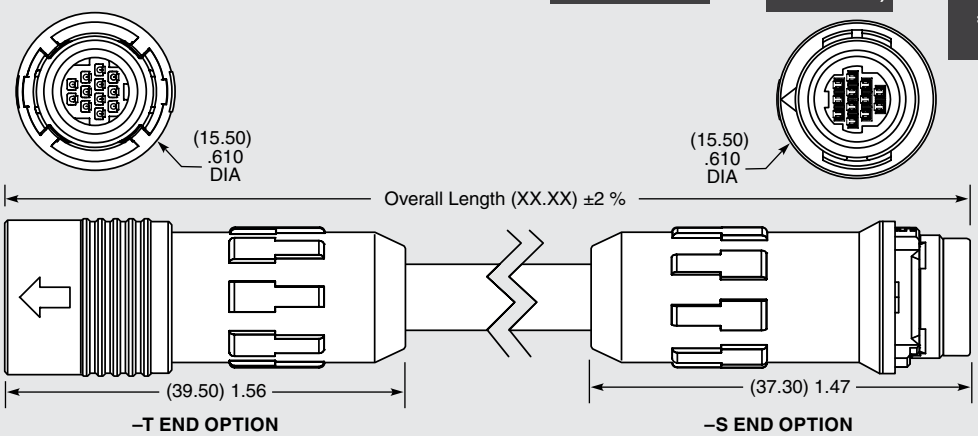
LEAD STYLE
–02 = 12 positions, 28 AWG

PLATING
–L = 10 µ" (0.25 µm) Gold on contact area

LENGTH
–01.00 = 1 meter
–02.00 = 2 meters
Standard lengths

END 1 OPTION
–T = Terminal
–S = Socket (Not available with End 2 -T)

END 2 OPTION
–T = Terminal
–S = Socket
–BC = Blunt Cut



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SCRES–G–00.25–D–C5E



SCRUS–17–G–00.25–AMS–BC

SCRUS, SCRES SERIES

IP68 SEALED USB & ETHERNET

Mates with:
SCPU

SPECIFICATIONS

For complete specifications and recommended panel hole layout see www.samtec.com?SCRUS

Insulator Material:
PBT
Contact Material:
Phosphor Bronze
Wire:
20 AWG (Power)
25 AWG (Signal)
28 AWG (Drain)
O-Ring:
Silicone
Operating Temp Range:
-20 °C to +75 °C
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

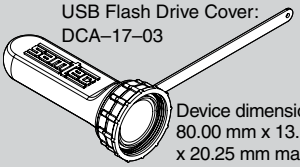
FILE NO. E71636

Note:
Some lengths, styles and options are non-standard, non-returnable.

TYPE	SHELL SIZE	PLATING	WIRE LENGTH	END 1 OPTION	END 2 OPTION
SCRUS = Sealed Circular USB Receptacle Cable Assembly	**–17** (Standard USB only) **–10** (Mini USB only)	**–G** = 30 µ" (0.76 µm) Gold on Contact, Nickel on Shell	**–00.25** = (0.25 m) 9.84" Cable **–00.50** = (0.50 m) 19.68" Cable Standard lengths (Assembled Length = Wire Length + (37.9 mm) 1.50")	**–AMS** = USB A Type, Sealed **–BMS** = USB B Type, Sealed **–MBS** = Mini USB B Type, Sealed	**–AM** = USB A Type, Not Sealed **–BM** = USB B Type, Not Sealed **–MB** = Mini USB B Type, Not Sealed **–BC** = Blunt Cut

DUST CAP

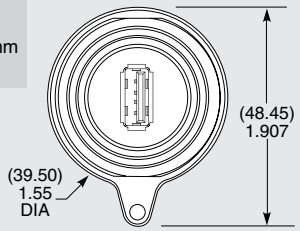
USB Flash Drive Cover:
DCA–17–03



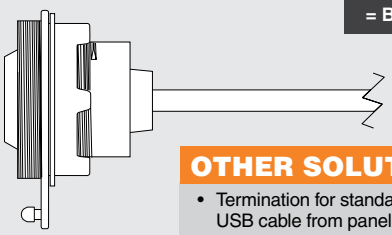
Device dimensions:
80.00 mm x 13.30 mm x 20.25 mm max.



–MBS



–AMS



–AMS

OTHER SOLUTIONS

- Termination for standard USB cable from panel-to-board

See SCRU Series.

Mates with:
SCPE

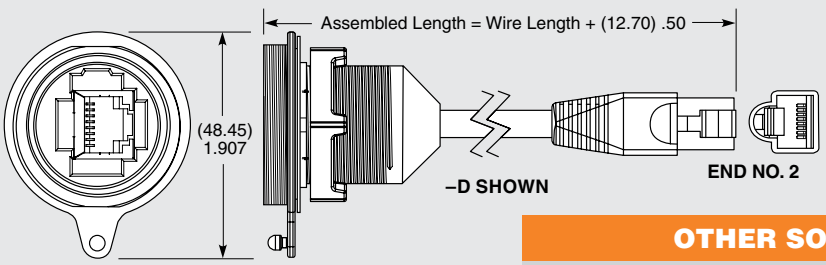
SPECIFICATIONS

For complete specifications and recommended panel hole layout see www.samtec.com?SCRES

Insulator Material:
PBT
Contact Material:
Phosphor Bronze
Shield Material:
Phosphor Bronze
Wire:
24 AWG
O-Ring:
Silicone
Overmold:
PA66
Current Rating:
3.8 A per pin
(1 pin powered)
Operating Temp Range:
-40 °C to +70 °C
RoHS Compliant:
Yes

Note:
Some lengths, styles and options are non-standard, non-returnable.

TYPE	PLATING	WIRE LENGTH	END OPTION	C5E
SCRES = Sealed Circular Ethernet Receptacle Cable Assembly	**–G** = 50 µ" (1.27 µm) Gold on Contact, Nickel on Shell	**–00.25** = (0.25 m) 9.84" Cable **–00.50** = (0.50 m) 19.68" Cable Standard lengths	**–D** = Double Ended **–BC** = Blunt Cut	**–C5E** = Cat 5e rating



DUST CAP & PANEL PLUG

- Dust Cap: DCA-17-01
- Panel Plug: SCPPA-17-01

Contact Samtec.

OTHER SOLUTIONS

- Termination for standard ethernet cable from panel to board

Contact Samtec.

Due to technical progress, all designs, specifications and components are subject to change without notice.

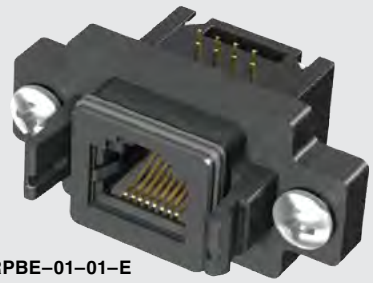
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RPCE–01–E–00.25–D–C5E



RPBE–01–01–E

RPBE, RPCE SERIES

IP68 SEALED ETHERNET SOCKET

Mates with:
RCE

SPECIFICATIONS

For complete specifications see www.samtec.com?RPBE

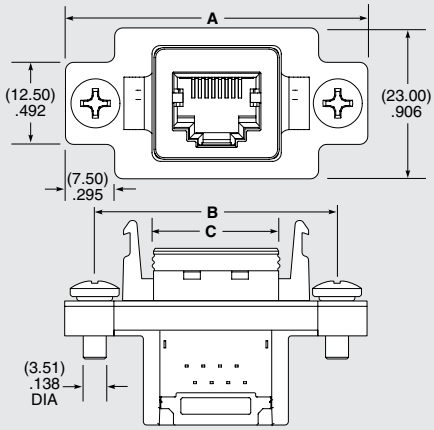
Insulator Material: Black Liquid Crystal Polymer
Contact: Phosphor Bronze
Operating Temp Range: -40 °C to +75 °C
Seal: Rubber
Screw: Stainless Steel
Nut: Stainless Steel
Sealing Washer: Rubber

DUST CAPS

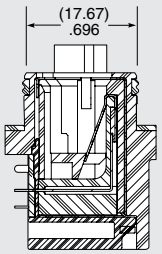
PORT	PART NO.	TYPE
–01	DCA-RPBE-01-01-P	Push-On/ No Latch
–01	DCA-RPBE-01-01-L	Latching
–02	DCA-RPBE-02-01-L	

Note: Meets IP68 requirements for dust and waterproof sealing when mated or with dust cap.

RPBE	NO. OF PORTS	LEAD STYLE	PLATING
	–01, –02	–01 = Right-angle	–E = 50 µ" (1.27 µm) Gold on contact, Flash Gold on tail

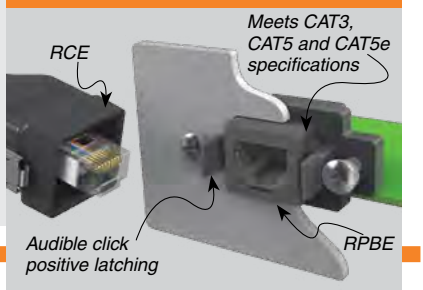


NO. OF PORTS	A	B	C
–01	(46.10) 1.815	(36.95) 1.455	(19.72) .776
–02	(67.10) 2.642	(57.95) 2.281	(40.72) 1.603



Some components removed for clarity

APPLICATION



Mates with:
RCE

SPECIFICATIONS

For complete specifications see www.samtec.com?RPCE

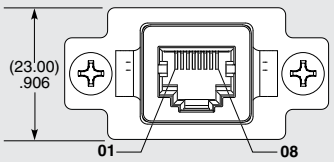
Insulator Material: Glass Filled Thermoplastic
Contact: Phosphor Bronze
Shield: Phosphor Bronze
Operating Temp Range: -40 °C to +75 °C
Overmold: Rite Flex 640F
Seal: Rubber
Screw: Stainless Steel
Nut: Stainless Steel
Sealing Washer: Rubber
Wire: 24 AWG

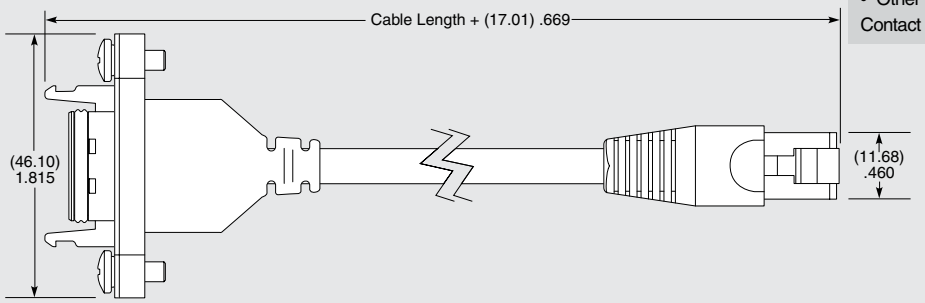
DUST CAPS

PORT	PART NO.	TYPE
–01	DCA-RPBE-01-01-P	Push-On/ No Latch
–01	DCA-RPBE-01-01-L	Latching
–02	DCA-RPBE-02-01-L	

Note: Meets IP68 requirements for dust and waterproof sealing when mated or with dust cap.

RPCE	01	PLATING	WIRE LENGTH	END OPTION	C5E
		–E = 50 µ" (1.27 µm) Gold on contact, Nickel on shell	–00.25 = (0.25 m) 9.84" –00.50 = (0.50 m) 19.69" Standard lengths	–D = Double Ended –BC = Blunt Cut	



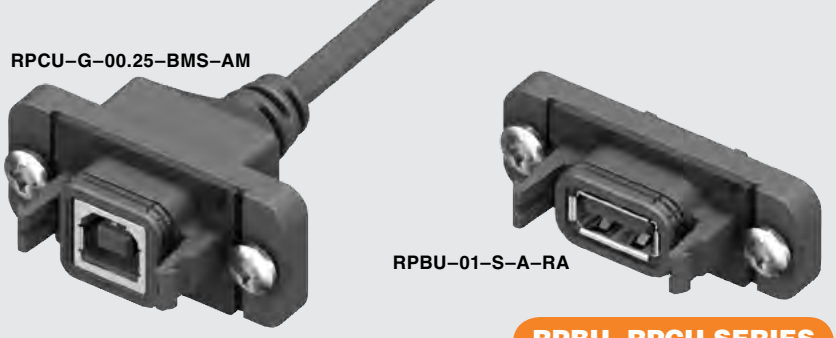


ALSO AVAILABLE (MOQ Required)

- Other wire lengths Contact Samtec.

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ACCLIMATE™



RPBU, RPCU SERIES

IP68 SEALED USB PANEL MOUNT

Mates with:
RCU (Single Port only)

SPECIFICATIONS

For complete specifications see www.samtec.com?RPBU

Insulator Material: Black Liquid Crystal Polymer
Contact: Phosphor Bronze
Current Rating: 4.2 A per pin (1 pin powered)
Operating Temp Range: -20 °C to +80 °C
Seal: Silicone
Lead-Free Solderable: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

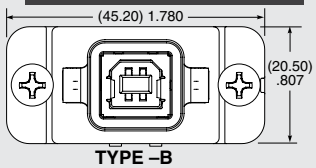
FILE NO. E111594

DUST CAPS

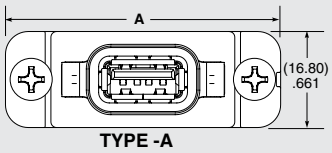
- DCA-RPBU-01-01-A
- DCA-RPBU-02-01-A
- DCA-RPBU-01-01-B

Contact Samtec

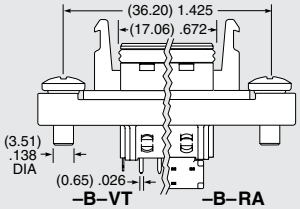
RPBU	NO. OF PORTS	PLATING	TYPE	LEAD STYLE	OPTION
	–01 = Single Port –02 = Dual Port (–A only)	–S = 30 µ" (0.76 µm) Gold on contact, Matte tin on tail	–A = USB A Type –B = USB B Type	–VT = Vertical Through-hole –RA = Right-angle	–LC = Locking Clip (–VT only)



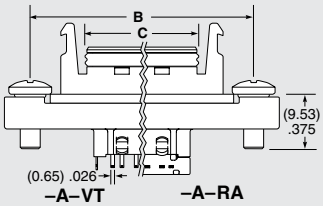
TYPE –B



TYPE -A



–B–VT –B–RA



–A–VT –A–RA

NO. OF PORTS	A	B	C
–01	(48.15) 1.896	(39.10) 1.539	(20.01) .788
–02	(69.80) 2.748	(60.75) 2.392	(42.00) 1.654

Mates with:
RCU

SPECIFICATIONS

For complete specifications see www.samtec.com?RPCU

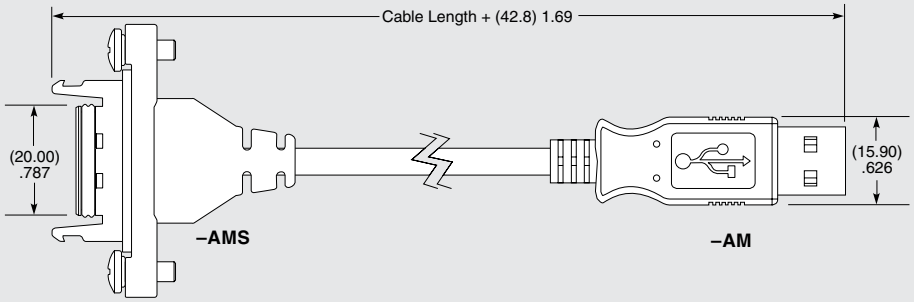
Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Operating Temp Range: -20 °C to +80 °C
Shield Material: Phosphor Bronze
Wire: 20 AWG (Power) 25 AWG (Signal) 28 AWG (Drain)

DUST CAPS

- DCA-RPBU-01-01-A
- DCA-RPBU-01-01-B

Contact Samtec

RPCU	PLATING	CABLE LENGTH	END 1 OPTION	END 2 OPTION
	–G = 30 µ" (0.76 µm) Gold on contact, Nickel on shell	–00.25 = (0.25 m) 9.84" Cable –00.50 = (0.50 m) 19.68" Cable Standard lengths (Assembled Length = Cable Length + (42.8 mm) 1.69")	–AMS = USB A Type, Sealed –BMS = USB B Type, Sealed	–AM = USB A Type, Not Sealed –BM = USB B Type, Not Sealed –BC = Blunt Cut



–AMS –AM

ALSO AVAILABLE (MOQ Required)

- Other wire lengths

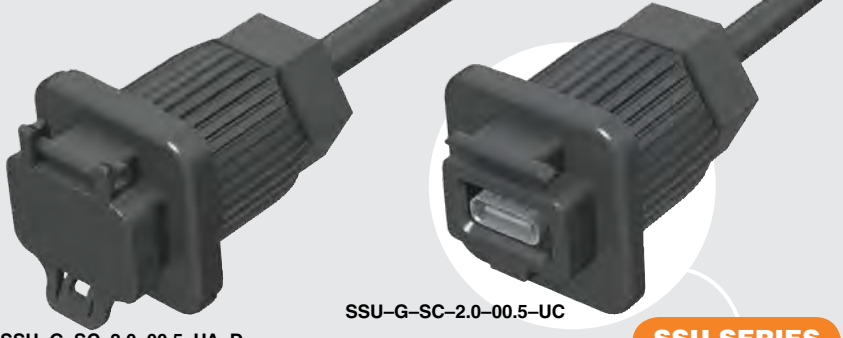
Contact Samtec.

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ACCLIMATE™



SSU–G–SC–2.0–00.5–UA–D

SSU–G–SC–2.0–00.5–UC

SSU SERIES

MICRO IP68 SEALED USB PANEL MOUNT

SPECIFICATIONS

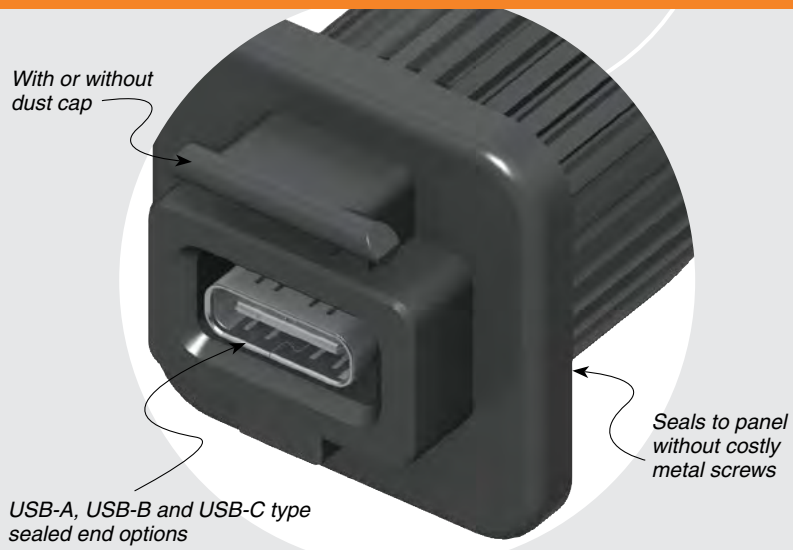
For complete specifications see www.samtec.com?SSU

Insulator Material:
LCP, Black
Contact Material:
Phosphor Bronze
Current Rating:
Testing Now!
Operating Temp Range:
Testing Now!
Shield Material:
Phosphor Bronze

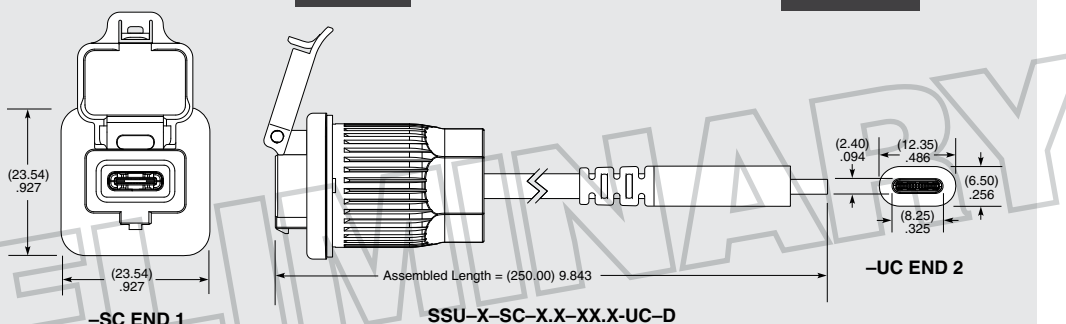
ALSO AVAILABLE (MOQ Required)

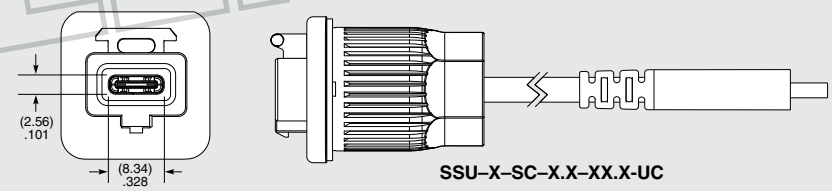
- Other Lengths

Contact Samtec.

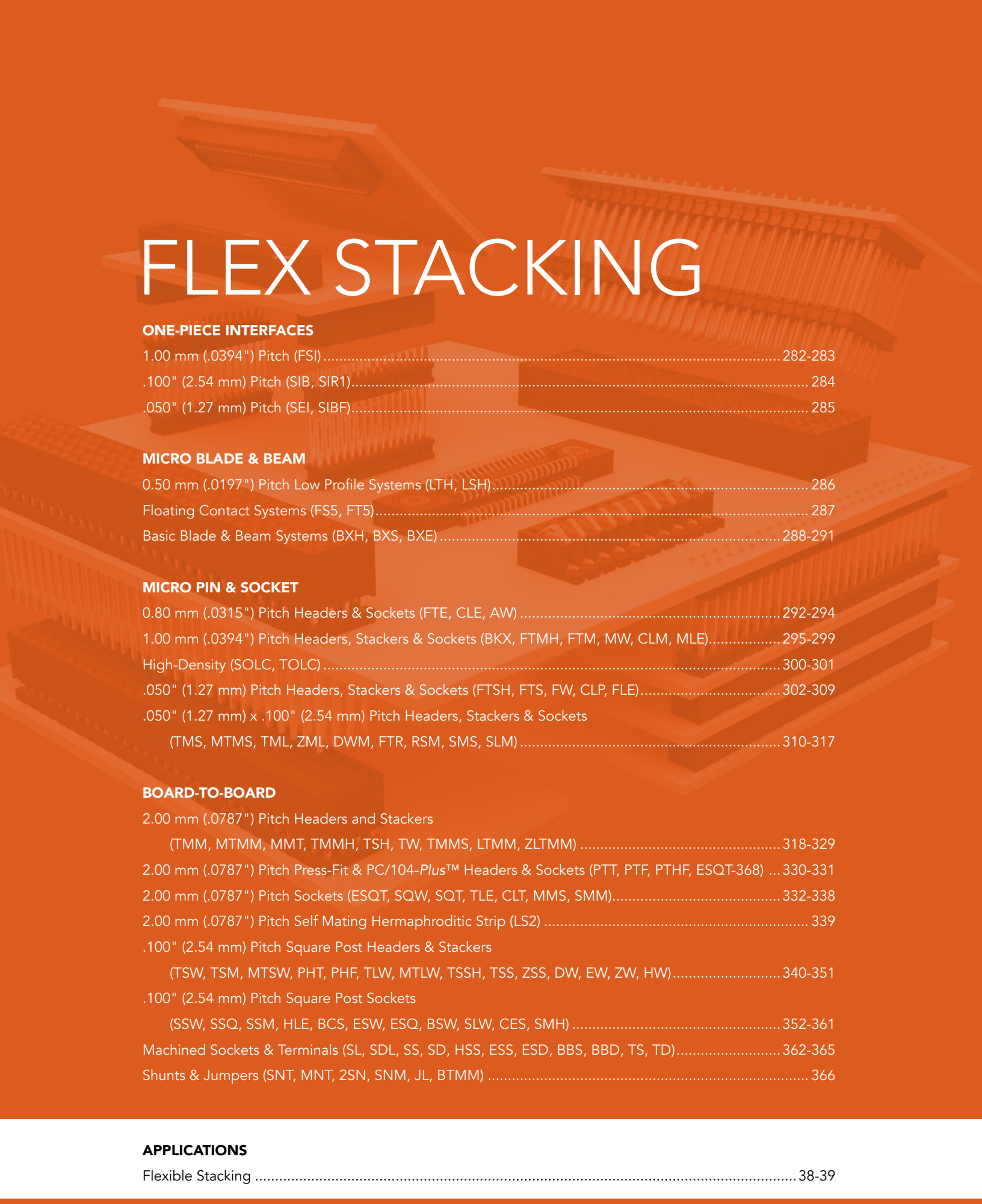


SSU	–	PLATING	–	END 1 OPTION	–	TYPE	–	WIRE LENGTH	–	END 2 OPTION	–	OPTION
		–G = 30 µ" (0.76 µm) Gold on contact, Nickel on shell		–SC = USB-C Type, Sealed –SA = USB-A Type, Sealed –SB = USB-B Type, Sealed		–2.0 = USB 2.0 –3.0 = USB 3.0		–00.5 = (0.50 mm) 19.68" Cable –01.0 = (1 m) 40" Cable Standard lengths		–UC = USB-C Type, Unsealed –UA = USB-A Type, Unsealed –UB = USB-B Type, Unsealed		(Leave blank for no Dust Cap) –D = Dust Cap





PRELIMINARY



FLEX STACKING

ONE-PIECE INTERFACES

1.00 mm (.0394") Pitch (FSI) 282-283
.100" (2.54 mm) Pitch (SIB, SIR1) 284
.050" (1.27 mm) Pitch (SEI, SIBF) 285

MICRO BLADE & BEAM

0.50 mm (.0197") Pitch Low Profile Systems (LTH, LSH) 286
Floating Contact Systems (FS5, FT5) 287
Basic Blade & Beam Systems (BXH, BXS, BXE) 288-291

MICRO PIN & SOCKET

0.80 mm (.0315") Pitch Headers & Sockets (FTE, CLE, AW) 292-294
1.00 mm (.0394") Pitch Headers, Stackers & Sockets (BKX, FTMH, FTM, MW, CLM, MLE) 295-299
High-Density (SOLC, TOLC) 300-301
.050" (1.27 mm) Pitch Headers, Stackers & Sockets (FTSH, FTS, FW, CLP, FLE) 302-309
.050" (1.27 mm) x .100" (2.54 mm) Pitch Headers, Stackers & Sockets
(TMS, MTMS, TML, ZML, DWM, FTR, RSM, SMS, SLM) 310-317

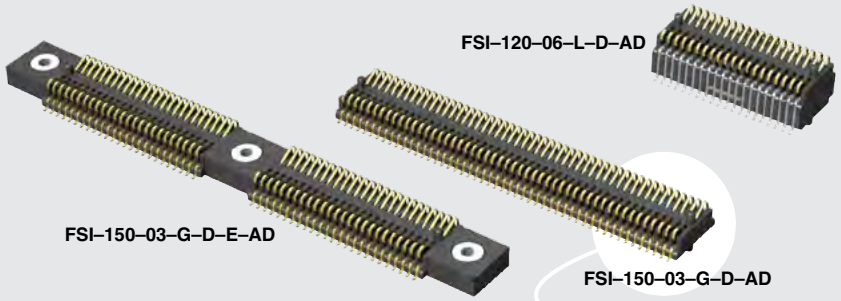
BOARD-TO-BOARD

2.00 mm (.0787") Pitch Headers and Stackers
(TMM, MTMM, MMT, TMMH, TSH, TW, TMMS, LTMM, ZLTMM) 318-329
2.00 mm (.0787") Pitch Press-Fit & PC/104-*Plus*™ Headers & Sockets (PTT, PTF, PTHF, ESQT-368) ... 330-331
2.00 mm (.0787") Pitch Sockets (ESQT, SQW, SQT, TLE, CLT, MMS, SMM) 332-338
2.00 mm (.0787") Pitch Self Mating Hermaphroditic Strip (LS2) 339
.100" (2.54 mm) Pitch Square Post Headers & Stackers
(TSW, TSM, MTSW, PHT, PHF, TLW, MTLW, TSSH, TSS, ZSS, DW, EW, ZW, HW) 340-351
.100" (2.54 mm) Pitch Square Post Sockets
(SSW, SSQ, SSM, HLE, BCS, ESW, ESQ, BSW, SLW, CES, SMH) 352-361
Machined Sockets & Terminals (SL, SDL, SS, SD, HSS, ESS, ESD, BBS, BBD, TS, TD) 362-365
Shunts & Jumpers (SNT, MNT, 2SN, SNM, JL, BTMM) 366

APPLICATIONS

Flexible Stacking 38-39

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(1.00 mm) .0394"

LOW-PROFILE & ELEVATED ONE-PIECE

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FSI

Insulator Material:
Liquid Crystal Polymer
Contact Material:
BeCu
Current Rating:
2.8 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Plating:
Au over 50 µ" (1.27 µm) Ni
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-30)
(0.15 mm) .006" max (50)
Compression Board:
Gold Pads required

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

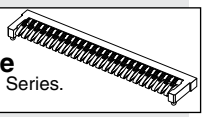
FILE NO. E111594

Note: Applications requiring 40-50 positions without threaded inserts, please contact Samtec Interconnect Processing Group.

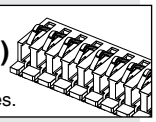
Note: Some lengths, styles and options are non-standard, non-returnable.

Other Solutions

Low Profile
See SEI Series.

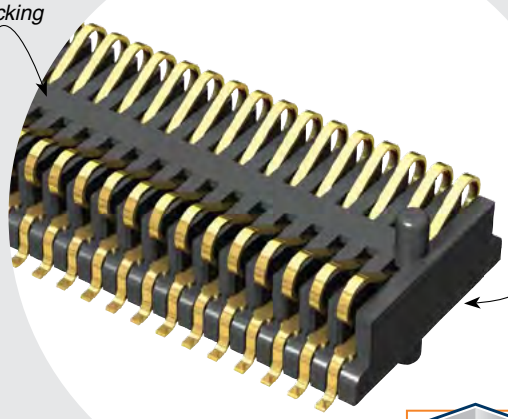


.100" (2.54 mm) Pitch
See SIB Series.



Choice of board stacking profiles

Short version or optional threaded inserts



ALSO AVAILABLE
(MOQ Required)

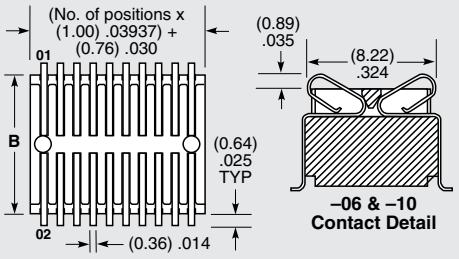
- No alignment pin
- Top side alignment pin
- Bottom side alignment pin
- Other platings

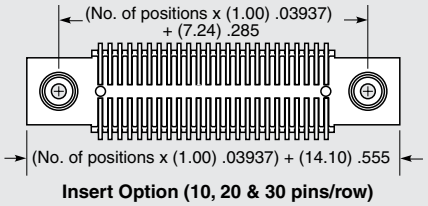
Contact Samtec.

RUGGEDIZED BY SAMTEC

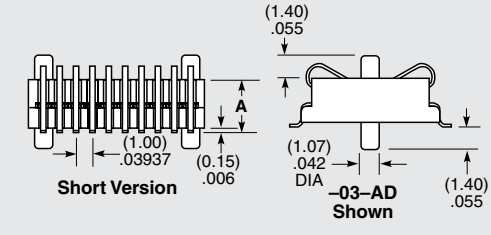
- Threaded insert option

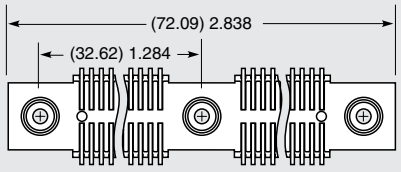
FSI	–	1	PINS PER ROW	–	BODY HEIGHT	–	PLATING OPTION
			10, 20, 30 & 50 (Insert/Screw Option) 05, 10, 20, 30, 50 (Short Version)		–03 = 3.00 mm –06 = 6.00 mm –10 = 10.00 mm		–G = 10 µ" (0.25 µm) Gold (–03 only) –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Not available with –03 body height)

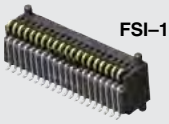




BODY HEIGHT	A	B
–03	(3.00) .118	(8.76) .345
–06	(6.00) .236	(9.02) .355
–10	(10.00) .394	(9.02) .355



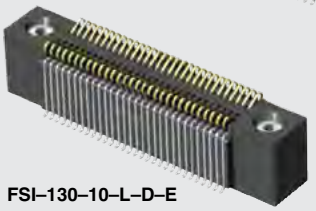




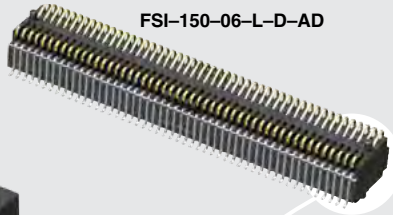
FSI–120–06–L–S–AD



FSI–120–03–G–S–AD

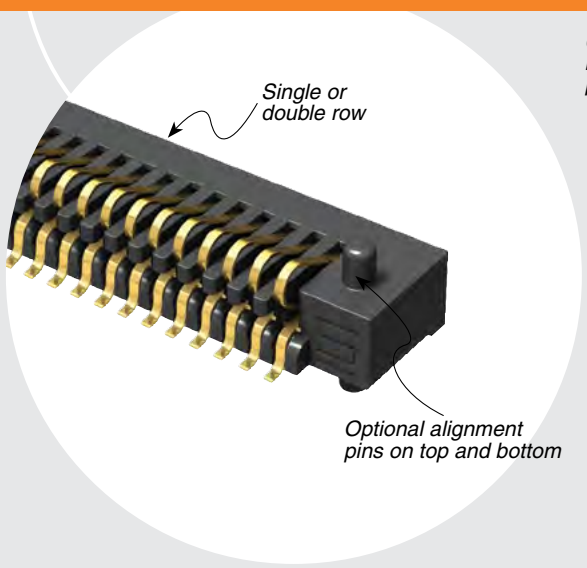


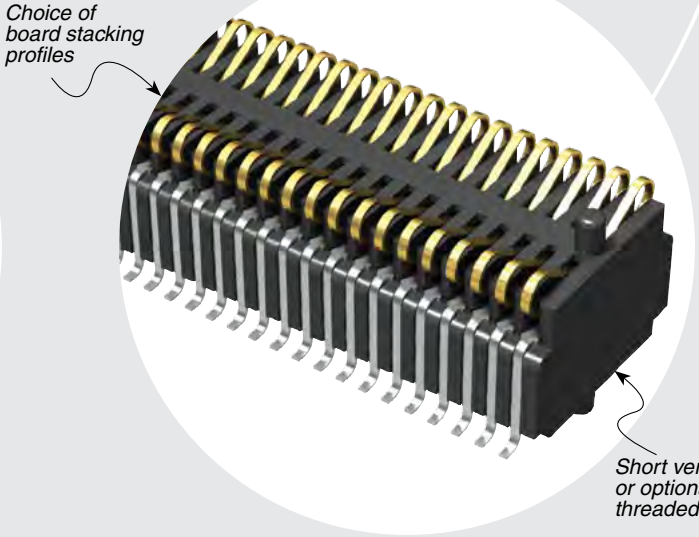
FSI–130–10–L–D–E



FSI–150–06–L–D–AD

FSI SERIES





ROW OPTION

–S
= Single Row
(Available with 5, 10 & 20 pins with –AD alignment pin)

–D
= Double Row

INSERT OPTION

Leave blank for Short Version
(No screw down inserts or holes)

–E
= #2-56 x 1/16" screw thread

–M
= 2.00 mm x 0.40 mm screw thread

ALIGNMENT OPTION

Leave blank for no Alignment Pin

–AD
= Alignment Pin Top & Bottom

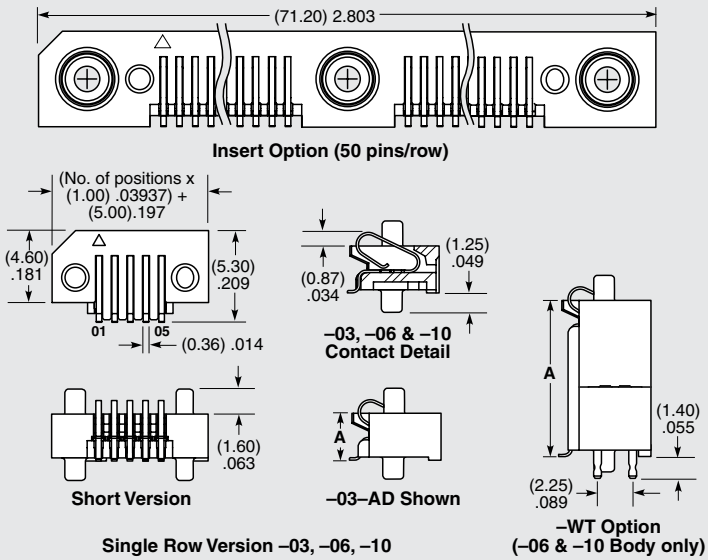
OTHER OPTION

–WT
= Weld Tab
(Available with –S row option & –06 & –10 body height only)

–K
= Polyimide Film Pick & Place Pad
(50 position with threaded insert option only)

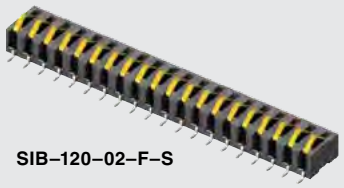
–P
= Plastic Pick & Place Pad
(5.08 mm) .200" x (12.45 mm) .490"
(50 not available with –E)
(Not available with –S row option or –03 body height)

–TR
= Tape & Reel Packaging

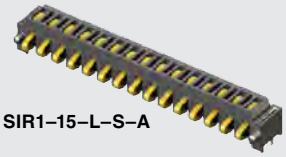


All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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SIB–120–02–F–S



SIR1–15–L–S–A

(2.54 mm) .100"

SIB, SIR1 SERIES

ONE-PIECE INTERFACES

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SIB

Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 2.6 A per pin (1 pin powered)
Operating Temp Range: -55 °C to +125 °C
RoHS Compliant: Yes

PROCESSING

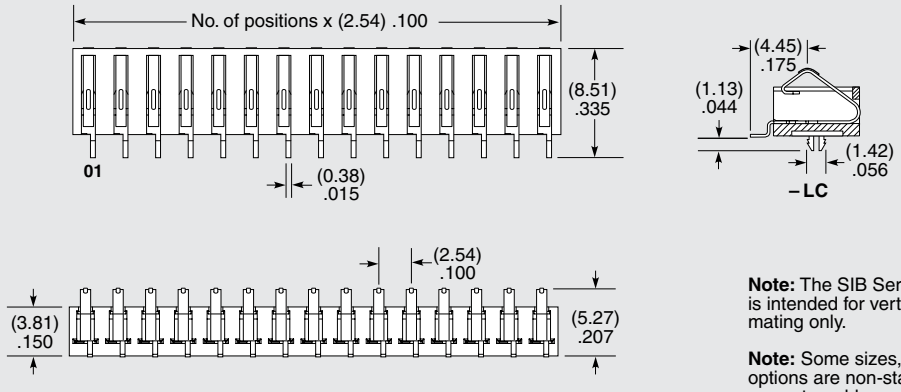
Lead-Free Solderable: Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-19)
(0.15 mm) .005" max (20-30)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

SIB	–	1	NO. OF POSITIONS	–	02	–	PLATING OPTION	–	S	–	OPTION
			02 thru 30 (Per Row)				–F = Gold flash on contact, Matte Tin on tail				–LC = Locking Clip (Manual placement required)



Note: The SIB Series is intended for vertical mating only.

Note: Some sizes, styles and options are non-standard, non-returnable.

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SIR1

Insulator Material: Black LCP
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 2.8 A per pin (1 pin powered)
Weld Tab: Phosphor Bronze
RoHS Compliant: Yes

PROCESSING

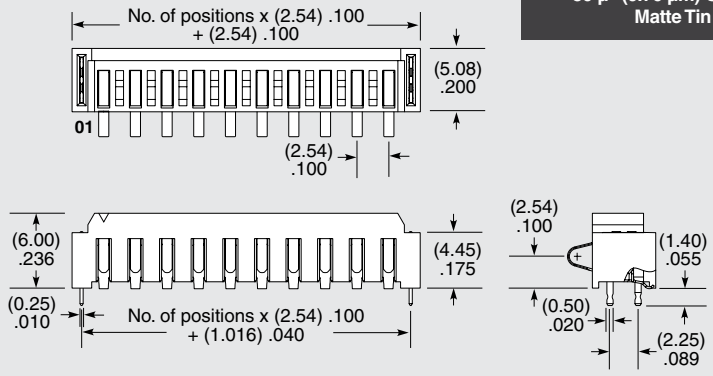
Lead-Free Solderable: Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

SIR1	–	NO. OF POSITIONS	–	PLATING OPTION	–	S	–	OPTION
		–03, –05, –10, –15 (Per Row)		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail				–A = Alignment Pin –K = (4.00 mm) .157" DIA Polyimide Film Pick & Place Pad –TR = Tape & Reel

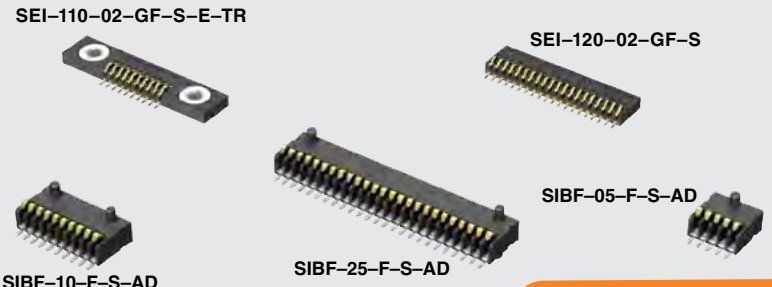


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(1.00 mm) .0394"(SEI) (1.27 mm) .050"(SIBF)

SEI, SIBF SERIES

ONE-PIECE INTERFACE

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SEI

Insulator Material: Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Plating: Au over 50 µ" (1.27 µm) Ni
Current Rating: 2.3 A per pin (1 pin powered)
Operating Temp Range: -55 °C to +125 °C
Mating Force: 50 g (0.49 N) per contact
Voltage Rating: 250 VAC
Cycles: 100 min
Contact Deflection: (0.46 mm) .018" nominal
RoHS Compliant: Yes

PROCESSING

Lead-Free Solderable: Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-25)
(0.15 mm) .006" max (30)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

SEI – 1 NO. OF POSITIONS – 02 – PLATING OPTION – S – INSERT OPTION – ALIGNMENT OPTION – OTHER OPTION

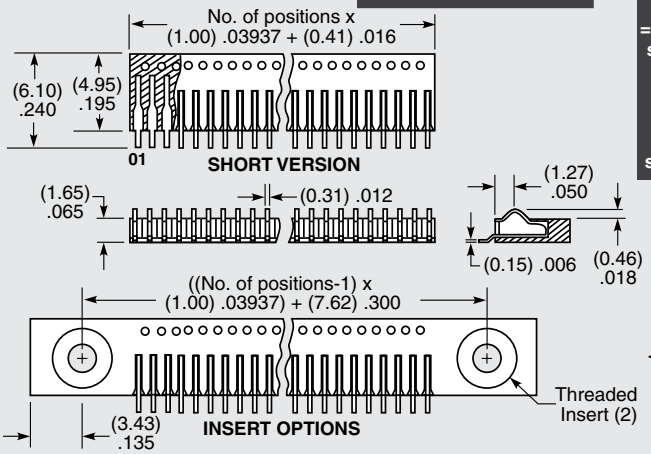
NO. OF POSITIONS
05, 10, 15, 20, 25, 30
(Standard sizes)

PLATING OPTION
–G = 10 µ" (0.25 µm) Gold
–GF = 3 µ" (0.08 µm) Gold flash

INSERT OPTION
Leave blank for Short Version (No screw down inserts or holes)
–E = #2-56 x 1/16" screw thread
–M = 2.00 mm x 0.40 mm screw thread

ALIGNMENT OPTION
Leave blank for no Alignment Pin
–AT = Alignment Pin Top Side
–AB = Alignment Pin Bottom Side

OTHER OPTION
–TR = Tape & Reel



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• Threaded insert option

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SIBF

Insulator Material: Black Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 2.5 A per pin (1 pin powered)
Operating Temp Range: -55 °C to +125 °C
Voltage Rating: 155 VAC
RoHS Compliant: Yes

PROCESSING

Lead-Free Solderable: Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-20)
(0.15 mm) .006" max (25)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

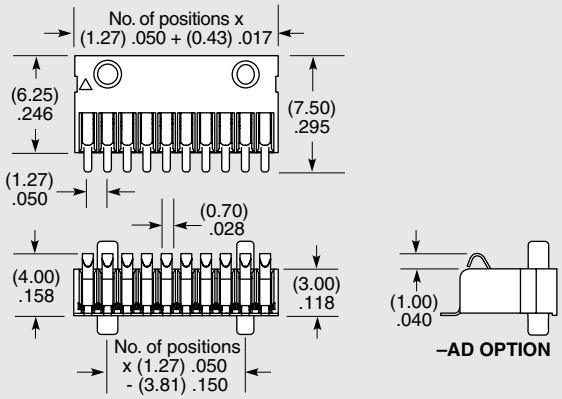
FILE NO. E111594

SIBF – NO. OF POSITIONS – PLATING OPTION – S – OPTION

NO. OF POSITIONS
–05, –10, –20, –25

PLATING OPTION
–F = Flash Gold, Matte Tin on tail

OPTION
–AD = Top & Bottom Alignment Pin



ALSO AVAILABLE
(MOQ Required)

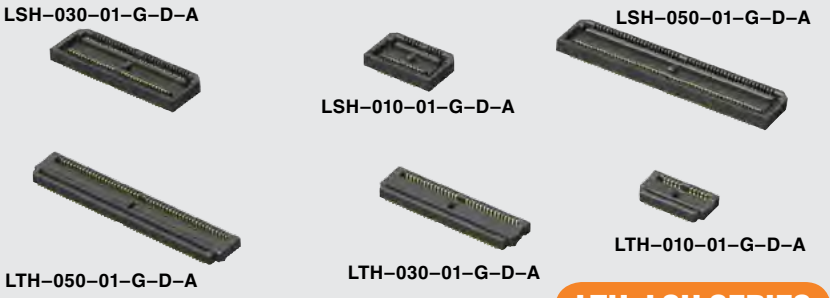
- Additional positions
- Top or bottom side only alignment pin

Contact Samtec.

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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(0.50 mm) .0197"

LTH, LSH SERIES

LOW-PROFILE BLADE AND BEAM

LTH Mates with:
LSH

LSH Mates with:
LTH

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LTH or www.samtec.com?LSH

Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
2.6 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max
Board Stacking:
For applications requiring more than two connectors per board, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT

LEAD STYLE	MATED HEIGHT*
–01	(2.31) .091

*Processing conditions will affect mated height.

Note: Some lengths, styles and options are non-standard, non-returnable.

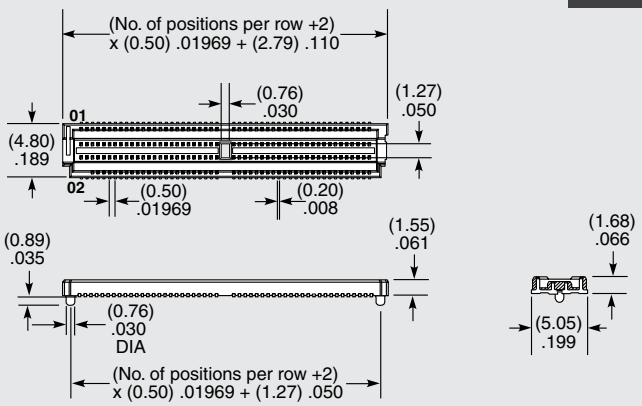
LTH – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – A – OTHER OPTION

–010, –020, –030, –040, –050

–G
= 10 µ" (0.25 µm) Gold

–K
= (5.50 mm) .217" DIA Polyimide Film Pick & Place Pad

–TR
= Tape and Reel



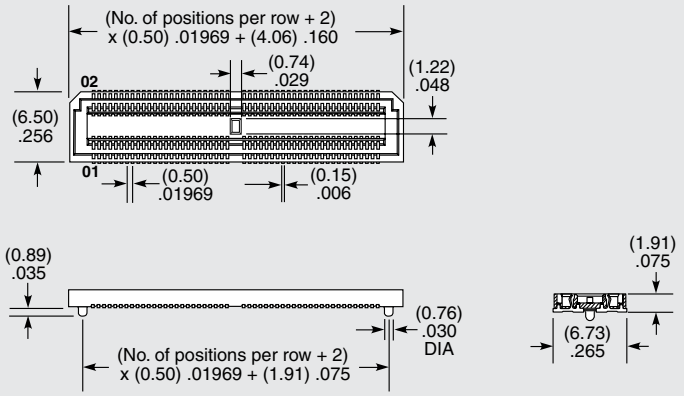
LSH – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – A – OTHER OPTION

–010, –020, –030, –040, –050

–G
= 10 µ" (0.25 µm) Gold

–K
= (7.50 mm) .295" DIA Polyimide Film Pick & Place Pad

–TR
= Tape and Reel



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FT5–15–03.0–L–DV–TH


FT5–15–01.0–L–DV–TH


FT5–30–01–L–RA

FS5–15–04.0–L–DV–TH




FS5–30–04.0–L–DV–TH

(0.50 mm) .0197"

FT5, FS5 SERIES

HIGH-SPEED FLOATING CONTACT SYSTEM

FT5 Mates with:
FS5

FS5 Mates with:
FT5

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FT5 or www.samtec.com?FS5

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze (FT5)
BeCu (FS5)
Weld Tab:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
1.8 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT

MATED HEIGHT*		
FS5 LEAD STYLE	FT5 LEAD STYLE	
	–01.0	–03.0
–04.0	(5.00) .197	(7.00) .276

*Processing conditions will affect mated height.

Note: Floating contact system provides 0.50 mm float in X and Y directions.

Note: Some lengths, styles and options are non-standard, non-returnable.

FT5 – NO. OF POSITIONS – LEAD STYLE – PLATING OPTION – ROW OPTION – TH – OPTION

NO. OF POSITIONS: –15, –30 (Per Row)

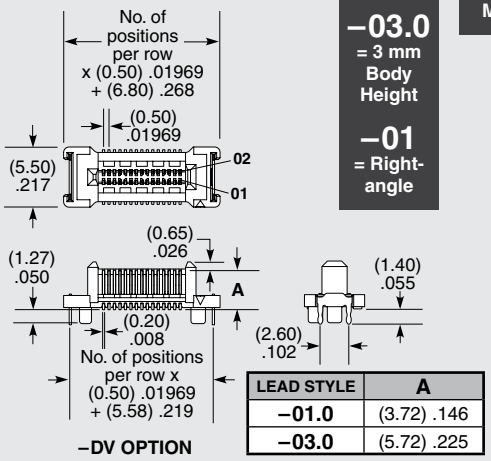
LEAD STYLE:
–01.0 = 1 mm Body Height
–03.0 = 3 mm Body Height
–01 = Right-angle

PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

ROW OPTION:
–DV = Vertical
–RA = Right-angle

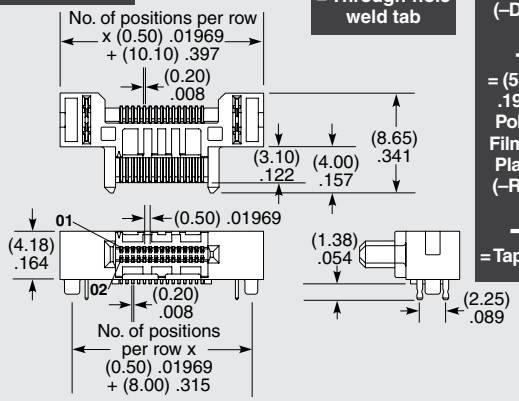
TH: Leave blank for –RA
–TH = Through-hole weld tab

OPTION: Required callouts
–P = Pick & Place Pad (–DV only)
–K = (5.00 mm) .197" DIA Polyimide Film Pick & Place Pad (–RA only)
-TR = Tape & Reel



–DV OPTION

LEAD STYLE	A
–01.0	(3.72) .146
–03.0	(5.72) .225



–RA OPTION

FS5 – NO. OF POSITIONS – LEAD STYLE – PLATING OPTION – DV – TH – K – TR

NO. OF POSITIONS: –15, –30 (Per Row)

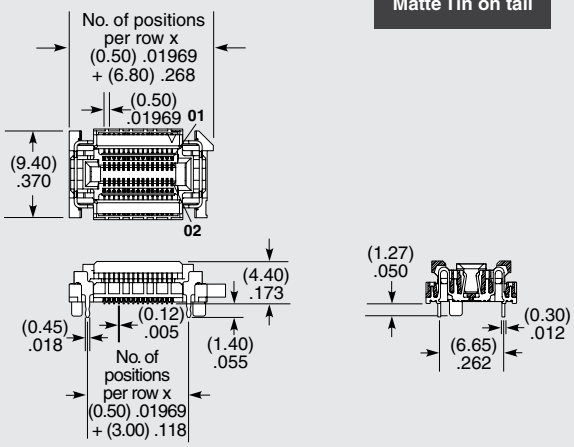
LEAD STYLE: –04.0 = 4 mm Body Height

PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

TH: –TH = Through-hole weld tab

K: –K = (8.25 mm) .325" DIA Polyimide Film Pick & Place Pad

TR: –TR = Tape & Reel



ALSO AVAILABLE (MOQ Required)

- Other lead counts
- Surface mount weld tab

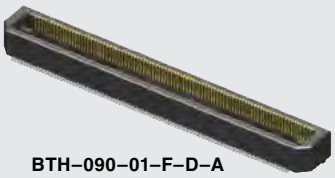
Contact Samtec.

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES


BTH–090–01–F–D–A

BTH–030–01–L–D–RA–WT


(0.50 mm) .0197"

BTH SERIES

BASIC BLADE & BEAM HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?BTH

Insulator Material: Black LCP
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 2.0 A per pin (2 pins powered)
Flammability Rating: UL 94 VO
Operating Temp Range: -55 °C to +125 °C
Voltage Rating: 275 VAC
Max Cycles: 100
RoHS Compliant: Yes

PROCESSING

Lead-Free Solderable: Yes
SMT Lead Coplanarity:
Vertical=
(0.10 mm) .004" max (030-090)
Vertical=
(0.15 mm) .006" max (120-150)
Right-angle=
(0.15 mm) .006" max (030-090)
Board Stacking:
For applications requiring more than two connectors per board or 90 positions or higher, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT

LEAD STYLE	MATED HEIGHT*
–01	(5.00) .197

*Processing conditions will affect mated height.

ALSO AVAILABLE (MOQ Required)

- 30 µ" (0.76 µm) Gold
- Edge Mount Capability
- 8 mm, 11 mm, 16 mm, 19 mm and 22 mm Stack Height (Caution: Some automatic placement/ inspection machines may have component height restrictions. Please consult machinery specifications.) (11 mm, 16 mm, 19 mm and 22 mm not available with 50 positions)

Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

BTH – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – A – OTHER OPTION

Mates with:
BSH

–030, –050, –060, –090, –120, –150

–F
= Gold Flash on contact, Matte Tin on tail

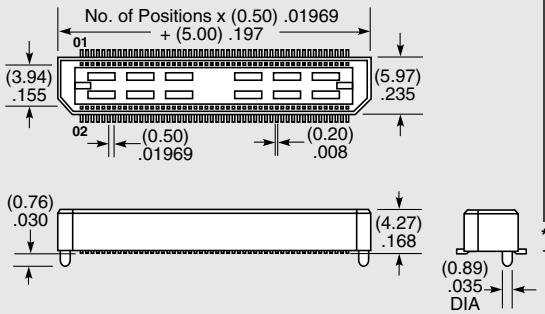
–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

***Note:** –C Plating passes 10 year MFG testing

–K
= (7.00 mm) .276" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel (120 positions maximum)



POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

BTH – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – RA – WT – OTHER OPTION

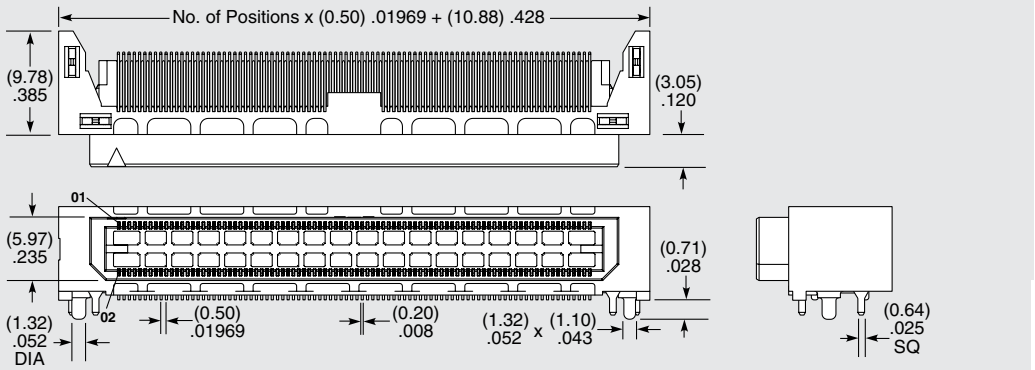
Mates with:
BSH

–030, –060, –090

–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–K
= (7.00 mm) .276" DIA Polyimide Film Pick & Place Pad

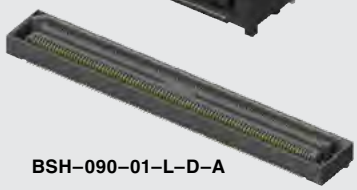


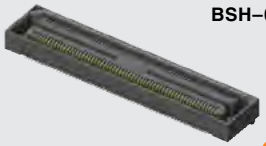
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10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES


BSH–060–01–F–D–RA–WT


BSH–030–01–L–D–RA–WT


BSH–090–01–L–D–A


BSH–060–01–F–D–A

(0.50 mm) .0197"

BSH SERIES

BASIC BLADE & BEAM SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?BSH

Insulator Material: Black LCP
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 2 A per pin (2 pins powered)
Flammability Rating: UL 94 VO
Operating Temp Range: -55 °C to +125 °C
Voltage Rating: 275 VAC
Max Cycles: 100
RoHS Compliant: Yes

PROCESSING

Lead-Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max (030-090) (0.15 mm) .006" max (120-150)
Board Stacking: For applications requiring more than two connectors per board or 90 positions or higher, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT

LEAD STYLE	MATED HEIGHT*
–01	(5.00) .197

*Processing conditions will affect mated height.

ALSO AVAILABLE (MOQ Required)

- 30 µ" (0.76 µm) Gold
- Edge Mount Capability
- 8 mm, 11 mm, 16 mm, 19 mm and 22 mm Stack Height (Caution: Some automatic placement/ inspection machines may have component height restrictions. Please consult machinery specifications.) (11 mm, 16 mm, 19 mm and 22 mm not available with 50 positions)

Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

BSH – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – A – OTHER OPTION

Mates with: BTH

–030, –050, –060, –090, –120, –150

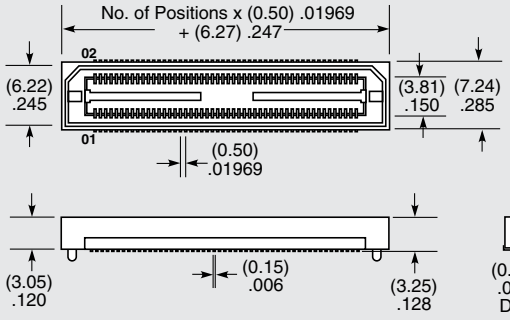
–F = Gold Flash on contact, Matte Tin on tail

–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

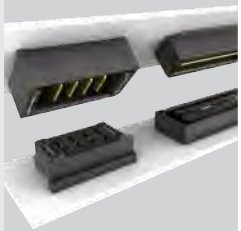
–C* = Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

***Note:** –C Plating passes 10 year MFG testing

–TR = Tape & Reel (120 positions maximum)



POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

BSH – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – RA – WT – OTHER OPTION

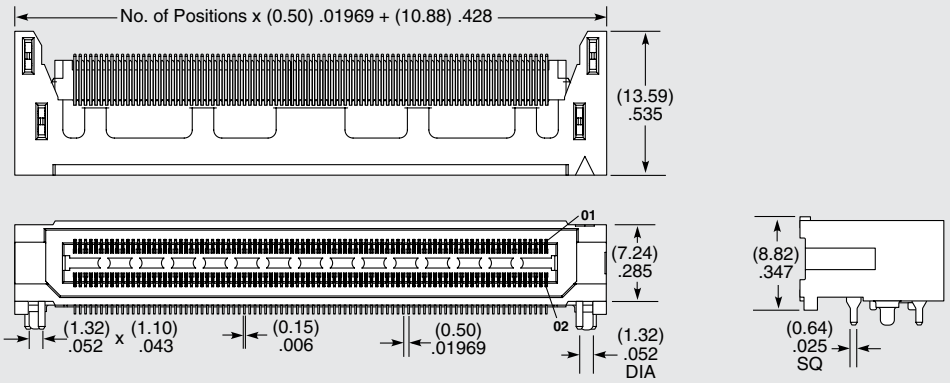
Mates with: BTH

–030, –060, –090

–F = Gold Flash on contact, Matte Tin on tail

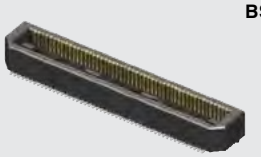
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–GP = Guide Post



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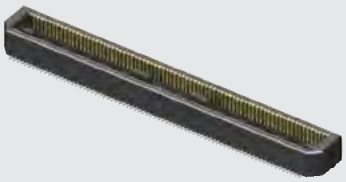
10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



BTS–050–01–F–D–A



BSS–025–01–L–D–A



BTS–075–01–L–D–A

(0.635 mm) .025"

BTS, BSS SERIES

BASIC BLADE & BEAM HEADER & SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?BTS or www.samtec.com?BSS

Insulator Material: Liquid Crystal Polymer
Terminal Material (BTS): Phosphor Bronze
Contact Material (BSS): Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 1.8 A per pin (2 pins powered)
Operating Temp Range: -55 °C to +125 °C
RoHS Compliant: Yes

PROCESSING

Lead-Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max
Board Stacking: For applications requiring more than two connectors per board or 100 positions or higher, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT

LEAD STYLE	MATED HEIGHT*
–01	(5.00) .197

*Processing conditions will affect mated height.

ALSO AVAILABLE (MOQ Required)

- 30 µ" (0.76 µm) Gold
- Other platings
- Other positions

Contact Samtec.

OTHER SOLUTIONS

Edge Mount capability. Call for availability.



Note: Some lengths, styles and options are non-standard, non-returnable.

BTS – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – A – OTHER OPTION

Mates with: BSS

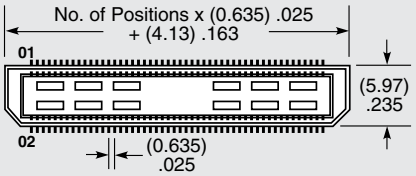
–025, –050, –075, –100

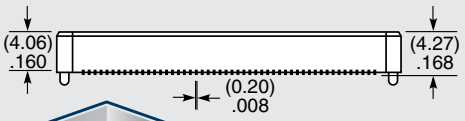
–F = Gold Flash on contact, Matte Tin on tail

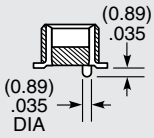
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–K = (7.00 mm) .275" DIA Polyimide Film Pick & Place Pad

–TR = Tape & Reel (–100 positions maximum)







RUGGEDIZED BY SAMTEC

- Passes 10 year MFG

POWER/SIGNAL APPLICATION



Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

BSS – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – A – OTHER OPTION

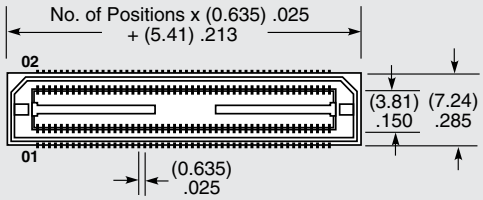
Mates with: BTS

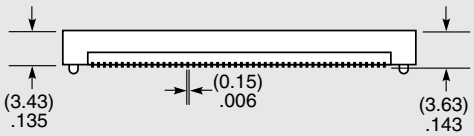
–025, –050, –075, –100

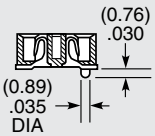
–F = Gold Flash on contact, Matte Tin on tail

–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–TR = Tape & Reel (–100 positions maximum)

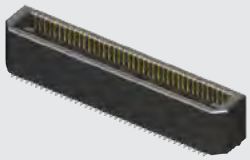




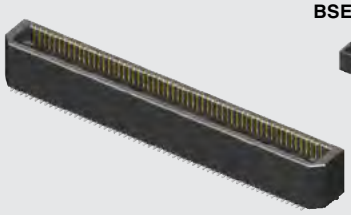


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10 YEAR MFG WITH 50 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



BTE–040–02–L–D–A



BTE–060–02–F–D–A



BSE–020–01–F–D–A

(0.80 mm) .0315"

BTE, BSE SERIES

BASIC BLADE & BEAM HEADER & SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?BTE or www.samtec.com?BSE

Insulator Material: Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating: 2 A per pin (2 pins powered)
Operating Temp Range: -55 °C to +125 °C
Voltage Rating: 225 VAC with 5 mm Stack Height
Max Cycles: 100
RoHS Compliant: Yes

PROCESSING

Lead-Free Solderable: Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (020-080)
(0.15 mm) .006" max (100-120)
Board Stacking:
For applications requiring more than two connectors per board or 80 positions or higher, contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

MATED HEIGHT

LEAD STYLE	MATED HEIGHT*
–01	(5.00) .197
–02	(8.00) .315

*Processing conditions will affect mated height.

ALSO AVAILABLE (MOQ Required)

- 30 µ" (0.76 µm) Gold
- Edge Mount Capability
- Friction Lock option
- 11 mm, 14 mm, 16.10 mm, 19.10 mm, 22 mm, 25 mm and 30 mm Stack Height (Caution: Some automatic placement/inspection machines may have component height restrictions. Please consult machinery specifications.)

Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

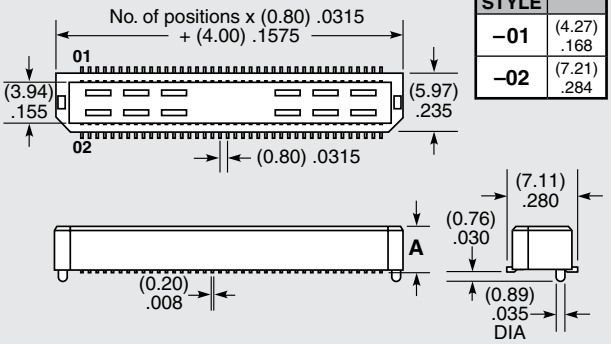
BTE – NO. OF POSITIONS PER ROW – LEAD STYLE – PLATING OPTION – D – A – OTHER OPTION

Mates with:
BSE

–020, –040, –060, –080, –100, –120

Specify LEAD STYLE from chart

LEAD STYLE	A
–01	(4.27) .168
–02	(7.21) .284



–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

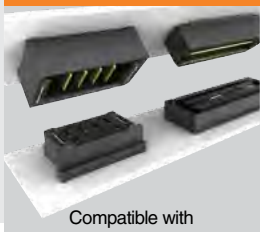
–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

***Note:** –C Plating passes 10 year MFG testing

–K
= (7.00 mm) .275" DIA Polyimide Film Pick & Place Pad

–TR
= Tape & Reel (80 positions maximum)

POWER/SIGNAL APPLICATION

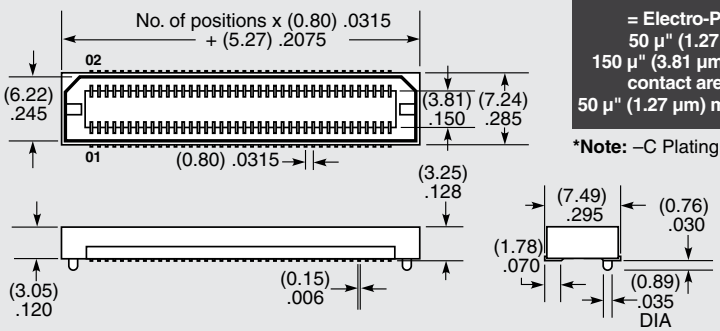


Compatible with UMPT/UMPS for flexible two-piece power/signal solutions

BSE – NO. OF POSITIONS PER ROW – 01 – PLATING OPTION – D – A – OTHER OPTION

Mates with:
BTE

–020, –040, –060, –080, –100, –120



–F
= Gold Flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–C*
= Electro-Polished Selective 50 µ" (1.27 µm) min Au over 150 µ" (3.81 µm) Ni on Signal Pins in contact area, Matte Tin over 50 µ" (1.27 µm) min Ni on all solder tails

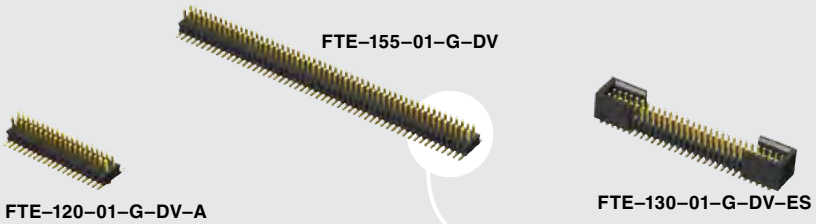
***Note:** –C Plating passes 10 year MFG testing

–TR
= Tape & Reel (80 positions maximum)

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(0.80 mm) .0315"

FTE SERIES

SMT MICRO HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FTE

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating (FTE/CLE):
2.7 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
-DV Lead Coplanarity:
(0.10 mm) .004" max
-DH Lead Coplanarity:
(0.10 mm) .004" max (05-25)
(0.15 mm) .006" max (26-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

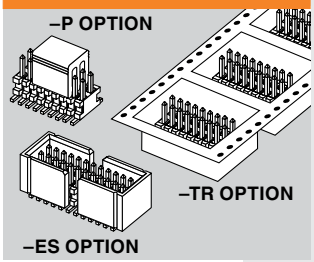
ALSO AVAILABLE
(MOQ Required)

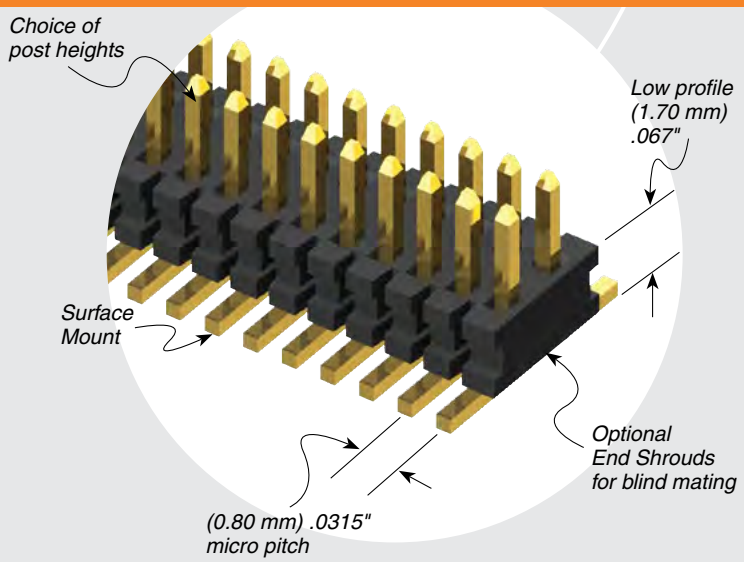
- End shrouds with board locks
- Gold flash plating

Contact Samtec.

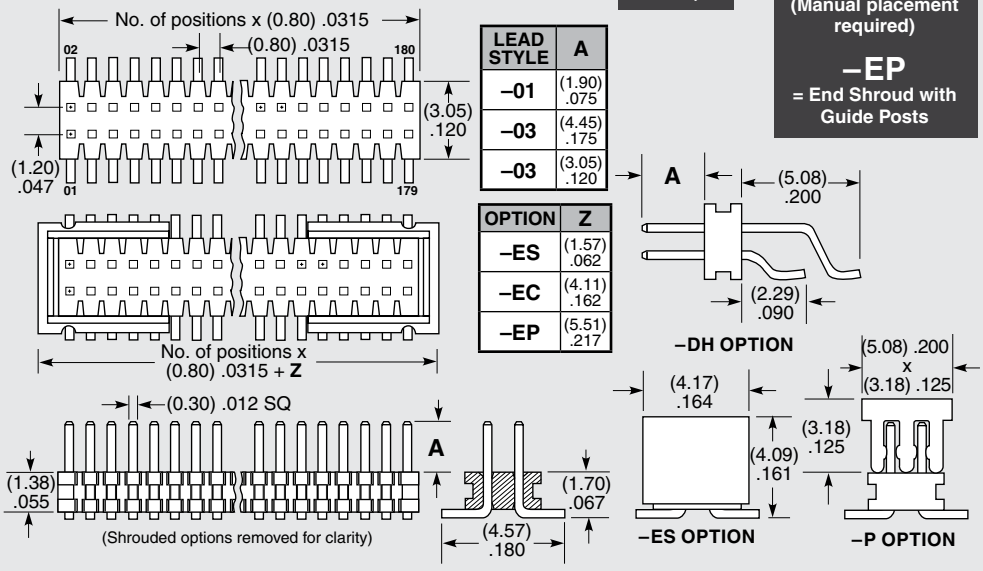
Mates with:
CLE

OPTIONS





FTE	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	TAIL OPTION	FLEX SHROUD OPTIONS	OTHER OPTION
		05 thru 90	Specify LEAD STYLE from chart	–G = 10 µ" (0.25 µm) Gold on post, Gold flash on balance	–DV = Dual Vertical –DH = Dual Horizontal (50 pos. max.)	Style –01 –DV only (11 pins/row min.) –ES = End Shroud –EC = End Shroud with Locking Clips (Manual placement required) –EP = End Shroud with Guide Posts	–A = Alignment Pin (5 pos. min.) Metal or plastic at Samtec discretion (–DV only) –K = (2.50 mm) .098" DIA Polyimide Film Pick & Place Pad (–DH only) –P = Plastic Pick & Place Pad (8 pos. min.) –DV only –TR = Tape & Reel Packaging



LEAD STYLE	A
–01	(1.90) .075
–03	(4.45) .175
–03	(3.05) .120

OPTION	Z
–ES	(1.57) .062
–EC	(4.11) .162
–EP	(5.51) .217

Note:
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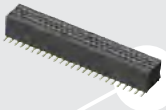


CLE–130–01–G–DV



CLE–108–01–G–DV

CLE–125–01–G–DV



(0.80 mm) .0315"

CLE SERIES

COST-EFFECTIVE MICRO SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?CLE

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating (CLE/FTE):
2.7 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
Top Entry = (1.73 mm) .068" to (3.18 mm) .125" with (0.38 mm) .015" wipe, or pass-through
Bottom Entry = (3.23 mm) .127" minimum plus board thickness
Normal Force:
75 grams (0.73 N)
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (04-65)
(0.15 mm) .006" max (66-90)

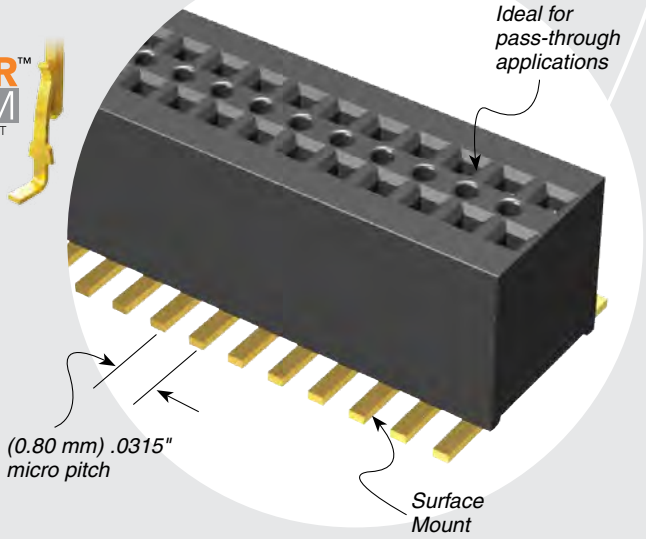
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

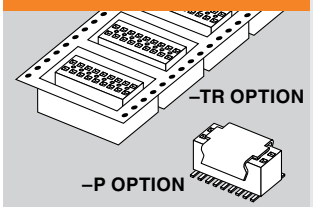
FILE NO. E111594

Mates with:
FTE, AW

TIGER™ BEAM CONTACT



OPTIONS



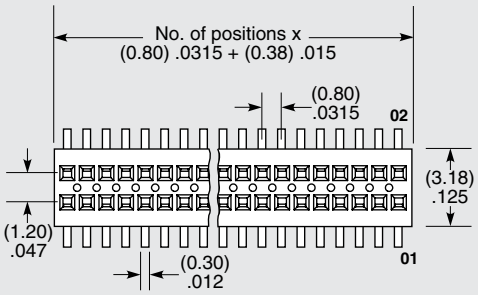
CLE	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	DV	–	OPTIONS
			04 thru 90				–G = 10 µ" (0.25 µm) Gold				

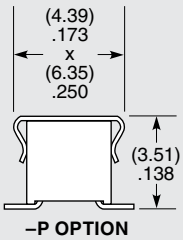
–A
= Alignment Pin (4 positions minimum) Metal or plastic at Samtec discretion.

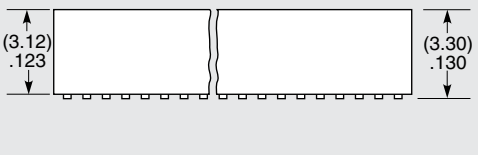
–K
= (3.50 mm) .138" DIA Polyimide film Pick & Place Pad (8 positions minimum)

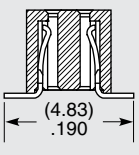
–P
= Metal Pick & Place Pad (8 positions minimum)

–TR
= Tape & Reel Packaging









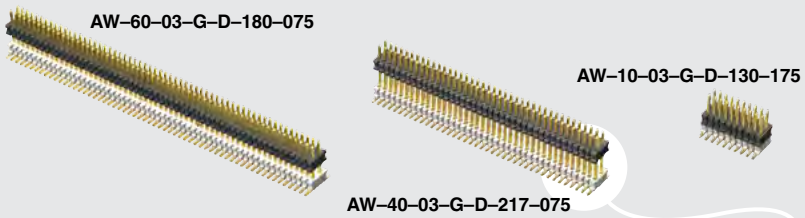
Note:
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FLEX STACK



(0.80 mm) .0315"

AW SERIES

SMT MICRO BOARD STACKER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?AW

Insulator Material:
Top: Black LCP
Bottom: Natural LCP
Terminal Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-40)
(0.15 mm) .006" max (41-90)

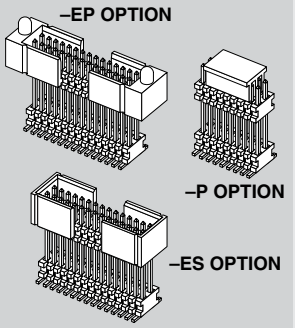
RECOGNITIONS

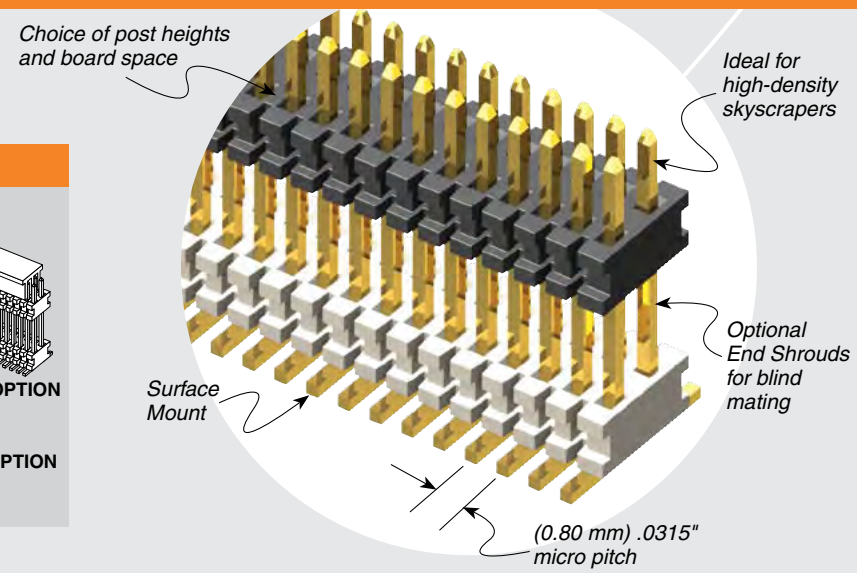
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

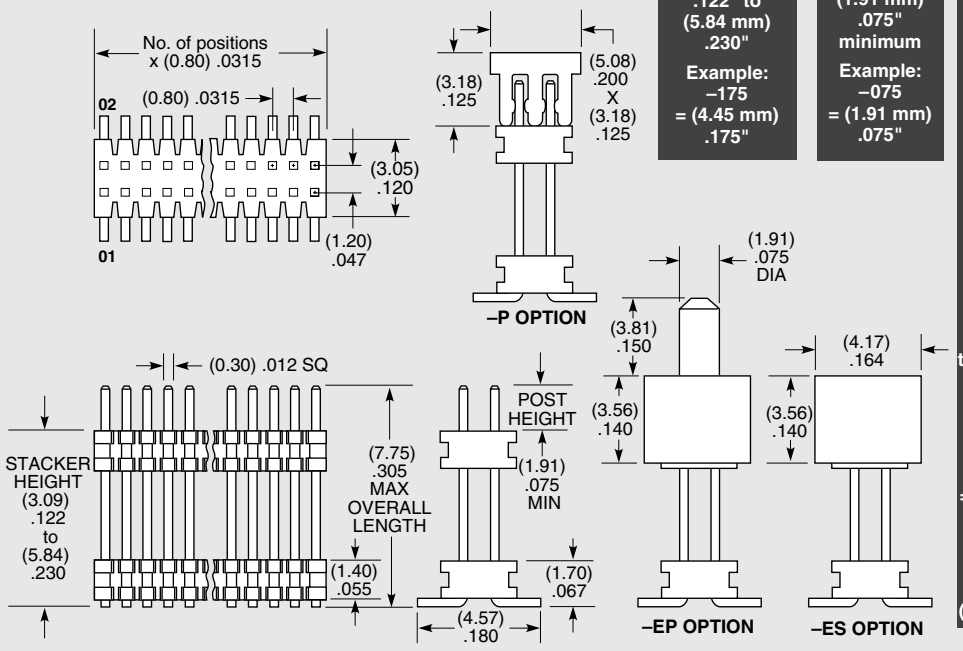
Mates with:
CLE

OPTIONS





AW	NO. PINS PER ROW	03	PLATING OPTION	D	STACKER HEIGHT	POST HEIGHT	OPTION
	05 thru 90		–G = 10 µ" (0.25 µm) Gold		–"XXX" = Stacker Height (in inches) (3.09 mm) .122" to (5.84 mm) .230" Example: –175 = (4.45 mm) .175"	–"XXX" = Post Height (in inches) (1.91 mm) .075" minimum Example: –075 = (1.91 mm) .075"	–ES = End Shroud 11 pins/row min. (–075 Post Height only) –EP = End Shroud with Guide Post (–075 Post Height only) 11 pins/row min. –A = Alignment Pin (4 positions min.) (Available for board stacks between (4.06 mm) .160" to (5.84 mm) .230") (Metal or plastic at Samtec discretion.) –P = Pick & Place Pad (8 positions min.) –TR = Tape & Reel (84 positions max.)



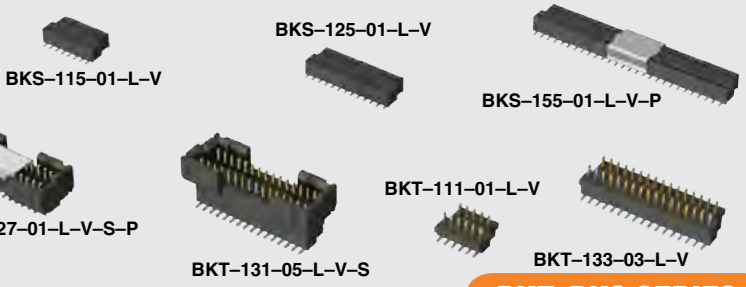
Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

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(1.00 mm) .0394"

BKT, BKS SERIES

POLARIZED MICRO HEADER & SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?BKT or www.samtec.com?BKS

Insulator Material:
Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.8 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(1.40 mm) .055" minimum
Normal Force:
40 grams (0.39 N) average
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

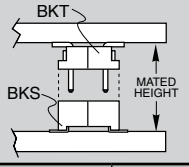
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATIONS



BKT LEAD STYLE	MATED HEIGHT*
–01	(4.14) .163
–02	(4.50) .177
–03	(5.00) .197
–04	(6.00) .236
–05	(7.00) .276

*Processing conditions will affect mated height.

TIGER™ CLAW CONTACT

Note:
Some sizes, styles and options are non-standard, non-returnable.

BKT – 1 – NO. OF POSITIONS – BODY STYLE – PLATING OPTION – V – OPTIONS

Mates with:
BKS

07 thru 69
(Odd lead counts only)

Specify BODY STYLE from chart

–F
= Gold flash on post, Matte Tin on tail

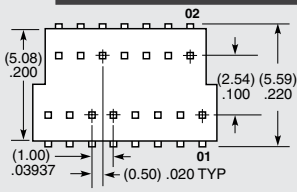
–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

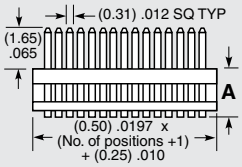
–S
= Shrouded (15 positions minimum)

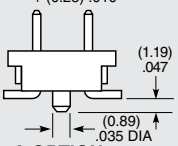
–A
= Alignment Pin (Metal or plastic at Samtec discretion) (13 positions minimum)

–P
= Pick & Place Pad (13 positions minimum)

–TR
= Tape & Reel Packaging

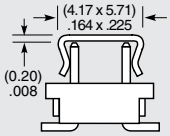




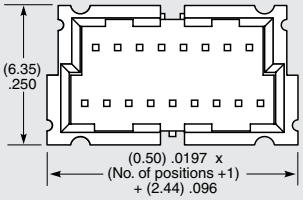


–A OPTION

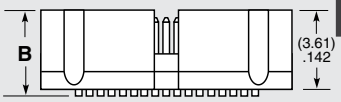
BODY STYLE	A	B	BOARD SPACE (Mated with BKS)
–01	(1.93) .076	(3.91) .154	(4.14) .163
–02	(2.29) .090	(4.27) .168	(4.50) .177
–03	(2.79) .110	(4.78) .188	(5.00) .197
–04	(3.78) .149	(5.77) .227	(6.00) .236
–05	(4.80) .189	(6.78) .267	(7.00) .276



–P OPTION



–S OPTION



BKS – 1 – NO. OF POSITIONS – 01 – PLATING OPTION – V – OPTIONS

Mates with:
BKT

07 thru 69
(Odd lead counts only)
(07 positions available with –TR only)

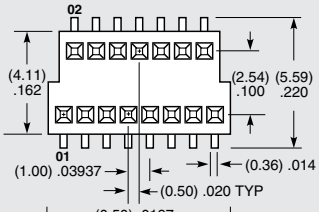
– F
= Pre-plated Gold flash on contact, Matte Tin on tail

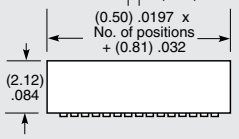
– L
= Pre-plated 10 µ"(0.25 µm) Gold contact, Matte Tin on tail

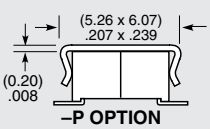
–A
= Alignment Pin (Metal or plastic at Samtec discretion) (11 positions minimum)

–P
= Pick & Place Pad (13 positions minimum) Not always necessary for auto placement.

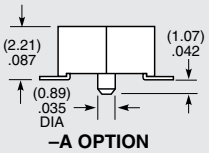
–TR
= Tape & Reel Packaging







–P OPTION



–A OPTION

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samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

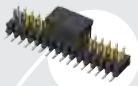
FTM–125–02–L–DV



FTMH–111–02–F–DV–ES–A



FTMH–116–02–L–DV–P



(1.00 mm) .0394"

SMT MICRO TERMINAL STRIPS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FTMH or www.samtec.com?FTM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Current Rating (FTMH/CLM):
2.8 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
-DV Lead Coplanarity:
(0.10 mm) .004" max
-DH Lead Coplanarity:
(0.10 mm) .004" max (05-25)
(0.15 mm) .006" max (26-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

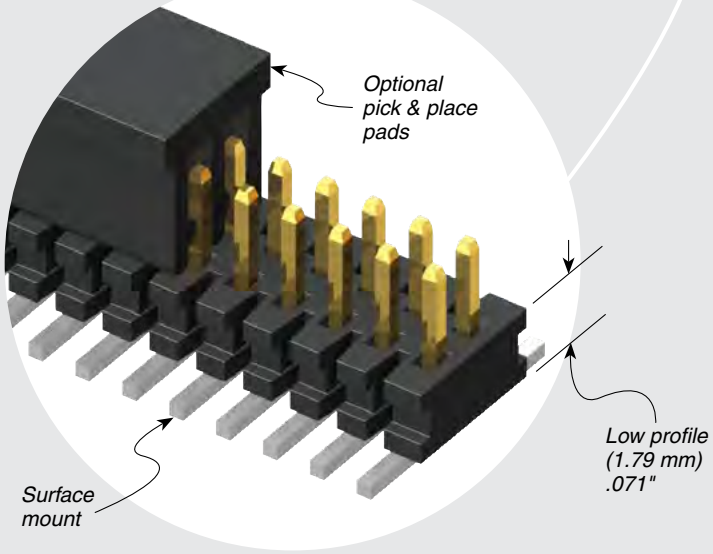
FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

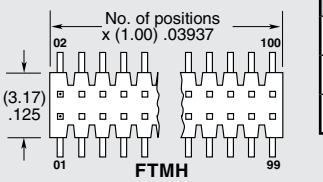
- End shrouds with board locks
- Molded end shrouds for 05 through 08 positions
- Other platings

Contact Samtec.

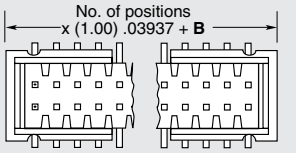
Mates with:
CLM, MLE



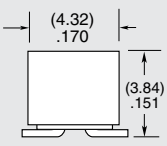
TYPE STRIP	–	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION
FTMH = SMT Micro FTM = Micro Low Profile			FTMH = 05 thru 50 FTM = 02 thru 50 (unshrouded) = 05 thru 46 (shrouded)	–02 = (1.91 mm) .075" Post (Mates with MLE) –03 = (1.65 mm) .065" Post (Mates with CLM)	–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail



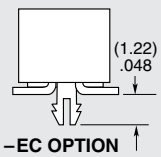
FTMH	
OPTION	B
–ES	(1.57) .062
–EC	(4.06) .160
–EP	(5.49) .216



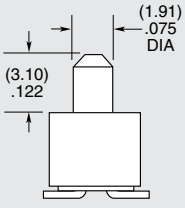
FTMH	
LEAD STYLE	A
–02	(1.91) .075
–03	(1.65) .065



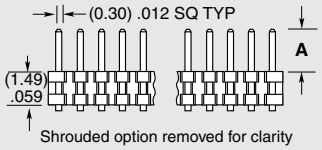
–ES OPTION

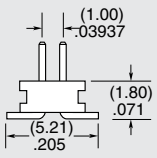


–EC OPTION

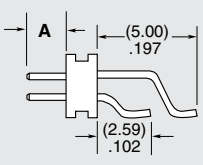


–EP OPTION

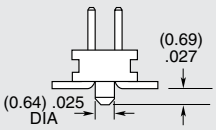




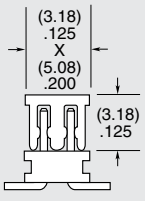
–DV OPTION



–DH OPTION



–A OPTION



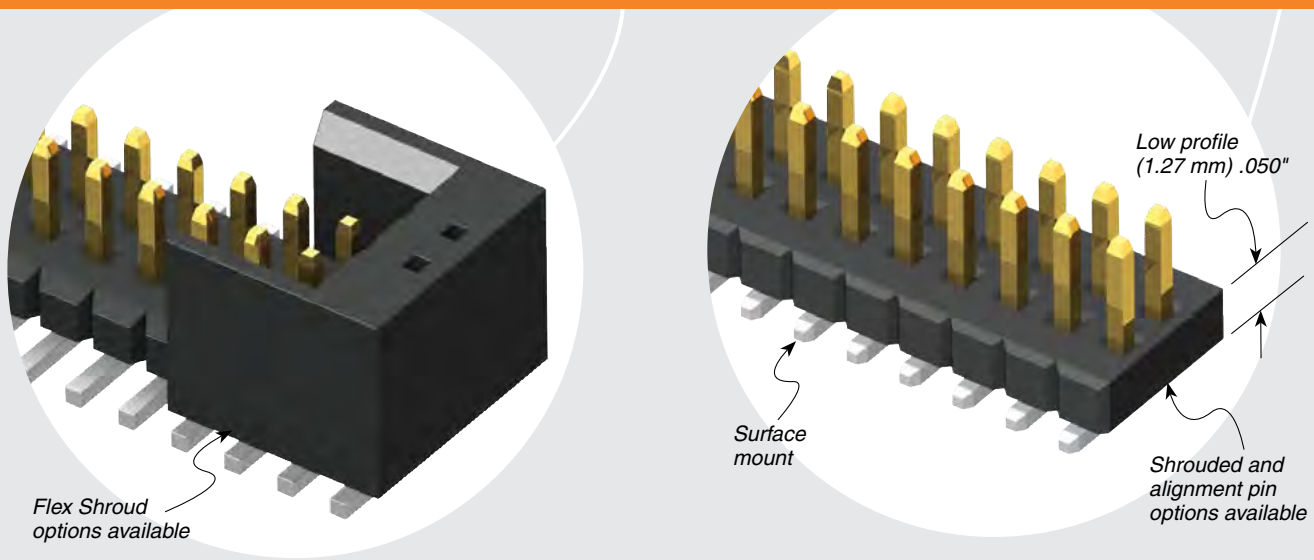
–P OPTION

Note:
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ROW OPTION

–DV
= Dual Vertical

–DH
= Dual Horizontal
(FTMH only)

FLEX SHROUD OPTIONS

(FTMH-DV only with 9 pins/row minimum)

–ES
= End Shroud

–EC
= End Shroud with Locking Clip
(Manual placement required)

–EP
= End Shroud with Guide Post
(Use only when mating with CLM)

(FTM only)

–S
= End Shroud
(05 positions minimum).
Molded or press-fit shroud at Samtec's discretion
(See assembly print at www.samtec.com?FTM for dimensions)

–SA
= End Shroud with Alignment Pins
(05 through 46 positions)

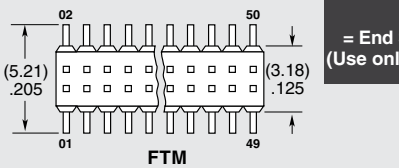
OTHER OPTIONS

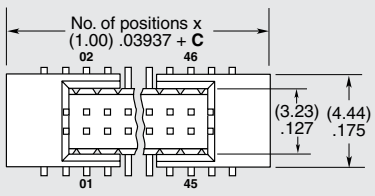
–A
= Alignment Pin
(3 positions minimum)
Metal or plastic at Samtec discretion
(FTMH–DV only)

–K
= (2.50 mm) .098" DIA Polyimide Film Pick & Place Pad
(FTMH–DH only)

–P
= Plastic Pick & Place Pad
(–DV only)
(6 positions minimum FTMH)
(7 positions minimum FTM)

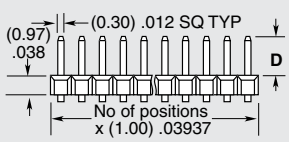
–TR
= Tape & Reel



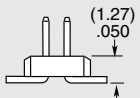


FTM	
OPTION	C
–S	(7.00) .276
–SA	(4.00) .157

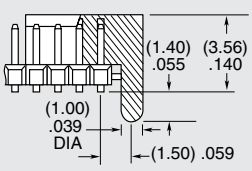
FTM	
LEAD STYLE	D
–02	(1.91) .075
–03	(1.65) .065



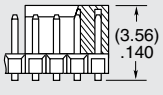
Shrouded options removed for clarity



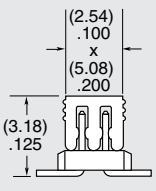
–DV OPTION



–SA OPTION



–S OPTION



–P OPTION

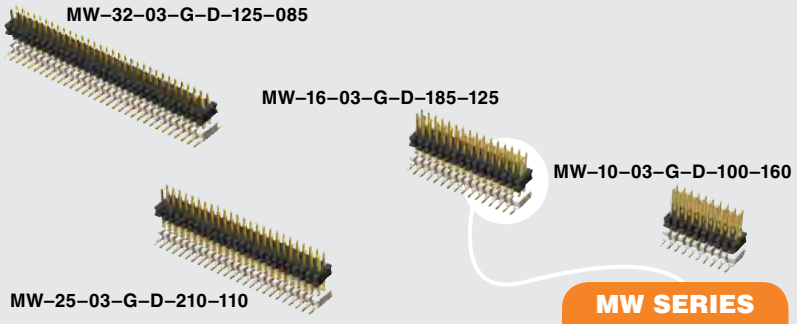
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FLEX STACK

(1.00 mm) .0394"



MW SERIES

SMT MICRO BOARD HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MW

Insulator Material:
Top: Black LCP
Bottom: Natural LCP
Terminal Material:
Phosphor Bronze
Operating Temp Range:
-55 °C to +125 °C
Plating:
Au over 50 µ" (1.27 µm) Ni
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-30)
(0.15 mm) .006" max (31-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

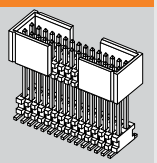
FILE NO. E111594

Mates with:
CLM, MLE

ALSO AVAILABLE
(MOQ Required)

- End shrouds
- End shrouds with guide posts

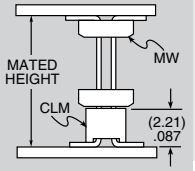
Contact Samtec.

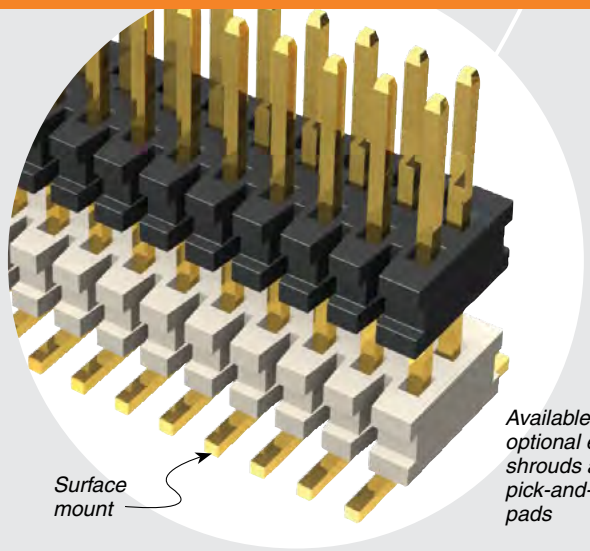


APPLICATIONS

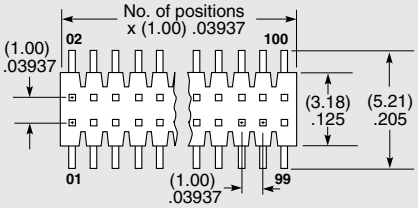
EXAMPLES		
LEAD STYLE		MATED HEIGHT*
MW	CLM	
-163-065	–02	(6.35) .250
-233-065		(8.13) .320

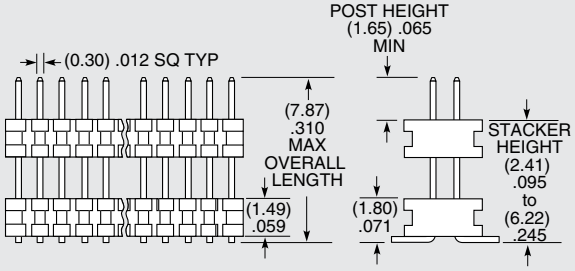
*Processing conditions will affect mated height.

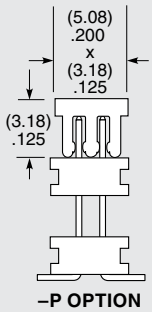




MW	–	NO. PINS PER ROW	03	PLATING OPTION	D	STACKER HEIGHT	POST HEIGHT	OPTION
		02 thru 50		–G = 10 µ" (0.25 µm) Gold		–"XXX" = Stacker Height (in inches) (2.41 mm) .095" to (6.22 mm) .245" Example: –245 = (6.22 mm) .245"	–"XXX" = Post Height (in inches) (1.65 mm) .065" minimum Example: –065 = (1.65 mm) .065"	–A = Alignment Pin (5 positions minimum) Metal or plastic at Samtec's discretion –P = Pick & Place Pad (7 positions minimum) –TR = Tape & Reel







–P OPTION

Notes:
For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

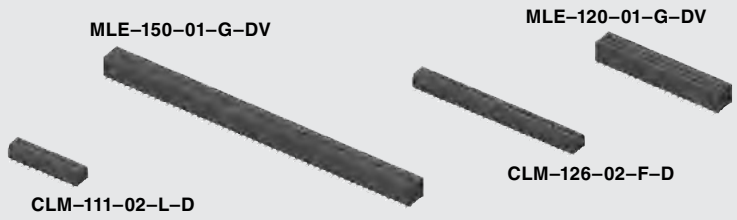
This Series is non-standard, non-returnable.

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10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



(1.00 mm) .0394"

CLM, MLE SERIES

RUGGED RELIABLE MICRO SOCKETS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?CLM or www.samtec.com?MLE

Insulator Material:
Black LCP
Contact Material:
CLM: Phosphor Bronze
MLE: BeCu
Plating:
CLM: Au or Sn over 50 µ" (1.27 µm) Ni
MLE: Au over 10 µ" (0.25 µm) Ni
Current Rating (CLM/FTM):
2.8 A per pin (2 pins powered)
Current Rating (MLE/FTM):
2.9 A per pin (2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Max Cycles:
CLM: 100 with 10 µ" (0.25 µm) Au
Voltage Rating:
MLE: 310 VAC
Insertion Depth:
CLM: Top Entry = (1.40 mm) .055" min., Bottom Entry = (2.41 mm) .095" min. (Add board thickness for correct post OAL)
MLE: (1.63 mm) .064" to (3.18 mm) .125" with (0.38 mm) .015" wipe, pass-through, or (2.44 mm) .096" minimum for bottom entry
Normal Force:
CLM: 40 grams (0.39 N) average
RoHS Compliant:
Yes
Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-25)
(0.15 mm) .006" max (26-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

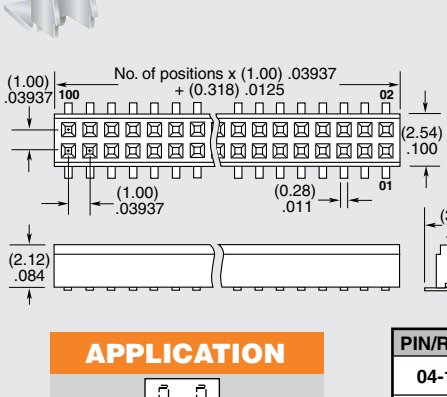
Note:
Some lengths, styles and options are non-standard, non-returnable.

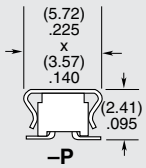
CLM – 1 – NO. PINS PER ROW – 02 – PLATING OPTION – D – OPTIONS

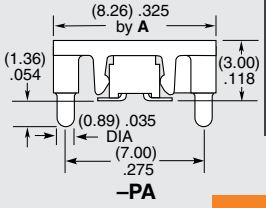
Mates with:
FTM, FTMH, MW

02 thru 50

TIGER™ CLAW CONTACT

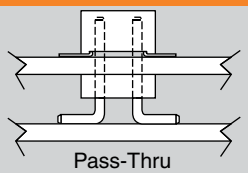






PIN/ROW	A
04-15	(3.56) .140
16-50	(7.11) .280

APPLICATION



–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–BE
= Bottom Entry (Required for bottom entry)

–K
= (3.50 mm) .138" DIA Polyimide film Pick & Place Pad (7 positions minimum)

–P
= Pick & Place Pad (7 positions minimum)

–PA
= Pick & Place Pad with integral Alignment Pin

–TR
= Tape & Reel Packaging

ALSO AVAILABLE
(MOQ Required)

- Alignment pin
- Other Gold plating options

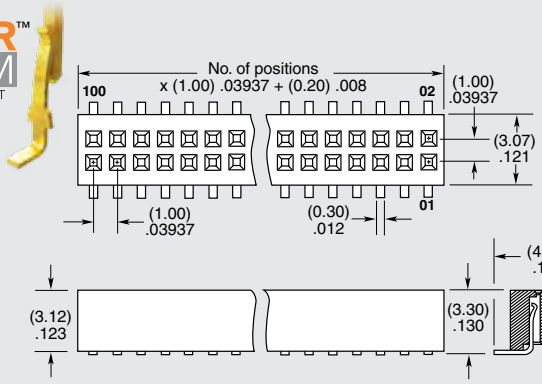
Contact Samtec.

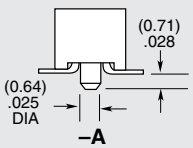
MLE – 1 – NO. PINS PER ROW – 01 – PLATING OPTION – DV – OPTIONS

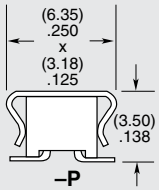
Mates with:
FTM, FTMH, MW

02 thru 50

TIGER™ BEAM CONTACT







–G
= 10 µ" (0.25 µm) Gold

–A
= Alignment Pin (3 positions minimum) Metal or plastic at Samtec discretion

–K
= (4.00 mm) .1575" DIA Polyimide film Pick & Place Pad (5 positions minimum)

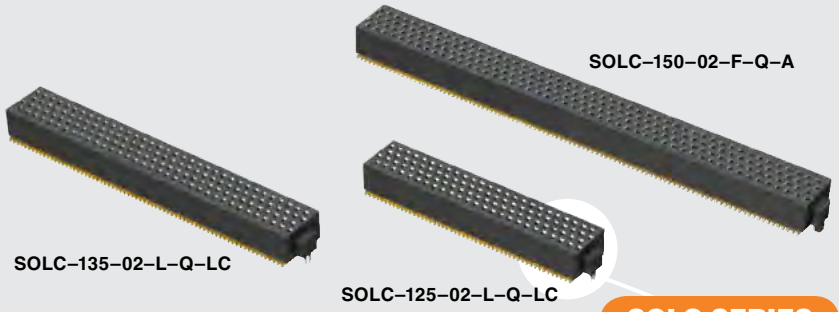
–P
= Metal Pick & Place Pad (5 positions minimum)

–TR
= Tape & Reel Packaging

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(1.27 mm) .050"

SOLC SERIES

QUAD ROW SMT SOCKET

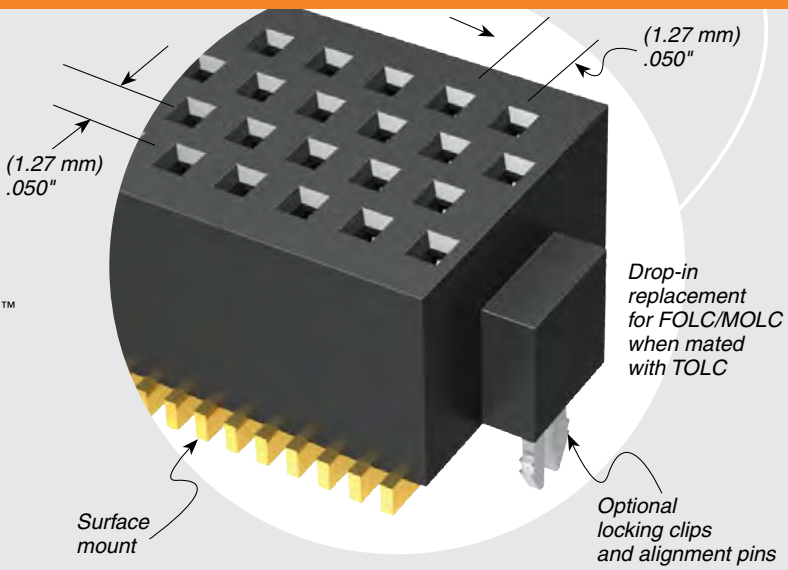
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SOLC

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
2.4 A per pin
(6 adjacent pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(1.68 mm) .066" to
(3.61 mm) .142" with
(0.38 mm) .015" wipe
Normal Force:
75 grams (0.74 N) average
Max Cycles:
100+
RoHS Compliant:
Yes

Mates with:
TOLC

TIGER BUY™ CONTACT



PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-35)
(0.15 mm) .006" max (40-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

- For Micro Rugged, see the MOLC/FOLC pages located in the Tiger Eye™ section.

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings

Contact Samtec.

Note:
Some sizes, styles and options are non-standard, non-returnable.

SOLC	–	1	NO. PINS PER ROW	–	02	PLATING OPTION	–	Q	OPTION

05, 10, 15, 20, 25, 30, 35, 40, 45, 50
(Standard sizes)

–F
= Gold flash on contact, Gold flash on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Gold flash on tail

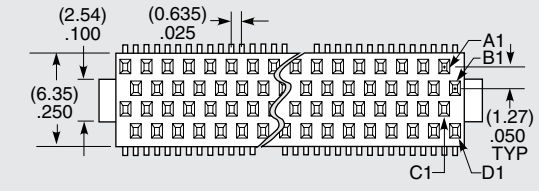
–A
= Alignment Pin (N/A with -LC)

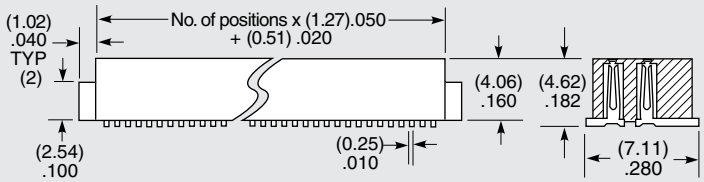
–LC
= Locking Clip (N/A with -A) (Manual placement required)

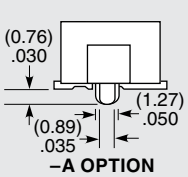
–K
= (7.00 mm) .276" DIA Polyimide film Pick & Place Pad

–P
= Pick & Place Pad

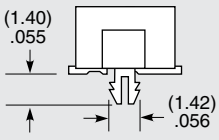
–TR
= Tape & Reel



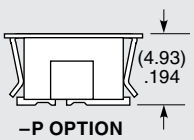




–A OPTION



–LC OPTION



–P OPTION

samtec



(1.27 mm) .050"

TOLC SERIES

QUAD ROW SMT TERMINAL

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TOLC

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
2.4 A per pin
(6 adjacent pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-30)
(0.15 mm) .006" max (35-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

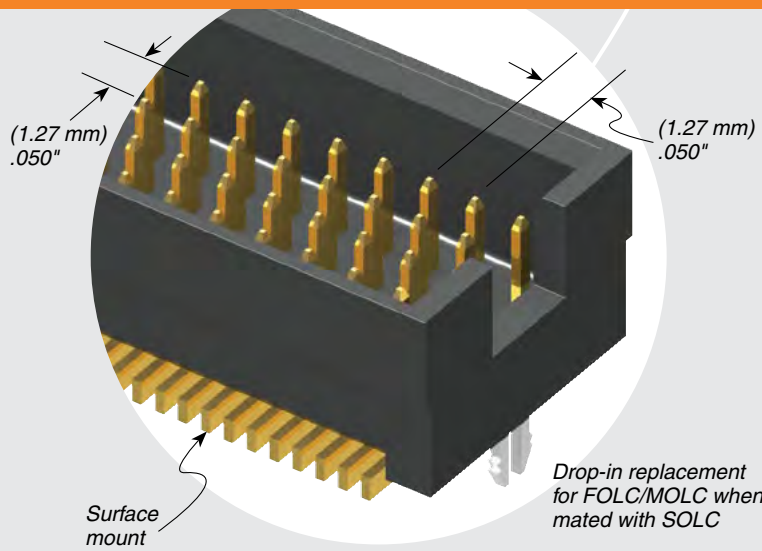
- For Micro Rugged, see the MOLC/FOLC pages located in the Tiger Eye™ section.

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings

Contact Samtec.

Mates with:
SOLC



TOLC	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	Q	–	OPTION

05, 10, 15, 20, 25, 30, 35, 40, 45, 50
(Standard sizes)

Specify LEAD STYLE from chart

–F
= Gold flash on post, Gold flash on tail

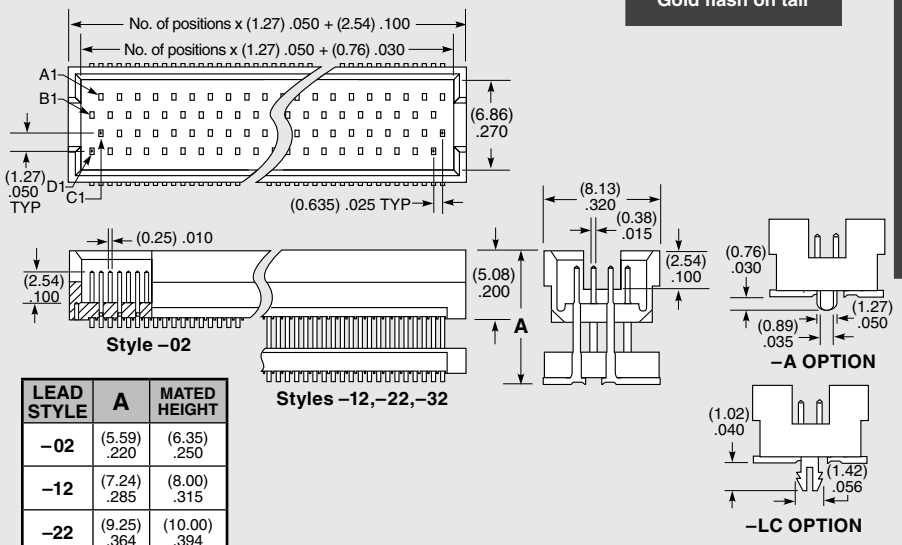
–L
= 10 µ" (0.25 µm) Gold on post, Gold flash on tail

–A
= Alignment Pin (Not available with -LC)

–LC
= Locking Clip (Not available with -A) (Manual placement required)

–K
= (9.00 mm) .354" DIA Polyimide film Pick & Place Pad

–TR
= Tape & Reel



LEAD STYLE	A	MATED HEIGHT
–02	(5.59) .220	(6.35) .250
–12	(7.24) .285	(8.00) .315
–22	(9.25) .364	(10.00) .394
–32	(11.23) .442	(12.00) .472

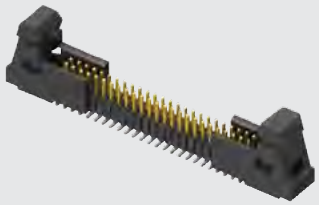
Note:
Some sizes, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

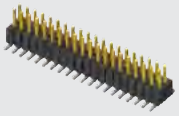
All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

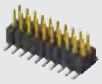


FTSH–125–01–L–DV–EJ



FTSH–120–01–F–DV

FTSH–110–01–L–DV



(1.27 mm) .050"

SMT MICRO HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FTSH

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating (FTSH/CLP):
3.4 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
–MT & –DV Tail Option:
(0.10 mm) .004" max (02-25)
–MT & –DH Tail Option:
(0.15 mm) .006" max (26-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

- Molded Pick & Place pads
- Latches
- Other platings

Contact Samtec.

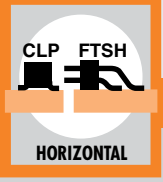
Note: Some sizes, styles and options are non-standard, non-returnable.

Note: See SFM/TFM for positive alignment feature.

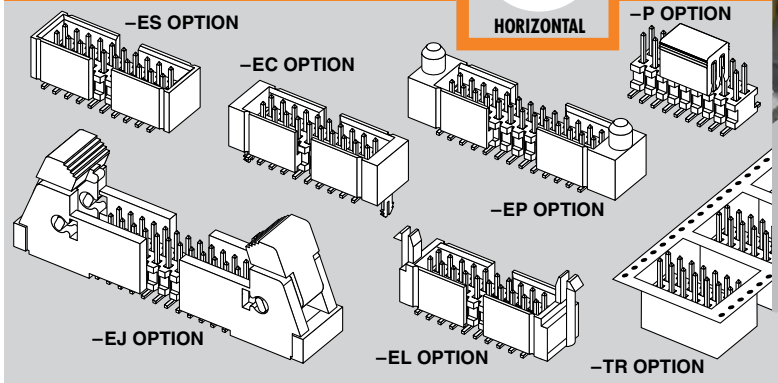
Board Mates:
CLP, FLE

Cable Mates:
FFSD, FFTP

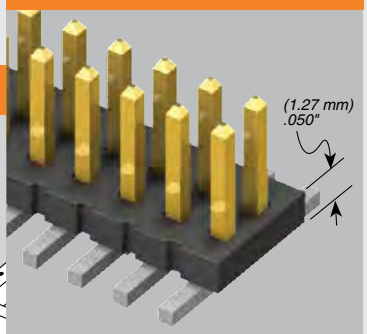
APPLICATIONS



OPTIONS



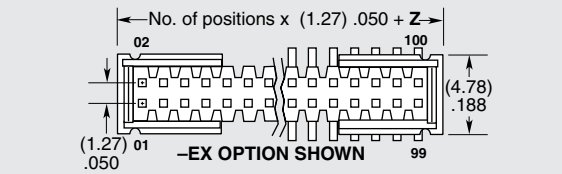
OTHER SOLUTIONS

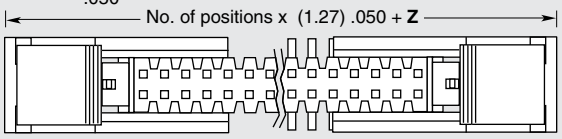


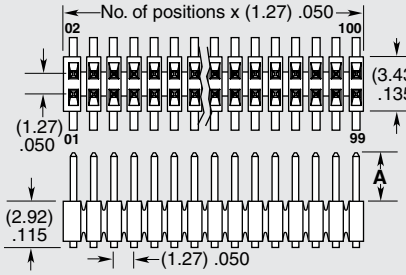
Ultra-low profile option available.
End Shrouds available.
Call for FTS Series specifications.

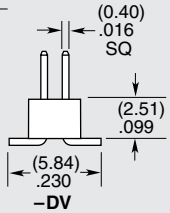
FTSH – 1 – NO. PINS PER ROW – LEAD STYLE

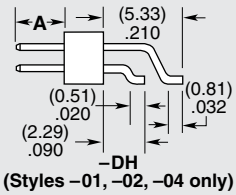
02 thru 50



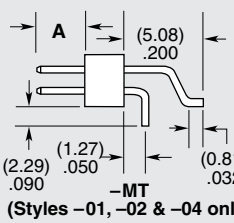








(Styles –01, –02, –04 only)



(Styles –01, –02 & –04 only)

OPTION	Z
–ES	(2.57) .101
–EJ	(15.77) .621
–EC	(3.33) .131
–EP	(5.87) .231
–EL	(6.53) .257

LEAD STYLE	A
–01	(3.05) .120
–02	(1.91) .075
–03	(1.65) .065
–04	(3.81) .150
–05	(4.32) .170

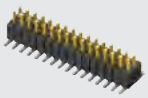
–01
= (3.05 mm) .120" Post
(Mates with FFSD, CLP–DH)

–02
= (1.91 mm) .075" Post
(Mates with FLE)

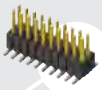
–03
= (1.65 mm) .065" Post
(Mates with CLP–D)

–04
= (3.81 mm) .150" Post

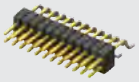
–05
= (4.32 mm) .170" Post
(Mates with CLP–BE)



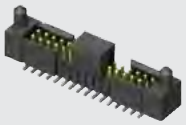
FTSH–116–02–L–DV



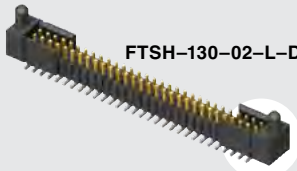
FTSH–110–01–F–DV



FTSH–112–02–L–DH

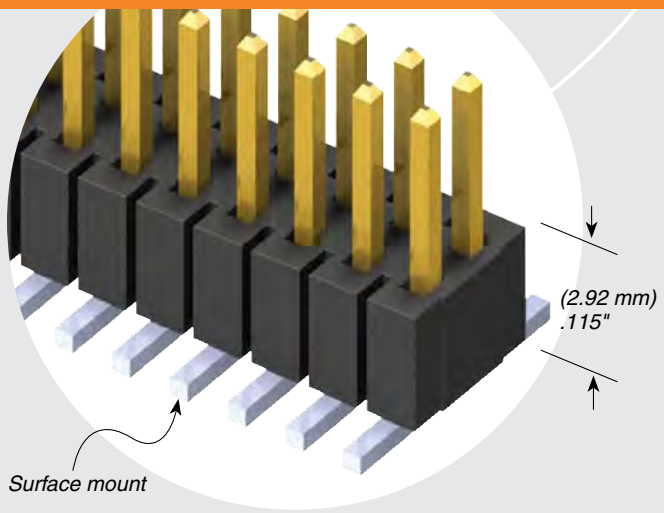


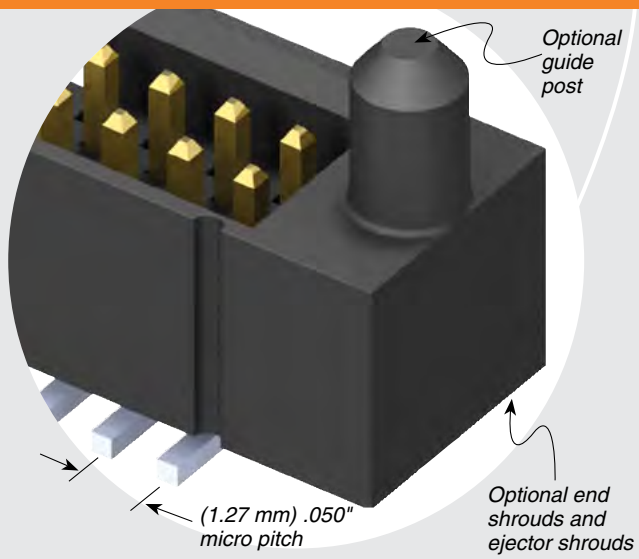
FTSH–116–03–L–DV–EP–P



FTSH–130–02–L–DV–EP

FTSH SERIES





PLATING OPTION

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

TAIL OPTION

–DV
= Double Vertical

–DH
= Double Horizontal (Styles –01, –02 & –04 only)

–MT
= Mixed Technology (Styles –01, –02 & –04 only)

OPTION

Leave Blank for -DH & -MT

–"XXX"
= Polarized Position (Specify position of omitted pin) (Not available with -EX options)

FLEX SHROUD OPTIONS

(Style –02 & –03 only, –DH & –MT not available)
9 pins/row minimum
(Other positions available. Call Samtec.)

–ES
= End Shroud

–EC
= End Shroud with Locking Clip (Manual placement required)

–EP
= End Shroud with Guide Post

–EL
= End Shroud with Board Lock (Boards are positively locked and cannot be unmated)

–EJ
= Ejector Shroud (Style –01 only)
–DH & –MT not available
10 pins/row minimum
25 pins/row maximum

OTHER OPTIONS

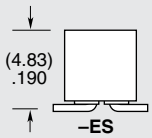
–K
= Keying Shroud (For mating with FFSD Style –01 only and 05, 08, 10, 13, 17, 20 & 25 pins/row only. 13, 17, 20 & 25 pins/row only with –EJ option) (–DV only)

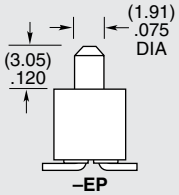
–A
= Alignment Pin (–DV 3 positions min.) (–DH 5 positions min.) (Metal or plastic at Samtec discretion)

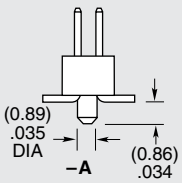
–C
= (5.00 mm) .197" DIA Polyimide film Pick & Place Pad (–DH only)

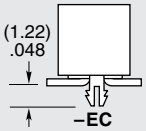
–P
= Pick & Place Pad (–DV 4 positions min.) (–DH & –MT not available)

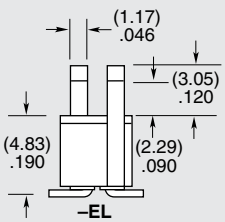
–TR
= Tape & Reel Packaging (Flex Shroud options not available except –ES & –EJ)

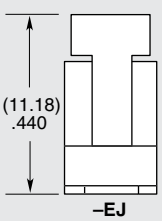


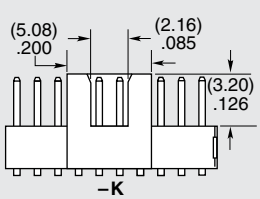


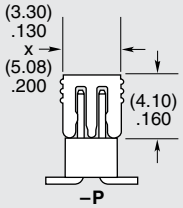










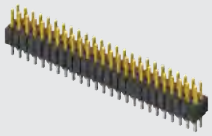


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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

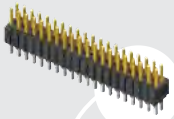
samtec

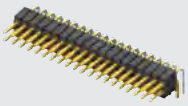
10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



FTSH–125–01–F–D

FTSH–120–02–L–D





FTSH–120–01–L–D–RA

(1.27 mm) .050"

FTSH SERIES

THROUGH-HOLE MICRO HEADER

SPECIFICATIONS

For complete specifications see www.samtec.com?FTSH

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating (FTSH/CLP):
3.4 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes

RECOGNITIONS

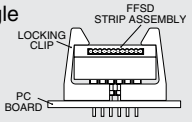
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

LOCKING CLIP

For single mating cycle with the FFSD. Specify -LC after tail option. Lead Style -01 and 10 pins/row minimum. 5-9 pins/row not available in combination with keying shroud (-K).



ALSO AVAILABLE (MOQ Required)

- Molded Pick & Place pads
- Other platings

Contact Samtec.

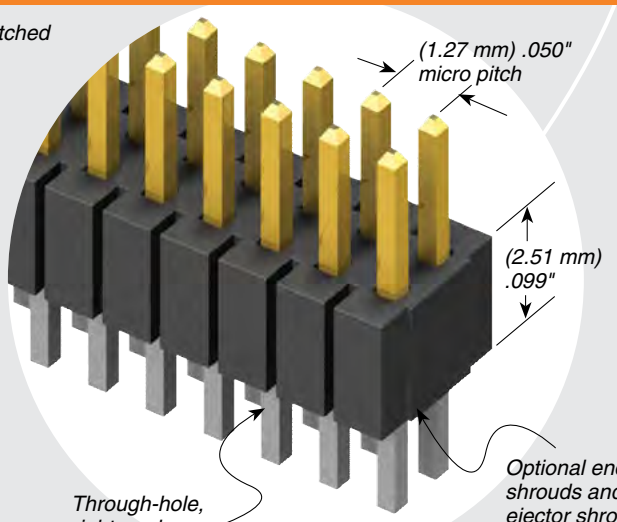
Note: See SFM/TFM for positive alignment feature.

Note: Some sizes, styles and options are non-standard, non-returnable.

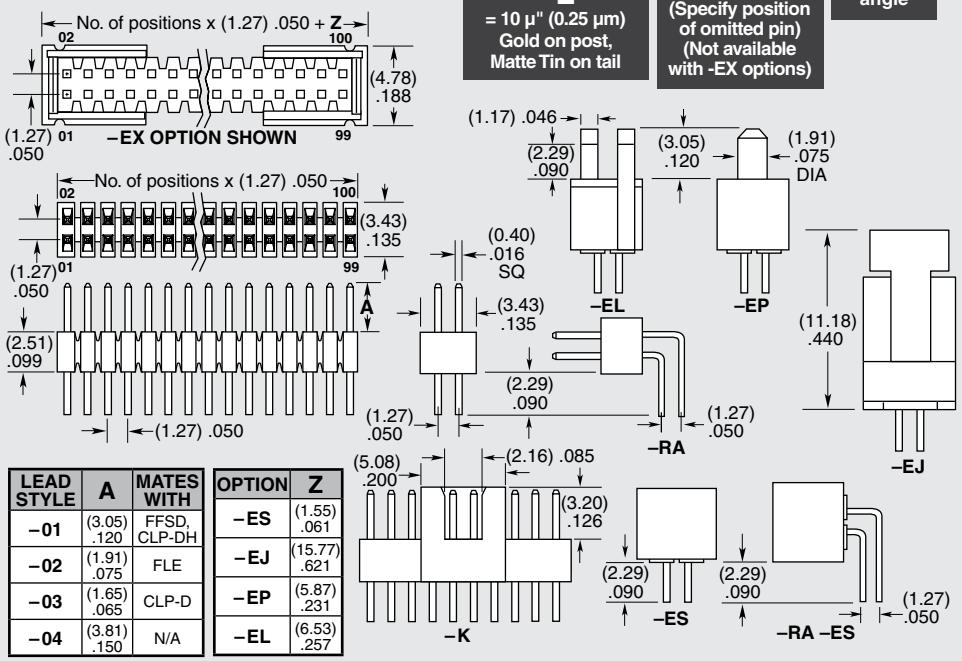
Board Mates:
CLP, FLE

Cable Mates:
FFSD, FFTP

Impedance matched for high-speed applications (Mated with CLP Series)



FTSH	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	OPTION	–	TAIL OPTION	–	OTHER OPTIONS
			02 thru 50		Specify LEAD STYLE from chart		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail				Leave blank for RIght-angle –"XXX" = Polarized Position (Specify position of omitted pin) (Not available with -EX options)		Leave blank for straight tail –RA = Right-angle		–ES = End Shroud (Style –02 & –03) 9 pins/row min. –EP = End Shroud with Guide Post (Style –02 & –03) 9 pins/row min. –EL = End Shroud with Board Lock (Style –02 & –03) 9 pins/row min. –EJ = Ejector Shroud (Style –01 only) 10 pins/row min. 25 pins/row max. –RA not available –K = Keying Shroud for mating with FFSD (Style –01 only, 05, 08, 10, 13, 17, 20 & 25 pins/row only and 13, 17, 20 & 25 only with –EJ option)



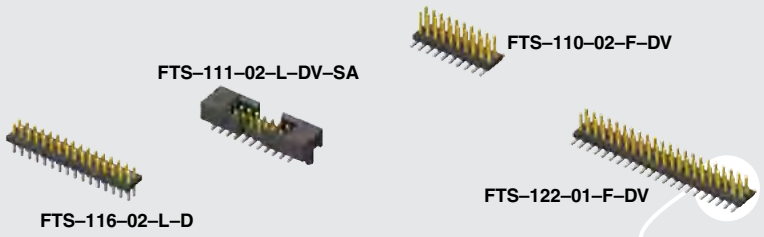
LEAD STYLE	A	MATES WITH
–01	(3.05) .120	FFSD, CLP-DH
–02	(1.91) .075	FLE
–03	(1.65) .065	CLP-D
–04	(3.81) .150	N/A

OPTION	Z
–ES	(1.55) .061
–EJ	(15.77) .621
–EP	(5.87) .231
–EL	(6.53) .257

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samtec



(1.27 mm) .050"

FTS SERIES

MICRO LOW-PROFILE TERMINAL STRIPS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FTS

HI-TEMP

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Operating Temp Range:
-55 °C to +125 °C
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating:
3.4 A per pin
(2 pins powered)
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
.004" (0.10 mm) max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

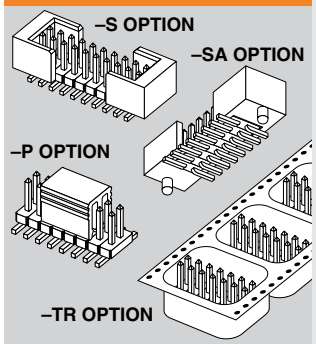
- Alignment pin

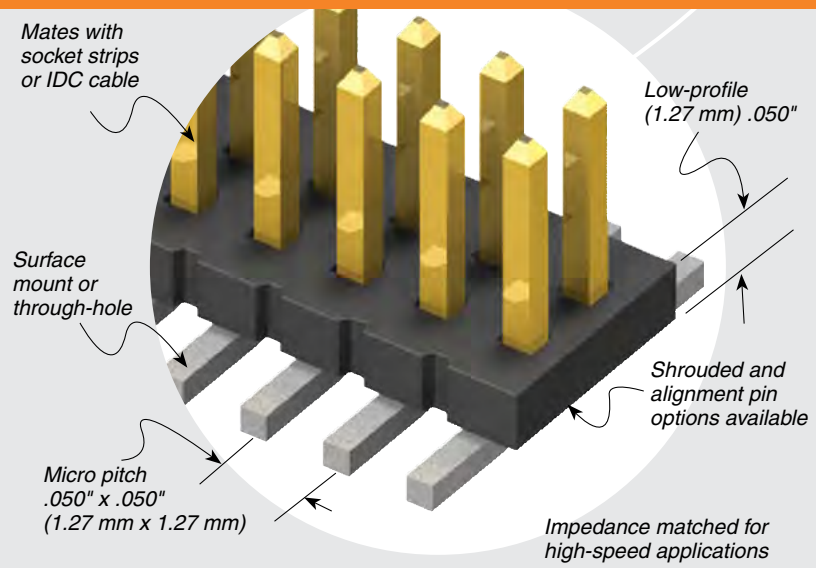
Contact Samtec.

Board Mates:
CLP, FLE

Cable Mates:
FFSD

OPTIONS





FTS	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION

02 thru 50
(except –S & –SA option = 05 thru 46)

–01
= .120" (3.05 mm) Post (Mates with FFSD)

–02
= .075" (1.91 mm) Post (Mates with FLE)

–03
= .065" (1.65 mm) Post (Mates with CLP)

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–D
= Double Through-hole

–DV
= Double Vertical SMT

–S
= Single Through-hole

–SV
= Single Vertical SMT

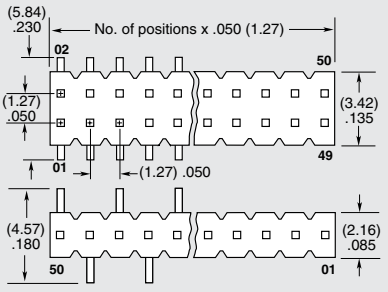
(–D & –DV only)

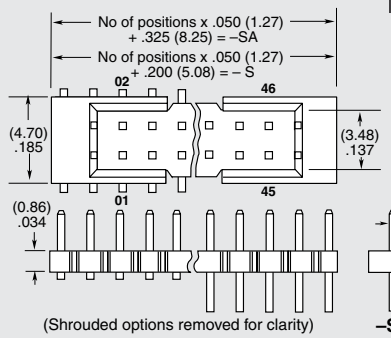
–SA
= End Shroud with Alignment Pin (05 thru 46 positions. Style -02 & -03 only)

–S
= End Shroud (05 thru 46 positions. Style -02 & -03 only)

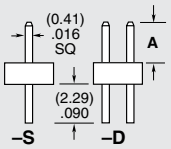
–P
= Pick & Place Pad (04 positions minimum)

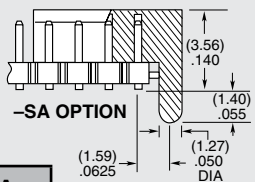
–TR
= Tape & Reel (-DV only) (Required callout for positions 2 thru 4)

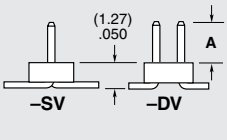


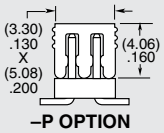


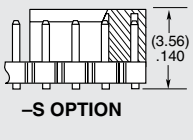
LEAD STYLE	A
–01	(3.05) .120
–02	(1.91) .075
–03	(1.65) .065











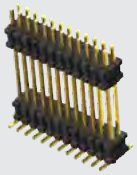
Note: Some lengths, styles and options are non-standard, non-returnable.

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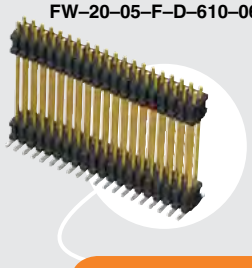
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FLEX STACK



FW–12–05–G–D–530–101



FW–20–05–F–D–610–065

(1.27 mm) .050"

FW-SM SERIES

SMT MICRO BOARD STACKER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FW-SM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-30)
(0.15 mm) .006" max (31-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

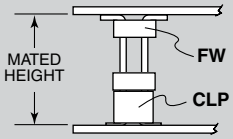
- Smaller stack heights

Contact Samtec.

Board Mates:
CLP, FLE

Cable Mates:
FFSD

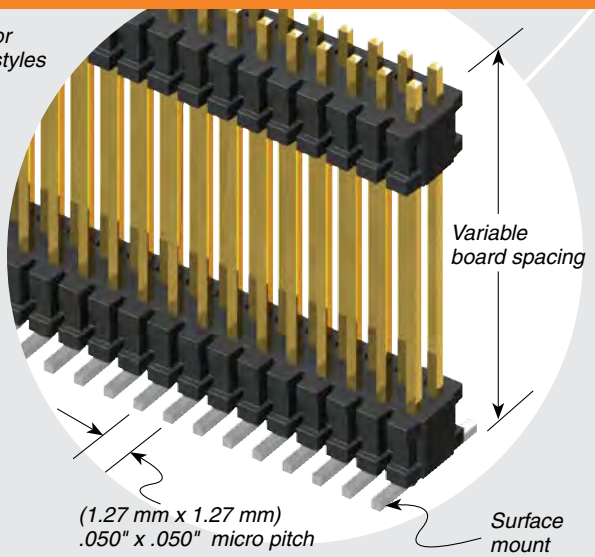
APPLICATIONS



LEAD STYLE		MATED HEIGHT*
FW	CLP	
FW-XX-03-X-X-233-065	– 02	(8.13) .320
FW-XX-03-X-X-303-065		(9.91) .390

*Processing conditions will affect mated height.

Low-profile or skyscraper styles



FW	–	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	STACKER HEIGHT	–	POST HEIGHT	–	OPTION

02 thru 50

Specify LEAD STYLE from chart

LEAD STYLE	STACKER HEIGHT	STACKER + POST
–03	(5.46) .215 to (8.51) .335	(7.11) .280 to (10.16) .400
–05	(8.64) .340 to (15.49) .610	(10.29) .405 to (17.15) .675

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold on post, Gold flash on tail

–"XXX"
= Stacker Height (in inches)

Example:
–250
= (6.35 mm) .250"

–"XXX"
= Post Height (in inches)

(1.65 mm) .065" minimum

Example:
–065
= (1.65 mm) .065"

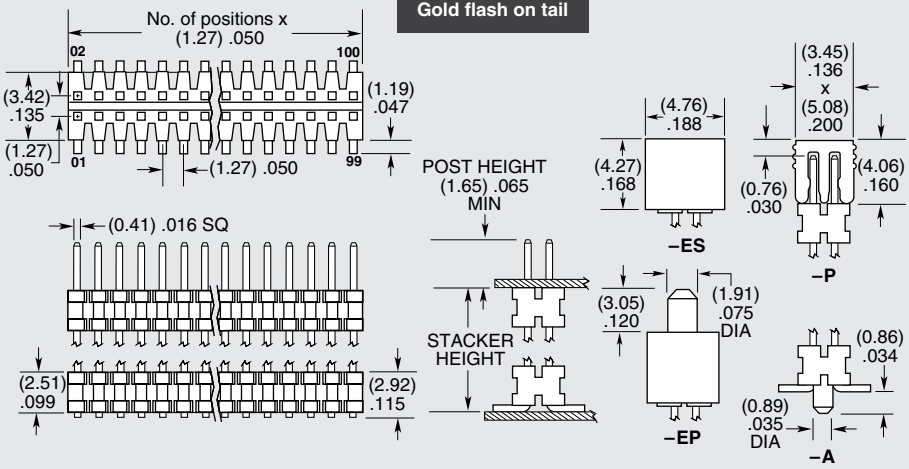
–ES
= End Shroud (–075 post height only. Mate only with CLP) (5.46 mm) .215" to (15.49 mm) .610" stacker height only 9 pins/row min.

–EP
= End Shroud with Guide Post (–075 post height only. Mate only with CLP.) (5.46 mm) .215" to (15.49 mm) .610" stacker height only) 9 pins/row min.

–A
= Alignment Pin (3 positions min.) (5.46 mm) .215" to (15.75 mm) .620" stacker height only

–P
= Pick & Place Pad (5 positions min.)

–TR
= Tape & Reel (Max overall height = Post+Stacker Height+ Pad+Alignment Pin = .700 (17.78))



Note: For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

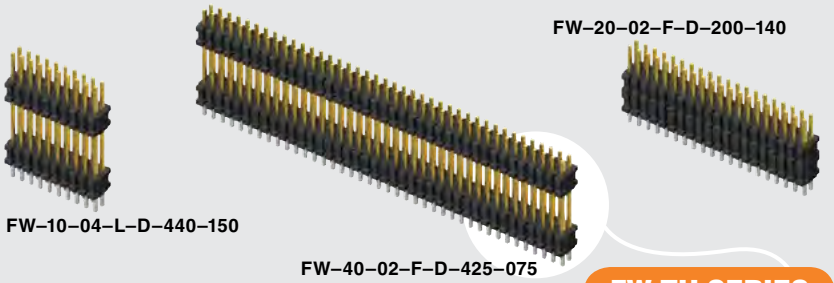
Note: This Series is non-standard, non-returnable.

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samtec

FLEX STACK



(1.27 mm) .050"

FW-TH SERIES

THROUGH-HOLE MICRO BOARD STACKER

SPECIFICATIONS

For complete specifications see www.samtec.com?FW-TH

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes

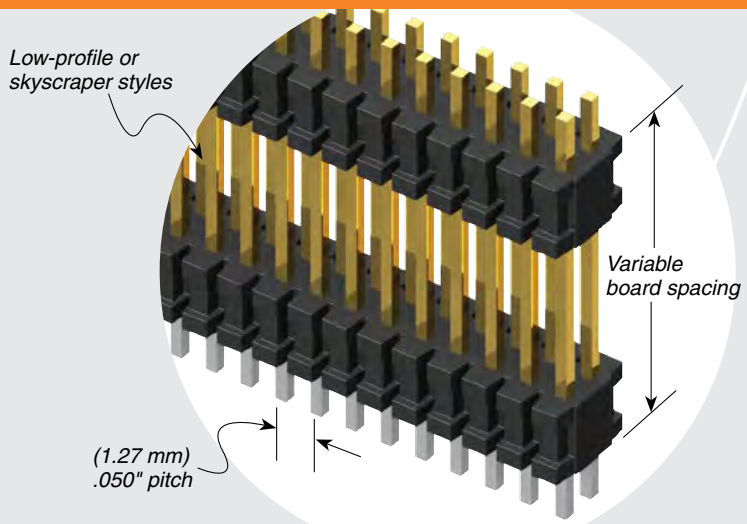
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

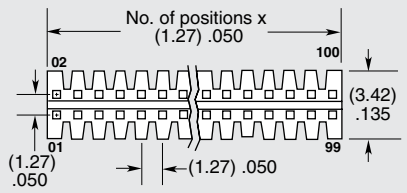
FILE NO. E111594 FILE NO: 090871_0_000

Board Mates:
CLP, FLE

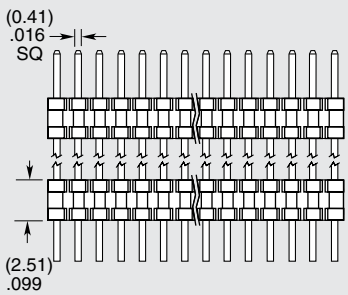
Cable Mates:
FFSD

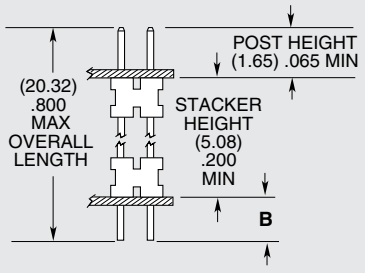


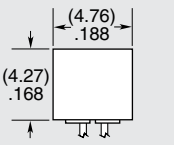
FW	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	D	STACKER HEIGHT	POST HEIGHT	OPTION
	02 thru 50	Specify LEAD STYLE from chart	–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail		–"XXX" = Stacker Height (in inches) Example: –250 = (6.35 mm) .250"	–"XXX" = Post Height (in inches) (1.65 mm) .065" minimum Example: –065 = (1.65 mm) .065"	–ES = End Shroud (–075 post height only. Mates only with CLP.) (5.46 mm) .215" to (15.49 mm) .610" stacker height only, 9 pins/row minimum –EP = End Shroud with Guide Post (–075 post height only. Mates only with CLP) (5.46 mm) .215" to (15.49 mm) .610" stacker height only, 9 pins/row minimum

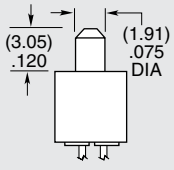


LEAD STYLE	TAIL (B)
–01	(1.14) .045
–02	(1.91) .075
–04	(2.29) .090









ALSO AVAILABLE (MOQ Required)

- Smaller stack heights Contact Samtec.

Note: For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

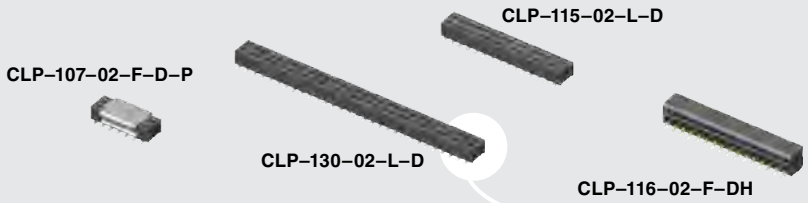
Note: This Series is non-standard, non-returnable.

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samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



(1.27 mm) .050"

CLP SERIES

LOW-PROFILE DUAL WIPE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?CLP

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (CLP/FTSH):
3.4 A per pin
(2 pins powered)
Voltage Rating:
240 VAC/340 VDC
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
Top Entry = (1.40 mm) .055" minimum, Bottom Entry = (2.41 mm) .095" minimum plus board thickness
DH Entry = (2.31 mm) .091" to (2.67 mm) .105"
Normal Force:
60 grams (0.59 N) average
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-35)
(0.15 mm) .006" max (36-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Single row
- Other platings

Contact Samtec.

Note: Some sizes, styles and options are non-standard, non-returnable.

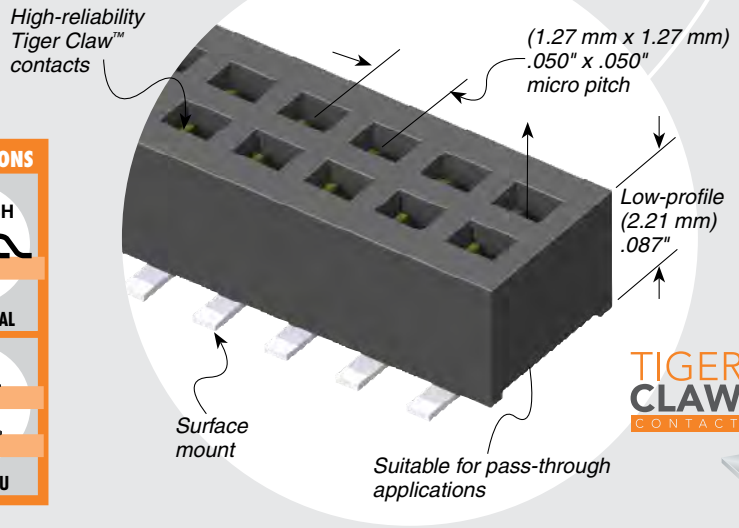
Mates with:
FTSH, FTS, FW

APPLICATIONS

CLP FTSH

HORIZONTAL

PASS-THRU



CLP	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION

02 thru 50

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold (–D only)

–D
= Double Row

–DH
= Double Horizontal (Requires FTSH–01 and FTSH–04 lead styles)

–BE
= Bottom Entry (Required for bottom entry applications)

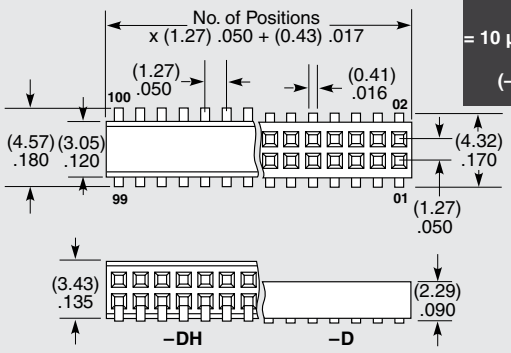
–A
= Alignment Pin (Not available with –PA option) (05, 06, 07, 08, 10, 12, 15, 20, 25, 30, 40 positions only) (–DH option and other sizes. Contact Samtec.)

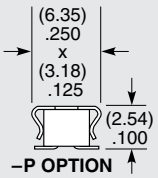
–K
= (4.00 mm) .157" DIA Polyimide film Pick & Place Pad (5 positions min.)

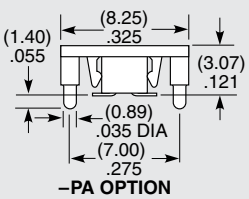
–P
= Pick & Place Pad (5 positions min. –D only) (Not always necessary for auto placement. See Flex Processing.)

–PA
= Pick & Place Pad with Alignment Pin (–D only) (Not Available with –A option)

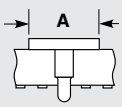
–TR
= Tape & Reel







PIN/ROW	A
04-15	(3.56) .140
16-50	(7.11) .280



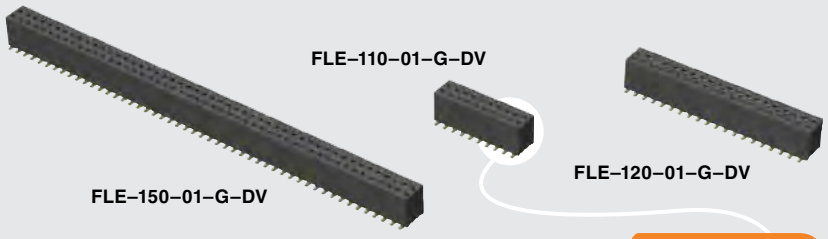
If odd pins/row, alignment pins are on middle position on centerline of the part. If even pins/row, then alignment pins are between middle two positions.

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samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



(1.27 mm) .050"

FLE SERIES

COST-EFFECTIVE RELIABLE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FLE

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating:
2 A per pin
(6 adjacent pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(1.83 mm) .072" to (4.37 mm) .172" or pass-through
Normal Force:
100 grams (0.98 N)
Max Cycles:
100+
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594
FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

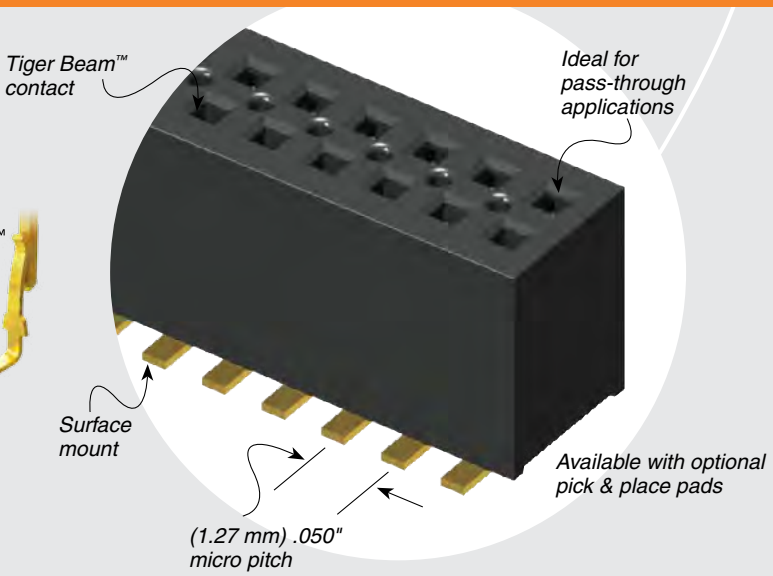
- Other platings

Contact Samtec.

Board Mates:
FTSH, FTS, FW

Cable Mates:
FFMD*, FMTP

TIGER™ BEAM CONTACT



***Note:** Standard FFMD callout will not mate with FLE, SFMC. Must use gold plated callouts. (See drawing on web.)

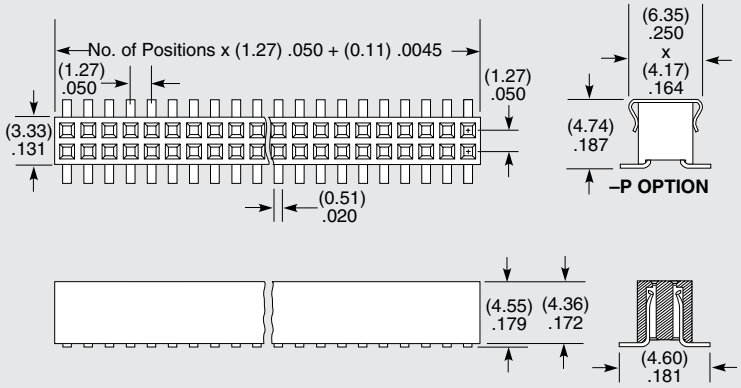
FLE	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	DV	–	OPTIONS
			02 thru 50				–G = 10 µ" (0.25 µm) Gold				

–A
= Alignment Pin (Metal or plastic at Samtec discretion) (3 positions minimum)

–K
= (4.25 mm) .167" DIA Polyimide film Pick & Place Pad (5 positions minimum)

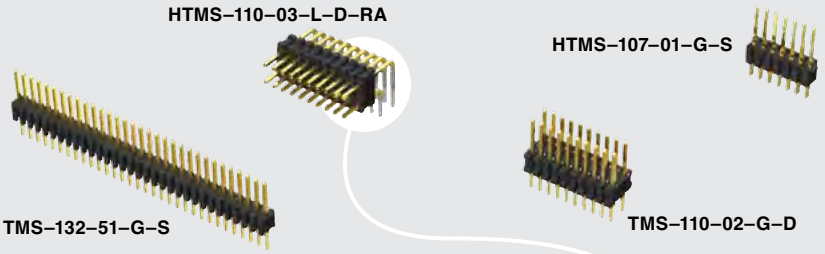
–P
= Metal Pick & Place Pad (5 positions minimum)

–TR
= Tape & Reel



Note: Some lengths, styles and options are non-standard, non-returnable.

samtec



(1.27 mm) .050"

TMS, HTMS, SNM SERIES

THROUGH-HOLE MICRO HEADER

SPECIFICATIONS

For complete specifications see www.samtec.com?TMS, www.samtec.com?HTMS or www.samtec.com?SNM

Insulator Material (TMS):
Black Liquid Crystal Polymer
Insulator Material (SNM):
Black Glass Filled Polyester
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
5 A per pin
(2 pins powered)
TMS mated with SMS
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Lead Size accepted (SNM):
(0.46 mm) .018" SQ
Insertion Depth (SNM):
(3.43 mm) .135" minimum
Max Processing Temp (SNM):
Not recommended for IR/VP
RoHS Compliant:
Yes

Important Note:
Style -02 does not mate with SMS Series.

PROCESSING

Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

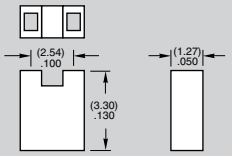
- Other platings

Contact Samtec.

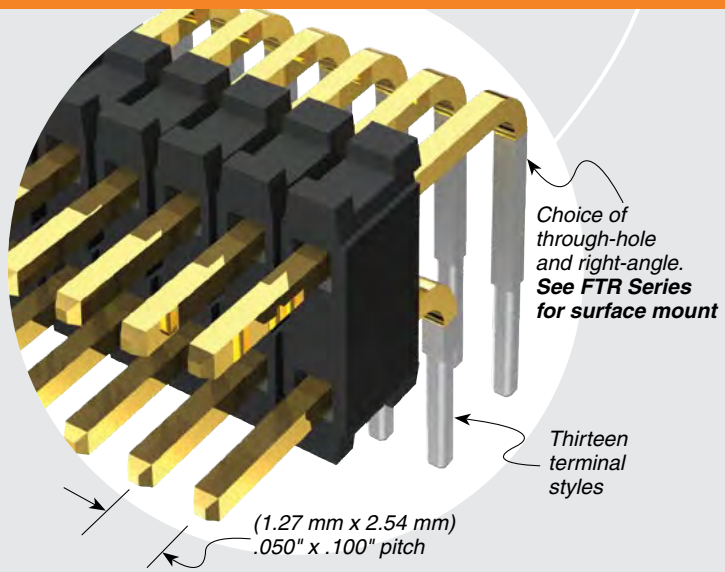
Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with:
SMS, SLM, RSM

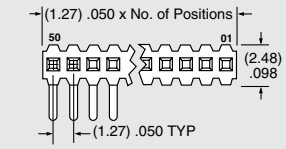
MICRO SHUNT
SNM SERIES

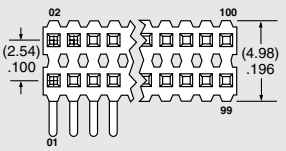


Part No.	Plating
SNM–100–BK–T	Tin
SNM–100–BK–G	10 µ" (0.25 µm) Gold



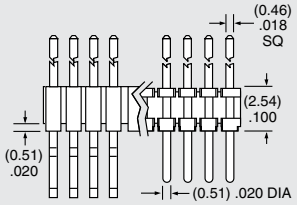
TYPE STRIP	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OPTION
TMS = Standard HTMS = High Temp		01 thru 50	Specify LEAD STYLE from chart	–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail	–S = Single Row –D = Double Row	–RA = Right-angle –"XXX" = Polarized Position (Specify position of omitted pin)

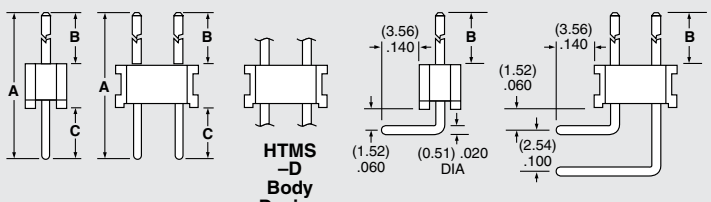




T/H LEAD STYLE	A	B	C
–01	(11.43) .450	(5.84) .230	(3.05) .120
–02	(8.13) .320	(2.54) .100	
–21	(12.83) .505	(5.84) .230	(4.45) .175
–51	(10.41) .410	(4.83) .190	(3.05) .120
–52	(10.80) .425	(5.21) .205	
–53	(12.83) .505	(7.24) .285	
–54	(14.10) .555	(8.51) .335	
–55	(15.49) .610	(9.91) .390	
–56	(15.88) .625	(10.29) .405	
–57	(16.51) .650	(10.92) .430	
–58	(17.91) .705	(12.32) .485	
–59	(19.18) .755	(13.59) .535	
–60	(20.96) .825	(15.37) .605	

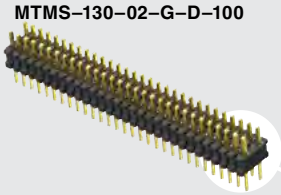
RA LEAD STYLE	B
–01	(5.84) .230
–02	(2.54) .100
–03	(3.18) .125

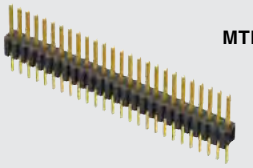


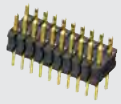


samtec

FLEX STACK







(1.27 mm) .050"

MTMS, HMTMS SERIES

MODIFIED MICRO TERMINAL

SPECIFICATIONS

For complete specifications see www.samtec.com?MTMS or www.samtec.com?HMTMS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

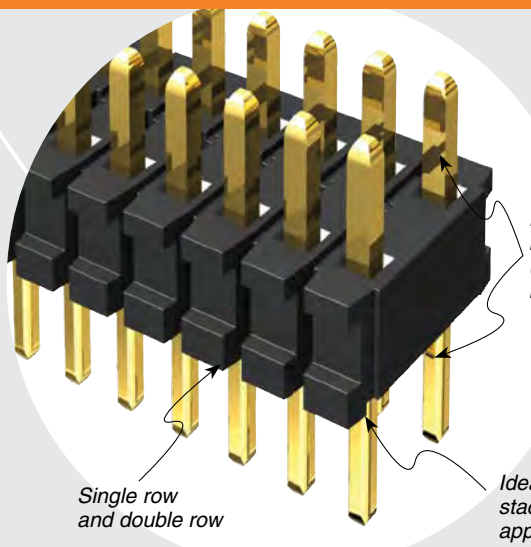
FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

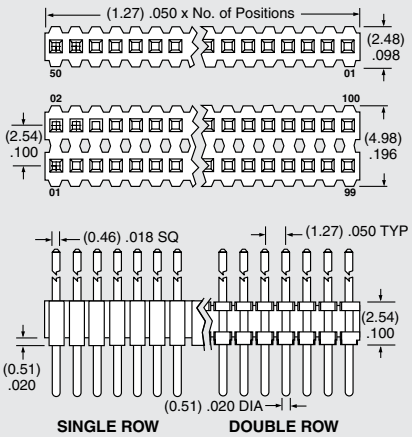
- Other platings

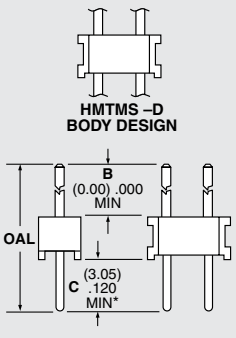
Contact Samtec.

Mates with:
SMS, SLM, RSM



TYPE STRIP	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	POST HEIGHT	OPTION
		01 thru 50	Specify LEAD STYLE from chart	–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail	–S = Single Row –D = Double Row	–"XXX" = "B" Dimension (Specify Post Height in inches (0.13 mm) .005" increments)	–"XXX" = Polarized Position (Specify position of omitted pin)
	MTMS = Modified Standard HMTMS = Modified High Temp						





LEAD STYLE	OAL	B (Maximum when C = (3.05 mm) .120")
–01	(11.43) .450	(5.84) .230
–02	(8.13) .320	(2.54) .100
–25*	(8.38) .330	(3.18) .125
–51	(10.41) .410	(4.83) .190
–52	(10.80) .425	(5.21) .205
–53	(12.83) .505	(7.24) .285
–54	(14.10) .555	(8.51) .335
–55	(15.49) .610	(9.91) .390
–56	(15.88) .625	(10.29) .405
–57	(16.51) .650	(10.92) .430
–58	(17.91) .705	(12.32) .485
–59	(19.18) .755	(13.59) .535
–60	(20.96) .825	(15.37) .605

*Style -25 tail C = (2.67 mm) .105" min is available.

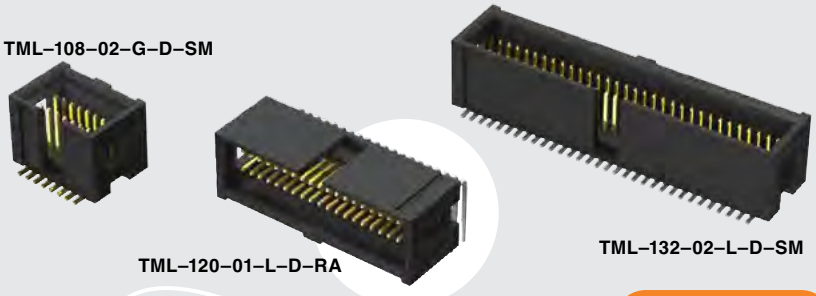
Tail DIA is .020" (0.51 mm) for min .120" (3.05 mm).
Balance of tail is .018" (0.46 mm) SQ.

Note: This Series is non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec



(1.27 mm) .050"

TML SERIES

SHROUDED MICRO HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TML

Insulator Material:
Black Liquid Crystal Polymer
Insulation Resistance:
5000 MΩ min
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

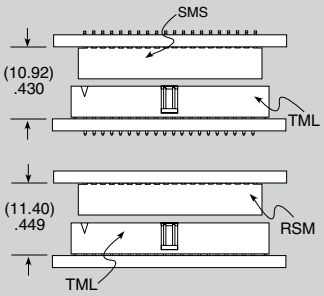
ALSO AVAILABLE (MOQ Required)

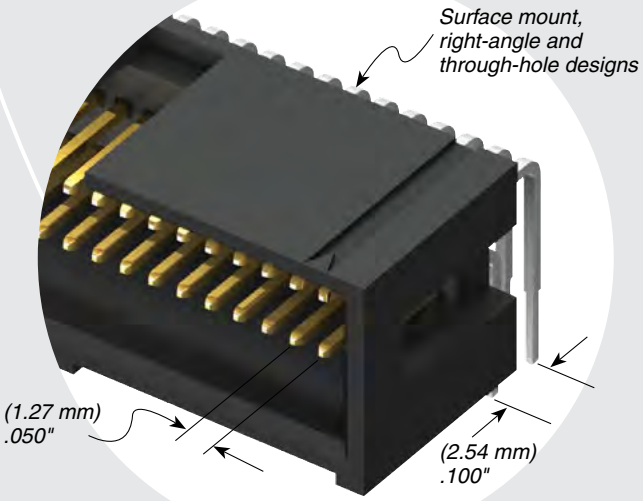
- Other sizes
- Other platings

Contact Samtec.

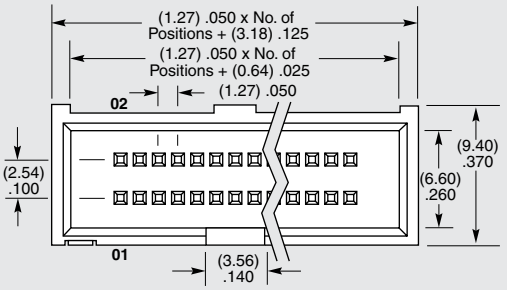
Mates with:
SMS, RSM

APPLICATIONS

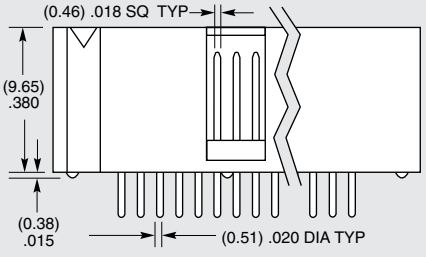


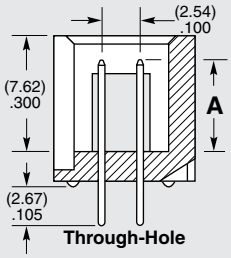


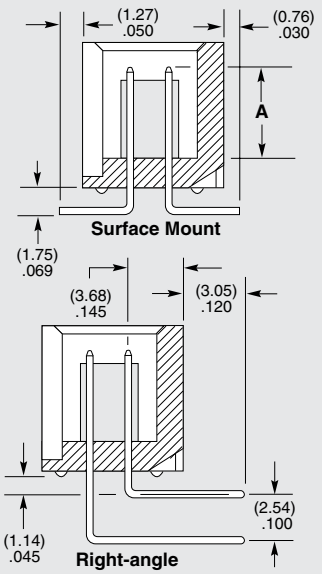
TML	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	D	TAIL OPTION	OTHER OPTION
		05, 08, 10, 20, 32 (Standard sizes)	Specify LEAD STYLE from chart	–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail		–RA = Right-angle –SM = Surface Mount (For locking clip add –LC)	–"XXX" = Polarized position (Specify position of omitted pin)



LEAD STYLE	POST HEIGHT (A)
–01	(3.05) .120
–02	(5.84) .230
–03	(4.32) .170







Note: Some sizes, styles and options are non-standard, non-returnable.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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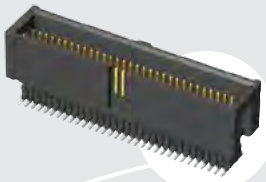
FLEX STACK



ZML–105–03–G–D



ZML–120–04–G–D



ZML–132–54–L–D–650–SM

(1.27 mm) .050"

ZML SERIES

SHROUDED ELEVATED STACKER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ZML

Insulator Material:
Black LCP
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-20)
(0.15 mm) .006" max (32)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

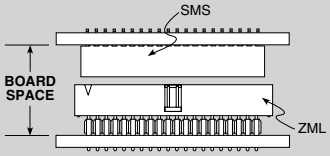
ALSO AVAILABLE
(MOQ Required)

- Other sizes
- Other platings

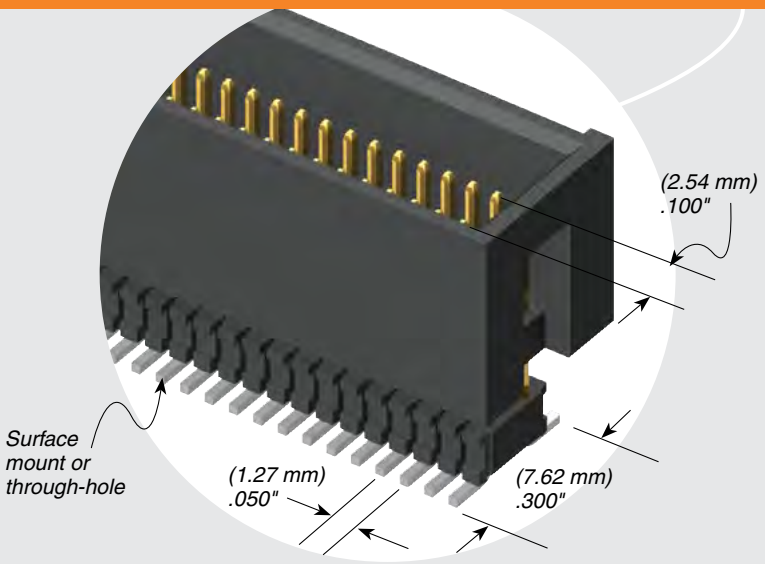
Contact Samtec.

Mates with:
SMS, RSM

APPLICATIONS



APPLICATIONS	BOARD SPACE
ZML Style -01 mated with SMS	(13.72) .540
ZML Style -02 mated with SMS	(15.11) .595
ZML Style -03 mated with SMS	(17.53) .690
ZML Style -04 mated with SMS	(20.57) .810



ZML	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	D	–	BODY HEIGHT	–	TAIL STYLE

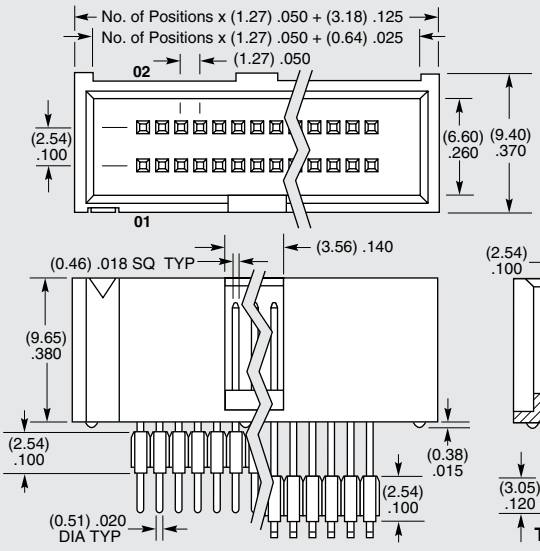
NO. PINS PER ROW: 05, 08, 10, 20, 32 (Standard sizes)

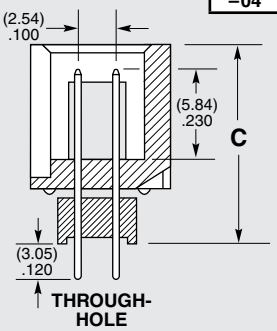
LEAD STYLE: Specify LEAD STYLE from chart

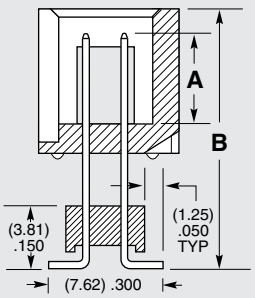
PLATING OPTION:
–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail
–G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail

BODY HEIGHT: (Leave blank for Through-hole)
–"XXX" = –SM Body Height (Specify board space "B" in inches from lead style charts.)

TAIL STYLE: (Leave blank for Through-hole)
–SM = Surface Mount







THROUGH-HOLE	
LEAD STYLE	BODY HEIGHT (C)
–01	(12.83) .505
–02	(14.22) .560
–03	(16.64) .655
–04	(19.69) .775

SURFACE MOUNT		
LEAD STYLE	POST HEIGHT (A)	BODY HEIGHT (B)
–53	(3.05) .120	(13.46) .530 to (20.19) .795
–54	(5.84) .230	(13.46) .530 to (17.40) .685

Note: For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

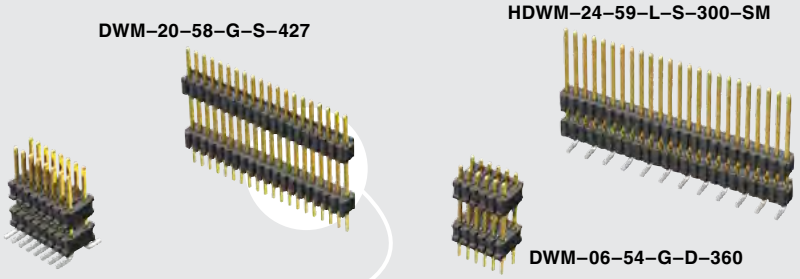
Note: This Series is non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

FLEX STACK



(1.27 mm) .050"

DWM, HDWM SERIES

MICRO BOARD STACKER

SPECIFICATIONS

For complete specifications see www.samtec.com?DWM or www.samtec.com?HDWM

Insulator Material:
LCP
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max

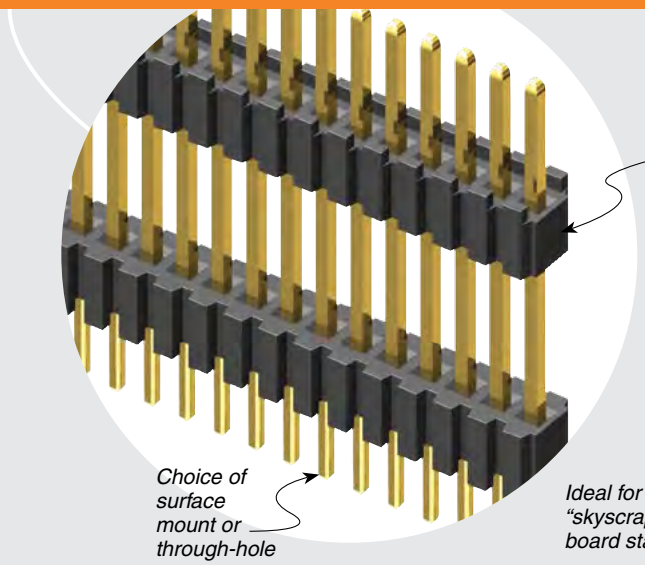
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000 (DWM ONLY)

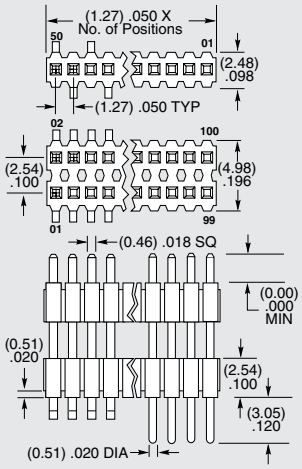
Mates with:
SMS, SLM, RSM

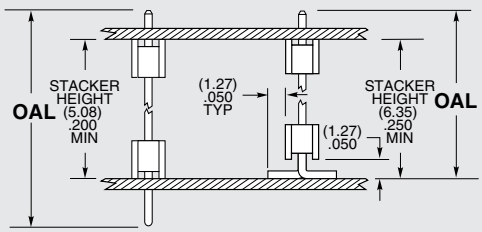


TYPE STRIP	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	STACKER HEIGHT	OTHER OPTION
	01 thru 50	Specify LEAD STYLE from chart	–L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail	–S = Single Row –D = Double Row	–"XXX" = Stacker Height Example: –250 = (6.35 mm) .250"	–"XXX" = Polarized Position (Specify position of omitted pin) – SM = Surface Mount (Requires HDWM. 02 thru 40 positions only.) – A = Alignment Pin (Requires HDWM. 6 positions min –D only.) Metal or plastic at Samtec discretion (N/A with –LC) – LC = Locking Clip (Requires HDWM. (5 positions min. –D only) (N/A with –A) (Manual placement required) – P = Pick & Place Pad (Requires HDWM)

DWM = Standard Board Spacer
HDWM = High Temp Board Spacer

LEAD STYLE	OAL THROUGH-HOLE	OAL SURFACE MOUNT
–01	(11.43) .450	(8.38) .330
–51	(10.41) .410	—
–52	(10.80) .425	—
–53	(12.83) .505	(9.78) .385
–54	(14.10) .555	(11.05) .435
–55	(15.49) .610	(12.45) .490
–56	(15.88) .625	(12.83) .505
–57	(16.51) .650	(13.46) .530
–58	(17.91) .705	(14.86) .585
–59	(19.18) .755	(15.62) .615
–60	(20.96) .825	—
–61	(26.67) 1.050	—





ALSO AVAILABLE (MOQ Required)

- Other platings

Contact Samtec.

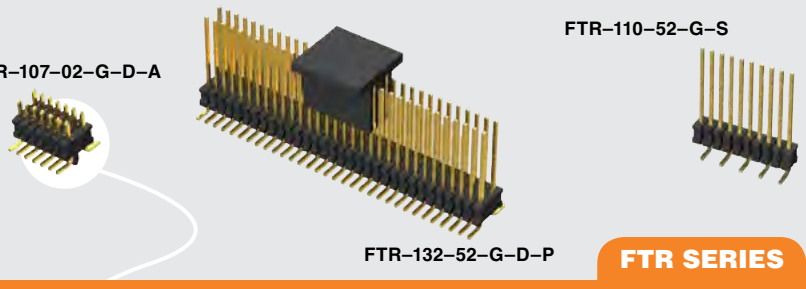
Note: For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

Note: This Series is non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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(1.27 mm) .050"

FTR SERIES

SMT MICRO HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FTR

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (FTR/RSM):
3.1 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-20)
(0.15 mm) .006" max (21-40)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

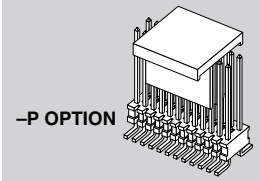
ALSO AVAILABLE (MOQ Required)

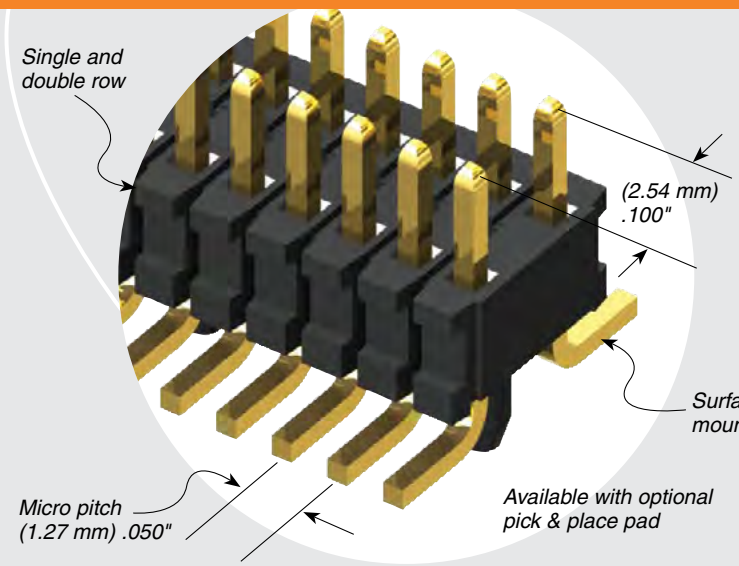
- Other platings

Contact Samtec.

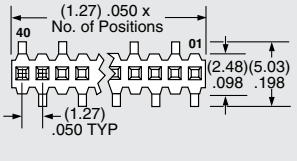
Mates with:
RSM, SMS, SLM

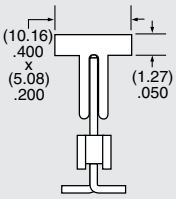
OPTIONS

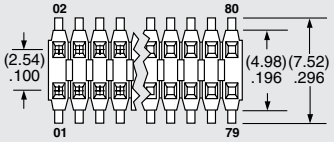


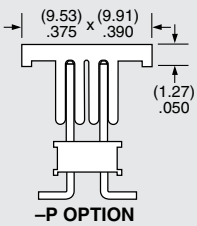


FTR	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OPTION
			02 thru 40		Specify LEAD STYLE from chart		–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –G = 10 µ" (0.25 µm) Gold on post, Gold flash on tail		–S = Single Row –D = Double Row		–"XX" = Polarized –A = Alignment Pin (5 positions minimum –D only) (Metal or plastic at Samtec discretion) (N/A with -LC) –LC = Locking Clip (6 positions minimum –D only) (N/A with -A) (Manual placement required) –P = Plastic Pick & Place Pad (–D = 5 positions minimum) (–S = 8 positions minimum) –TR = Tape & Reel (–S = 4 positions minimum)

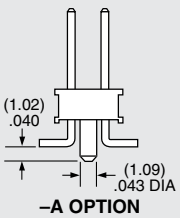


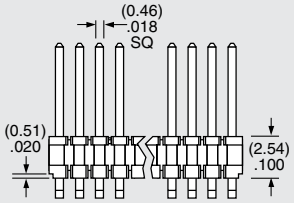


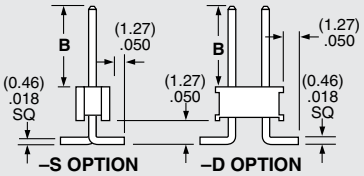


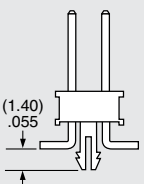


LEAD STYLE	B
–01	(5.84) .230
–02	(2.54) .100
–03	(3.18) .125
–51	(4.83) .190
–52	(5.21) .205
–53	(7.24) .285
–54	(8.51) .335
–55	(9.91) .390
–56	(10.29) .405
–57	(10.92) .430







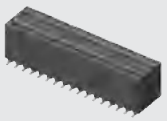


Note: Some sizes, styles and options are non-standard, non-returnable.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

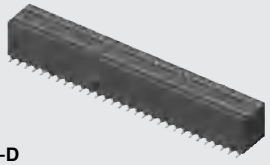
samtec



RSM–117–02–L–D



RSM–109–02–L–D



RSM–130–02–L–D

(1.27 mm) .050"

RSM SERIES

SMT MICRO SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?RSM

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (RSM/FTR):
3.1 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Lead Size Accepted:
(0.46 mm) .018" SQ
Insertion Depth:
Top Entry = (2.64 mm) .104" to (5.84 mm) .230" with (0.38 mm) .015" wipe, or pass-through.
Bottom Entry = (5.49 mm) .216" minimum
(Add board thickness for correct post OAL)
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

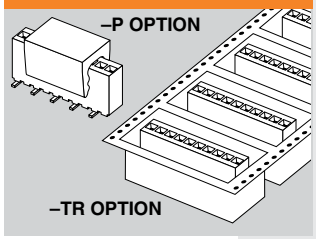
ALSO AVAILABLE
(MOQ Required)

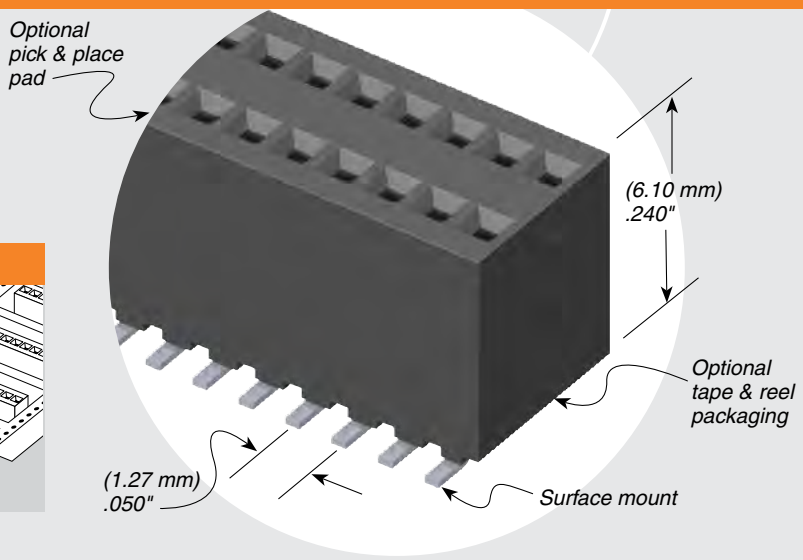
- Other platings
- Locking clips

Contact Samtec.

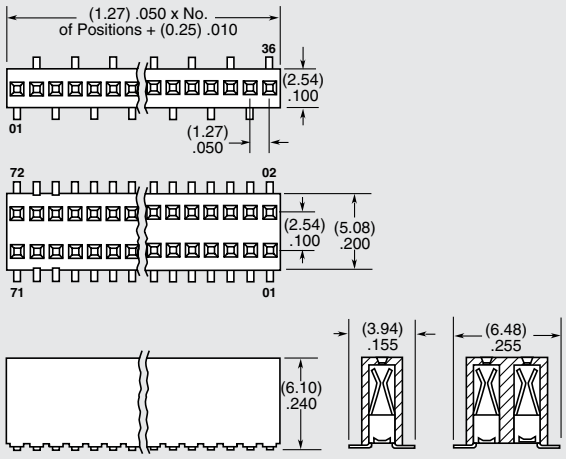
Mates with:
FTR, HTMS, HDWM, DWM, TML, ZML, TMS

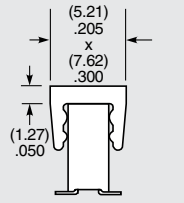
OPTIONS



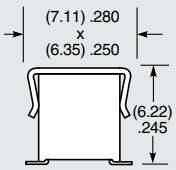


RSM	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	ROW OPTION	–	OPTION
			02 thru 36				–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–S = Single Row –D = Double Row		–K = (6.25 mm) .246" DIA Polyimide film Pick & Place Pad (5 positions minimum for –D) (7 positions minimum for –S) –P = Plastic Pick & Place Pad (–D = 5 positions minimum –S = 6 positions minimum) –TR = Tape & Reel





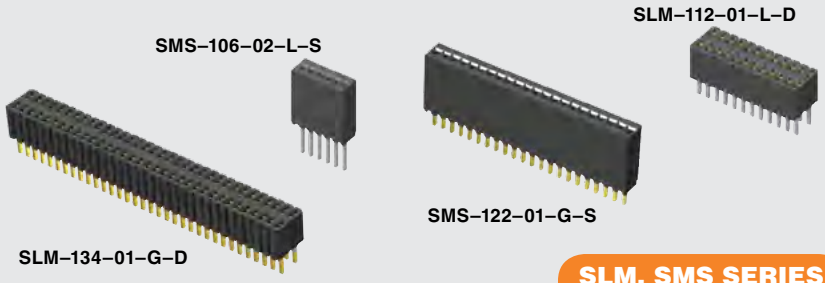
–S option
Pick & Place Pad



–D option
Pick & Place Pad

Note: Some sizes, styles and options are non-standard, non-returnable.

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(1.27 mm) .050"

SLM, SMS SERIES

THROUGH-HOLE MICRO SOCKETS

SPECIFICATIONS

For complete specifications see www.samtec.com?SLM or www.samtec.com?SMS

Insulator Material:
SLM: Black Glass Filled Polyester
SMS: Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating (SLM/TMS):
5.2 A per pin (2 pins powered)
Current Rating (SMS/TMS):
5.0 A per pin (2 pins powered)
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
SLM: (2.03 mm) .080" to (3.05 mm) .120"
SMS: (3.43 mm) .135" to (6.35 mm) .250" with (0.38 mm) .015" wipe
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
SLM: Wave Only
SMS: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594
FILE NO: 090871_0_000 (SMS ONLY)

Note:
Some lengths, styles and options are non-standard, non-returnable.

SLM – 1 – NO. PINS PER ROW – 01 – PLATING OPTION – ROW OPTION

Mates with:
HTMS, TMS, MTMS, DWM, HDWM, FTR, HMTMS

TIGER BUY™ CONTACT

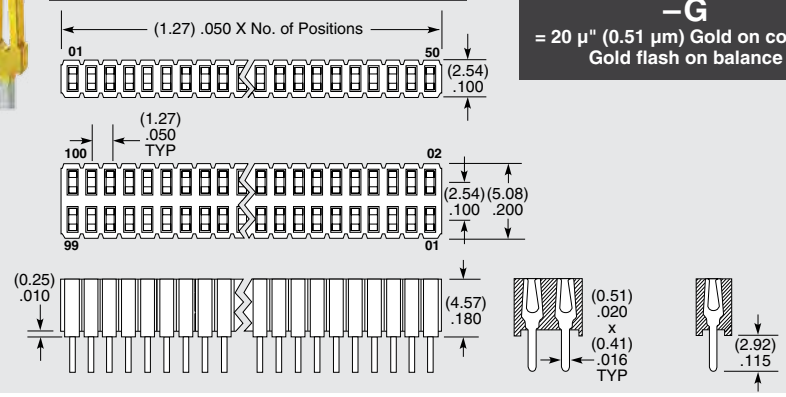
01 thru 50

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 20 µ" (0.51 µm) Gold on contact, Gold flash on balance

–S
= Single Row

–D
= Double Row



ALSO AVAILABLE (MOQ Required)
- Other platings
Contact Samtec.

SMS – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION

Mates with:
HTMS, TMS, MTMS, DWM, HDWM, FTR, TML, ZML, HMTMS

TIGER BUY™ CONTACT

01 thru 50

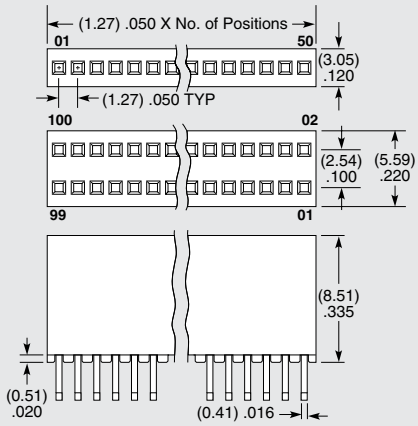
Specify LEAD STYLE from chart

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold

–S
= Single Row

–D
= Double Row



LEAD STYLE	A
–01	(2.54) .100
–02	(4.83) .190

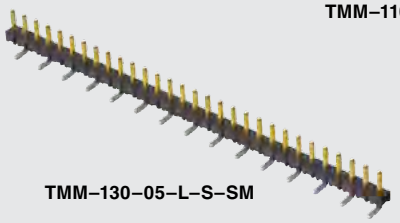
ALSO AVAILABLE (MOQ Required)
- Other platings
Contact Samtec.

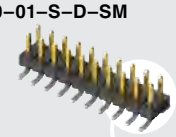
Due to technical progress, all designs, specifications and components are subject to change without notice.

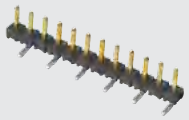
All parts within this catalog are built to Samtec's specifications.
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samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES







(2.00 mm) .0787"

TMM SERIES

LOW-PROFILE SMT HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TMM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating:
3.2 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
281 VAC mated with SQW;
250 VAC mated with SQT
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

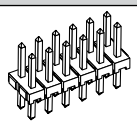
- Other platings
  Contact Samtec.

Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

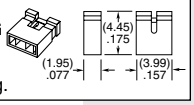
Cable Mates:
TCSD

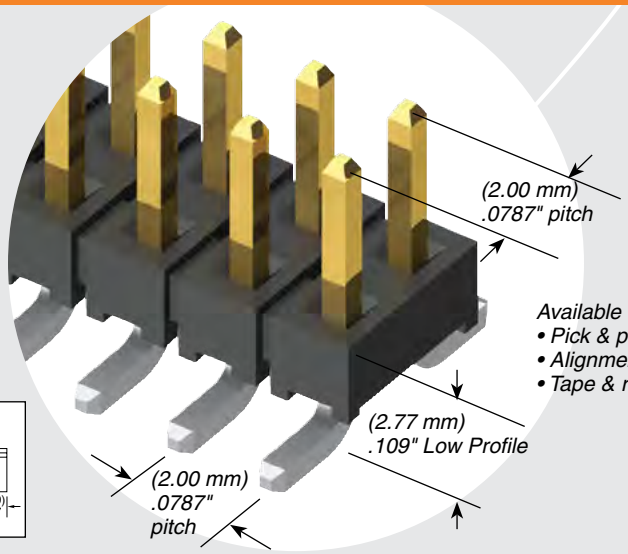
OTHER SOLUTIONS

Through-hole



2 mm Shunt
Specify **2SN–BK–G** for 2 mm shunt with Gold plating.





Available with optional
- *Pick & place pads*
- *Alignment pins*
- *Tape & reel packaging*

TMM	– 1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	SM	–	OTHER OPTION

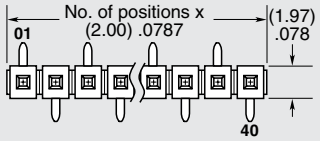
NO. PINS PER ROW: 02 thru 40

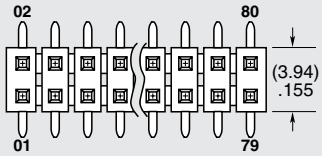
LEAD STYLE: Specify LEAD STYLE from chart below.

PLATING OPTION
- **–F** = Gold flash on post, Matte Tin on tail
- **–L** = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail
- **–S** = 30 µ" (0.76 µm) Gold on post, Matte Tin on tail
- **–T** = Matte Tin

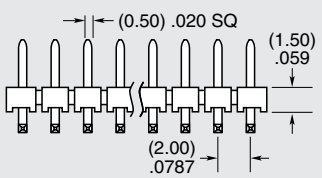
ROW OPTION
- **–S** = Single Row
- **–D** = Double Row

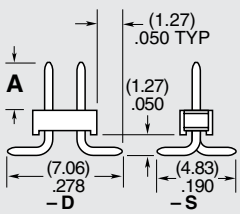
OTHER OPTION
- **–A** = Alignment Pin (Metal or plastic at Samtec's discretion) (5 positions minimum) (–D only)
- **–"XXX"** = Polarized Position (Specify position of omitted pin)
- **–P** = Pick & Place Pad (3 positions minimum)
- **–TR** = Tape & Reel Packaging (3 thru 36 positions only)

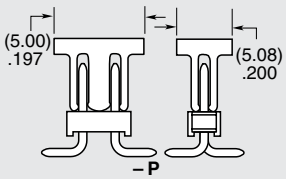




LEAD STYLE	A	MATES WITH
–01	(3.20) .126	SQT, SQW, ESQT, TLE, SMM, MMS, TCSD
–04	(1.91) .075	CLT
–05	(1.65) .065	
–06	(4.27) .168	CLT-BE





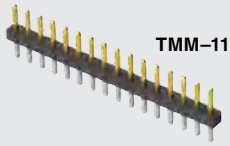


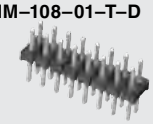
Note:
Some lengths, styles and options are non-standard, non-returnable.

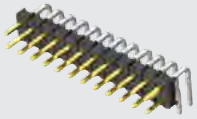
Due to technical progress, all designs, specifications and components are subject to change without notice.

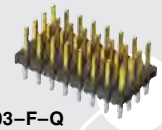
All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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TMM–116–02–F–S


TMM–108–01–T–D


TMM–112–01–L–D–RA


TMM–108–03–F–Q

(2.00 mm) .0787"

TMM SERIES

LOW-PROFILE THROUGH-HOLE HEADER

SPECIFICATIONS

For complete specifications see www.samtec.com?TMM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (SMM/TMM):
3.2 A per row
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
281 VAC mated with SQW;
250 VAC mated with SQT
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

- Other platings

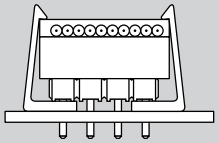
Contact Samtec.

Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

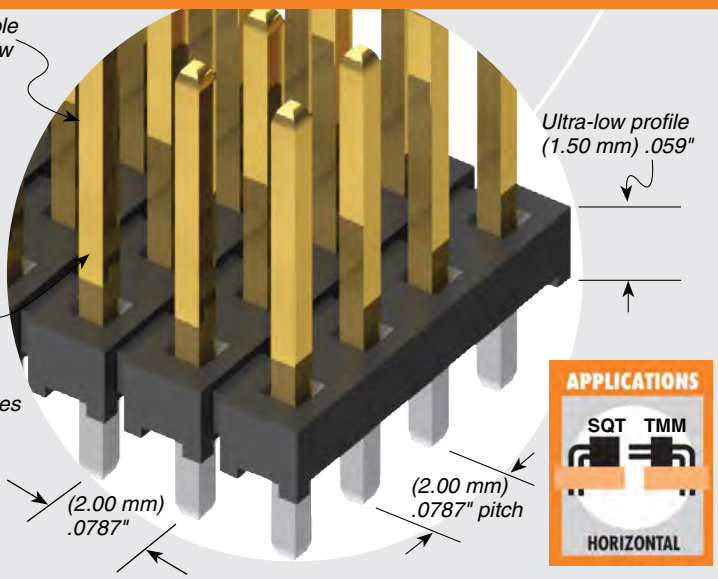
Cable Mates:
TCSD

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

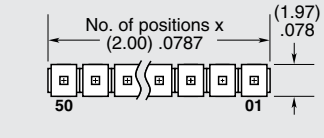
APPLICATION

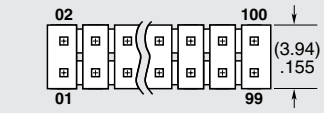

Retention Clip Option (–RC)

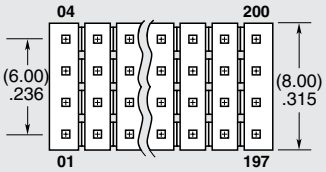
Note: Some lengths, styles and options are non-standard, non-returnable.



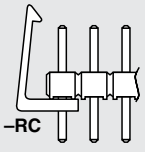
TMM	–	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OTHER OPTION
			01 thru 50	Specify LEAD STYLE from chart below.	–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on post, Matte Tin on tail –T = Matte Tin	–S = Single Row –D = Double Row –Q = Four Row	–RA & –RE = Right-angle (Lead Style –01 only) (2 positions minimum, –Q row) –RC = Retention Clip (Mates with TCSD) (Double row only, 4 positions minimum, only available –06 lead style) –"XXX" = Polarized Position (Specify position of omitted pin)

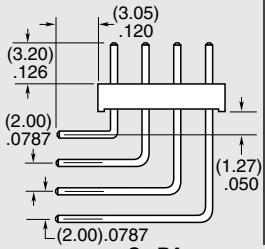


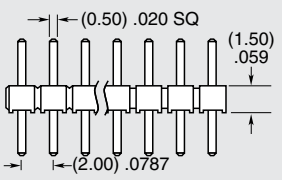


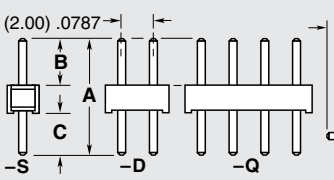


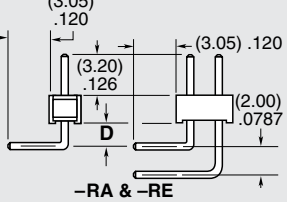
LEAD STYLE	A	B	C
–01	(8.20) .323	(3.20) .126	(3.50) .138
–02		(3.70) .146	(3.00) .118
–03		(4.00) .158	(2.70) .106
–04	(5.69) .224	(1.91) .075	(2.29) .090
–05	(5.43) .214	(1.65) .065	
–06	(9.58) .377	(3.20) .126	(4.88) .192


–RC









OPTION	D
–RA	(1.27) .050
–RE	(3.56) .140

Other Solutions

Press-fit
See PTT Series.

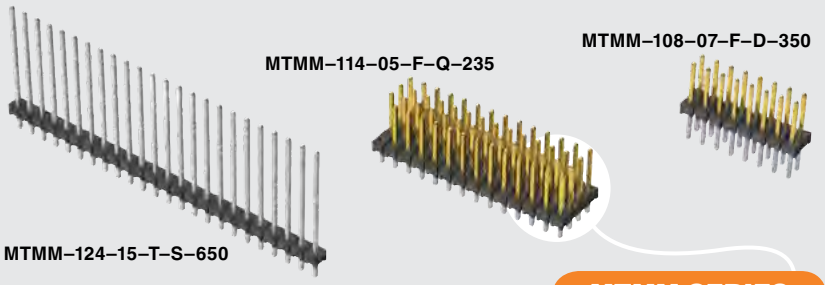
Elevated
See TW Series.

High-density
See TMMH Series.

Shrouded Four Row Vertical & Right-Angle
See TMMS Series.

Paste In Hole (PIH) processing. Contact Samtec ASP Group for part customization.

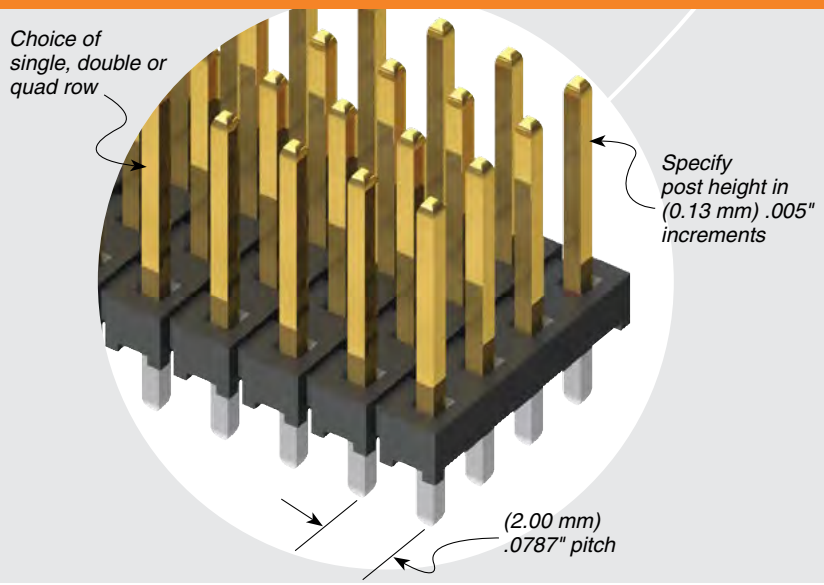
samtec



(2.00 mm) .0787"

MTMM SERIES

MODIFIED THROUGH-HOLE HEADER



SPECIFICATIONS

For complete specifications see www.samtec.com?MTMM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

Cable Mates:
TCSD

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

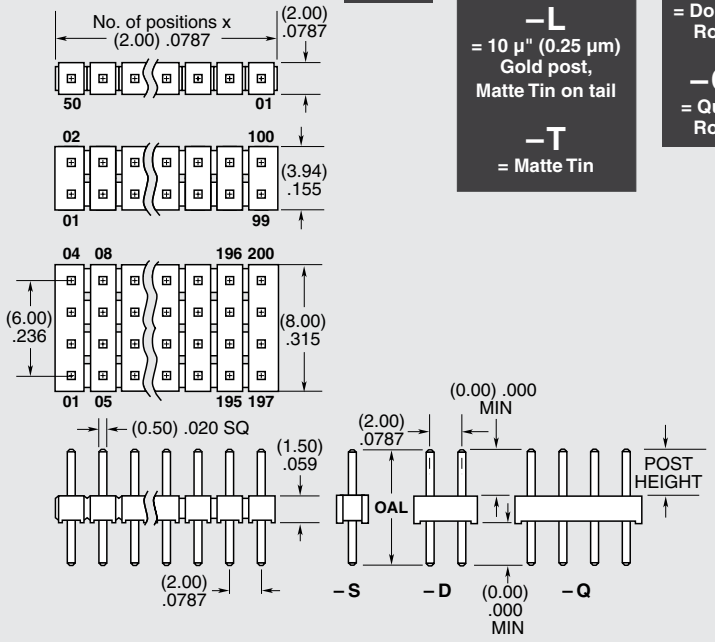
FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other platings
Contact Samtec.

Note: This Series is non-standard, non-returnable.

MTMM	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	POST HEIGHT	–	OPTION
			01 thru 50		Specify LEAD STYLE from chart.		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold post, Matte Tin on tail –T = Matte Tin		–S = Single Row –D = Double Row –Q = Quad Row		–"XXX" = Post Height in inches (0.13 mm) .005" increments Example: –070 = (1.78 mm) .070"		–"XXX" = Polarized Position Specify position of omitted pin

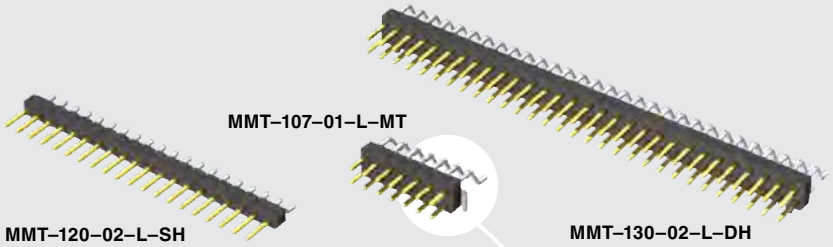


LEAD STYLE	OAL
–02	(6.48) .255
–03	(7.67) .302
–04	(8.20) .323
–05	(9.58) .377
–06	(10.08) .397
–07	(11.58) .456
–08	(12.09) .476
–09	(13.59) .535
–10	(14.10) .555
–11	(15.09) .594
–12	(15.60) .614
–13	(17.09) .673
–14	(19.08) .751
–15	(21.08) .830

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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(2.00 mm) .0787"

MMT SERIES

HORIZONTAL SURFACE MOUNT HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?MMT

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-25)
(0.15 mm) .006" max (26-36)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Alignment pins
- Locking clips
- Molded pick & place pads
- Other platings

Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

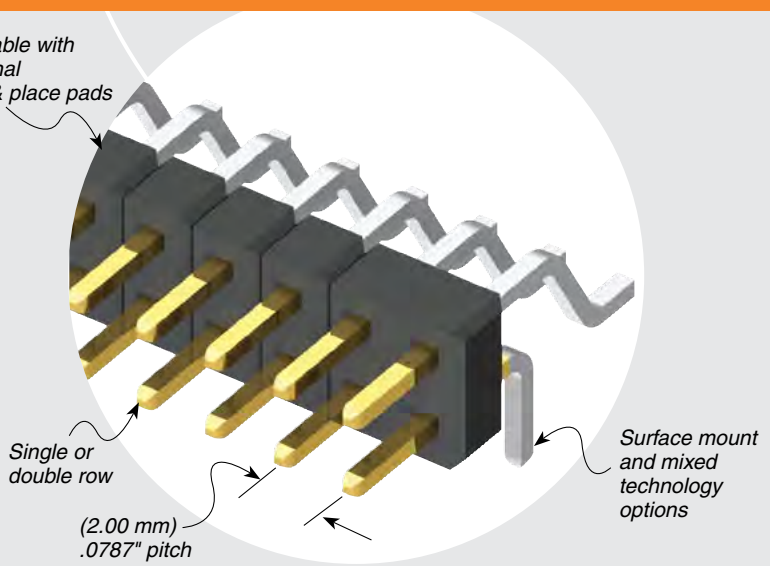
Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

Cable Mates:
TCSD

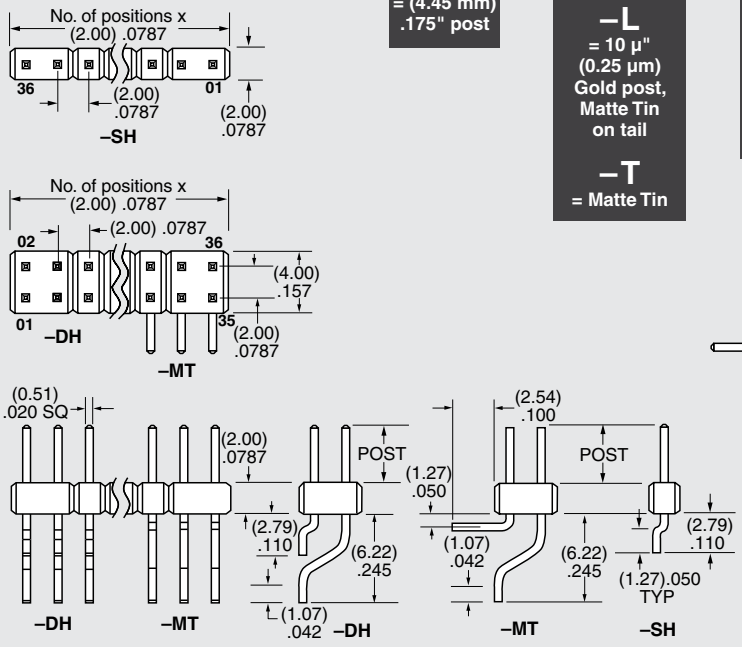
APPLICATIONS



HORIZONTAL



MMT	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OPTION
			02 thru 36		–01 = (3.20 mm) .126" post –02 = (4.45 mm) .175" post		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold post, Matte Tin on tail –T = Matte Tin		–SH = Single Row –DH = Double Row –MT = Double Row Mixed Technology		–K = (4.00 mm) .157" DIA Polyimide Film Pick & Place Pad (3 positions minimum) –P = Pick & Place Pad (2 positions minimum) –"XXX" = Polarized Position Specify position of omitted pin –TR = Tape & Reel Packaging

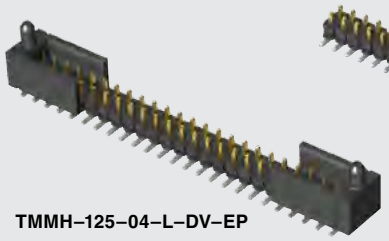


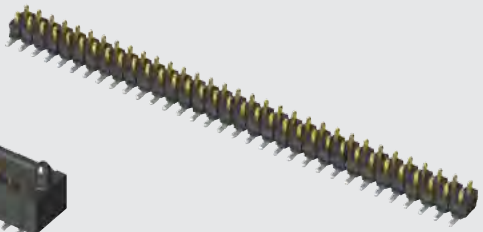
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10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES


TMMH–125–04–L–DV–EP


TMMH–135–04–F–DV–LC

(2.00 mm) .0787"

FLEXIBLE SMT HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TMMH

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (TMMH/ESQT):
4.5 A per pin
(2 pins powered)
Current Rating (TMMH/SQT):
5.1 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
281 VAC mated with SQW;
250 VAC mated with SQT
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other platings

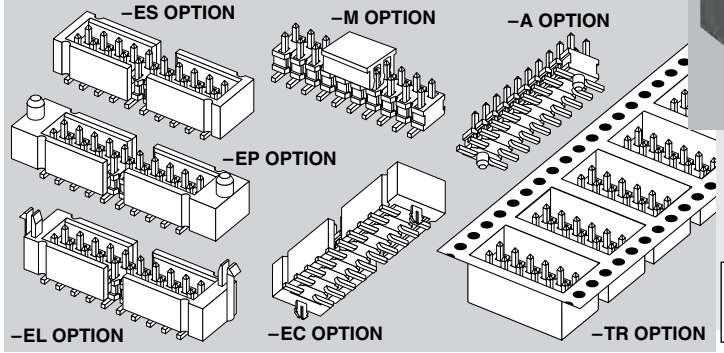
Contact Samtec.

Note:
Some lengths, styles and options are non-standard, non-returnable.

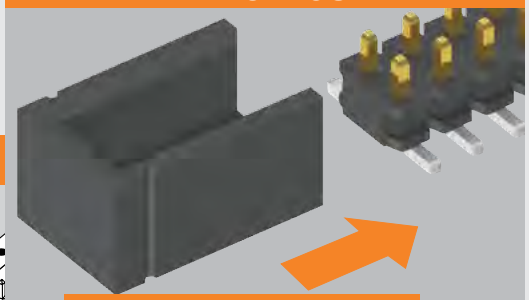
Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

Cable Mates:
TCSD

OPTIONS

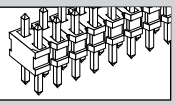


FLEX SHROUD

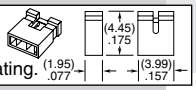


OTHER SOLUTIONS

Through-hole



2 mm Shunt
Specify **2SN–BK–G** for 2 mm shunt with Gold plating.



TMMH	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–

03 thru 50

Specify LEAD STYLE from chart

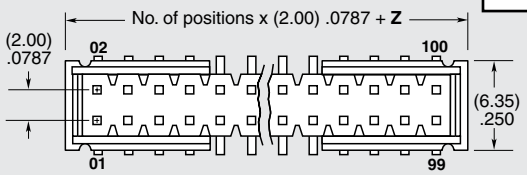
–F
= Gold flash on post, Matte Tin on tail

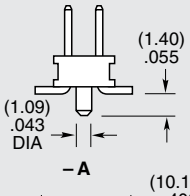
–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

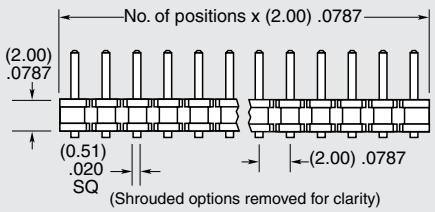
–T
= Matte Tin

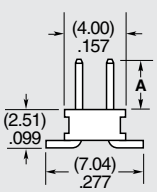
OPTION	Z
–ES	(2.92) .115
–EC	(4.70) .185
–EP & –EPC	(6.10) .240
–EL & –EBC	(4.45) .175

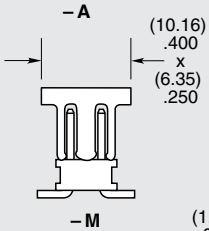
LEAD STYLE	A	MATES WITH
–01	(3.20) .126	SQT, SQW, ESQT, TLE, SMM, MMS, TCSD
–04	(1.91) .075	CLT
–05	(1.65) .065	

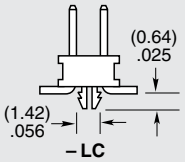






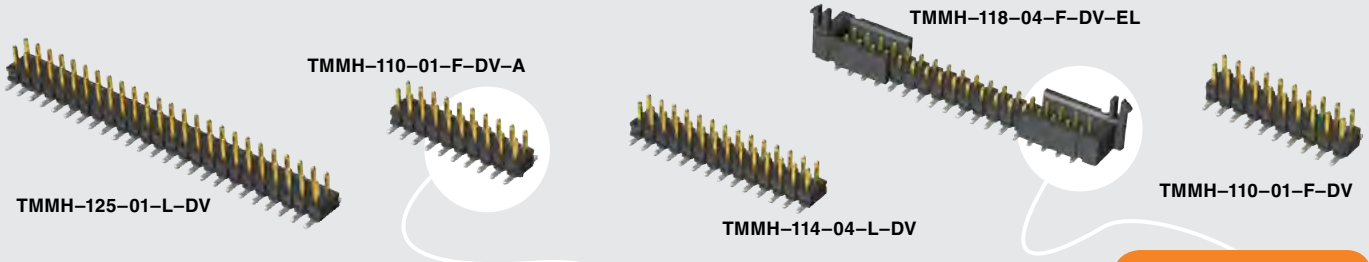




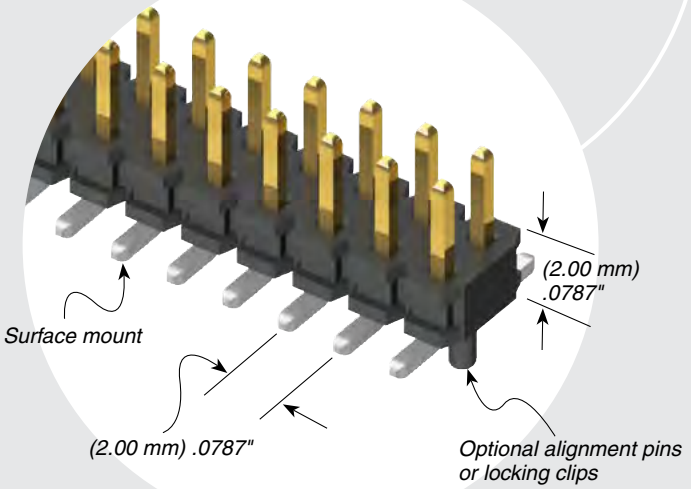


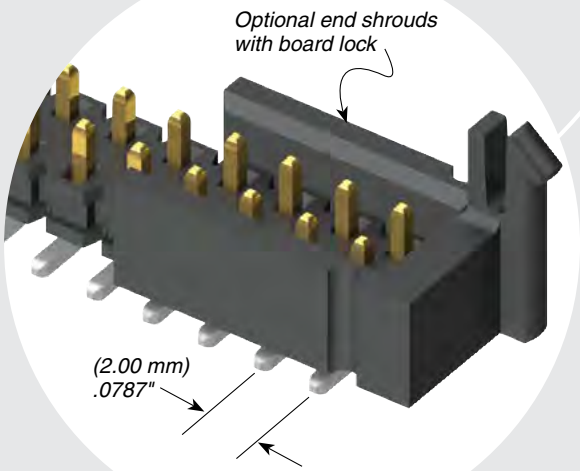
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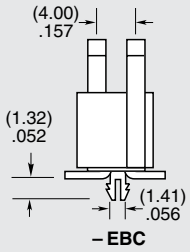
TMMH SERIES



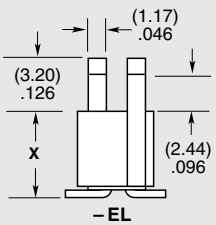


DV

LEAD STYLE	X	Y
–01	(5.84) .230	(4.45) .175
–04 & –05	(4.50) .177	(3.02) .119



– EBC



– EL

FLEX SHROUD OPTIONS

All Flex Shroud options require 9 pins/row minimum
(For board-to-board interfaces. Will not mate with TCSD)

–ES
= End Shroud
(For best cost also see TSH Series)

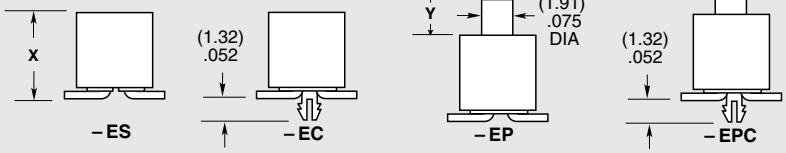
–EC
= End Shroud with Locking Clip
(For best cost also see TSH Series)
(Manual placement required)

–EP
= End Shroud with Guide Post

–EL
= End Shroud with Board Lock
(Boards are positively locked and cannot be unmated)

–EBC
= End Shroud with Board Lock and Locking Clip
(Boards are positively locked and cannot be unmated)

–EPC
= End Shroud with Guide Post and Locking Clip
(Manual placement required)



– ES – EC – EP – EPC

OTHER OPTIONS

–"XXX"
= Polarized Position. Specify position of omitted pin

–A
= Alignment Pin
(3 positions minimum)
(Not available with -LC)

–LC
= Locking Clip
(5 positions minimum)
(Not available with -A)
(Manual placement required)

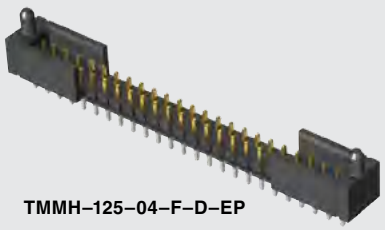
–M
= Pick & Place Pad
(5 positions minimum)

–TR
= Tape & Reel Packaging
(36 positions maximum)
(Flex Shroud options not available
except –ES, –EP & –EL)

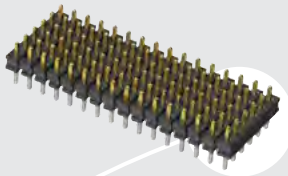
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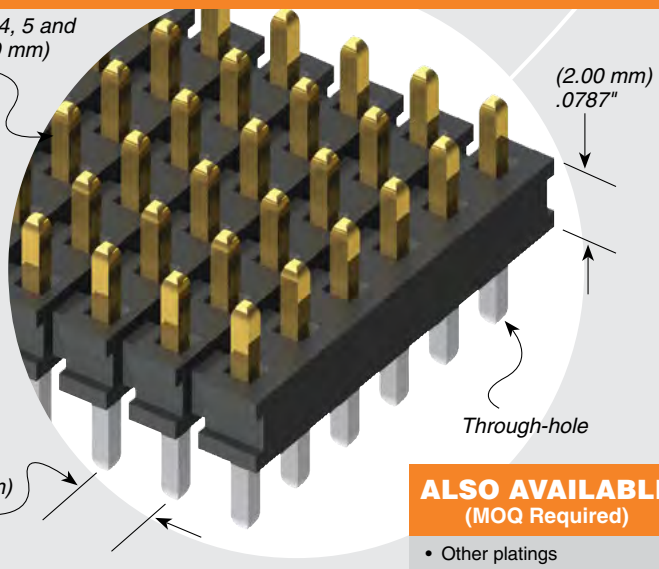
TMMH–125–04–F–D–EP



TMMH–116–04–L–6

(2.00 mm) .0787"

FLEXIBLE THROUGH-HOLE HEADER



SPECIFICATIONS

For complete specifications see www.samtec.com?TMMH

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (TMMH/ESQT):
4.5 A per pin
(2 pins powered)
Current Rating (TMMH/SQT):
5.1 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
281 VAC mated with SQW;
250 VAC mated with SQT
RoHS Compliant:
Yes
Lead–Free Solderable: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

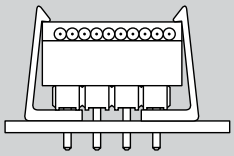
Note:
Some lengths, styles and options are non-standard, non-returnable.

Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

Cable Mates:
TCSD

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

APPLICATION



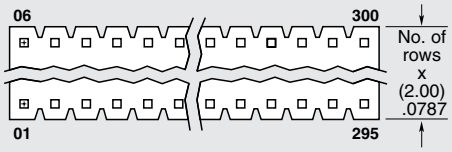
Retention Clip Option (–RC)

ALSO AVAILABLE (MOQ Required)

- Other platings

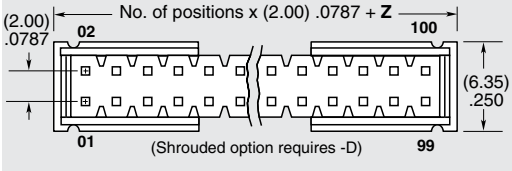
Contact Samtec.

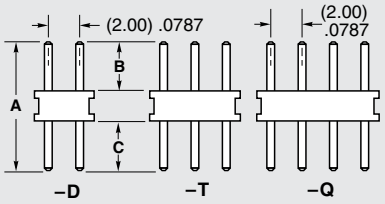
TMMH	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION
			03 thru 50		Specify LEAD STYLE from chart		–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –T = Matte Tin

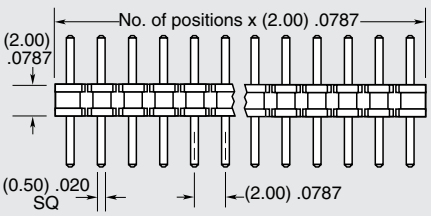


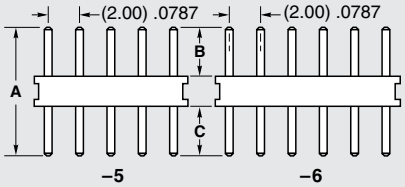
OPTION	Z
–ES	(2.92) .115
–EC	(4.70) .185
–EP & –EPC	(6.10) .240
–EL & –EBC	(4.45) .175

LEAD STYLE	A	B	C
–01	(7.67) .302	(3.20) .126	(2.46) .097
–04	(6.45) .254	(1.91) .075	(2.57) .101
–05	(5.94) .234	(1.65) .065	(2.29) .090
–06	(8.74) .344	(3.20) .126	(3.53) .139



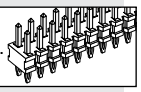




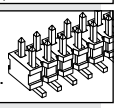


Other Solutions

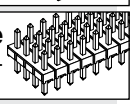
Press-fit
See PTT Series.



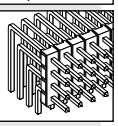
Surface Mount
See previous page.



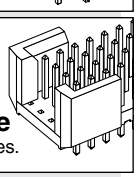
Low Profile
See TMM Series.



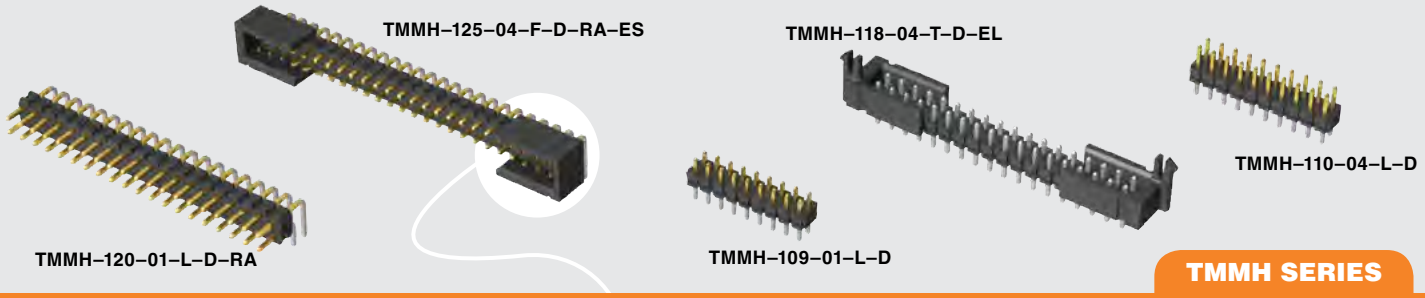
Right-angle Four Row
See TMM Series.



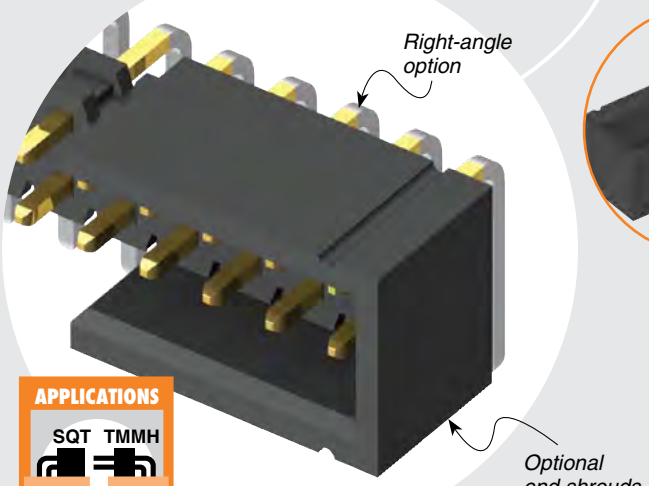
Shrouded Four Row Vertical & Right-angle
See TMMS Series.



Paste In Hole (PIH) processing. Contact Samtec ASP Group for part customization.

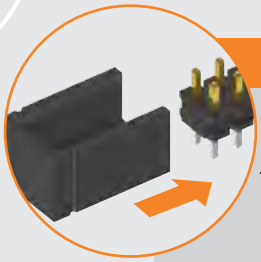


TMMH SERIES

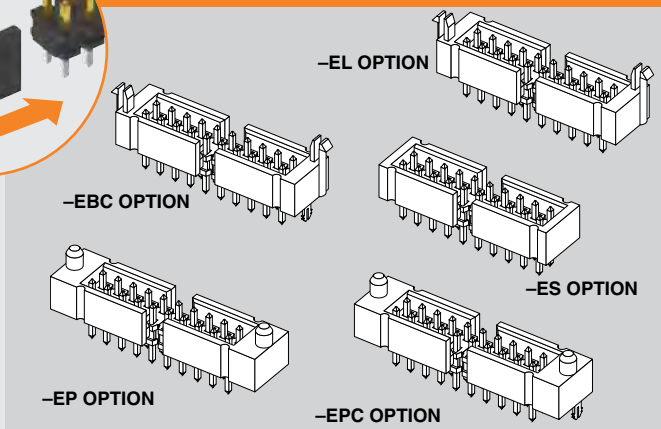


APPLICATIONS





FLEX SHROUD OPTIONS



ROW OPTION

–D
= Double Row
(Required for Flex Shroud option)

–T
= Triple Row

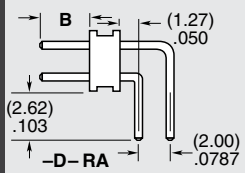
–Q
= Four Row

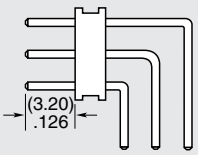
–5
= Five Row

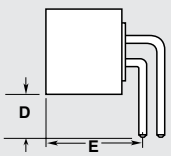
–6
= Six Row

TAIL OPTION

–RA
= Right-angle
(Double & Triple Row only)
(–ES, –EP, –EL Double Row only)
(–EC, –EBC and –EPC not available)
(–06 Lead style not available)

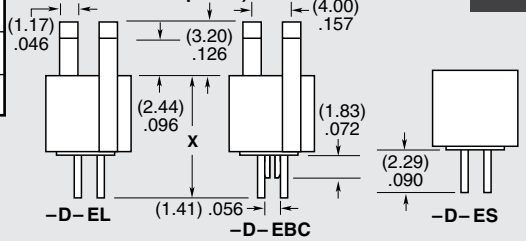






LEAD STYLE	D	E
–01	(2.34) .092	(6.60) .260
–04	(2.62) .103	(5.26) .207
–05	(3.12) .123	(5.26) .207

LEAD STYLE	X	Y
–01	(5.84) .230	(4.45) .175
–04 & –05	(4.50) .177	(3.02) .119



FLEX SHROUD OPTIONS

Flex Shroud requires -D row & 9 pins/row minimum
(For board-to-board interfaces. Will not mate with TCSD)

–ES
= End Shroud

–EC
= End Shroud with Locking Clip
(Manual placement required)

–EP
= End Shroud with Guide Post

–EL
= End Shroud with Board Lock
(Boards are positively locked and cannot be unmated)

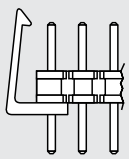
–EBC
= End Shroud with Board Lock and Locking Clip
(Boards are positively locked and cannot be unmated)

–EPC
= End Shroud with Guide Post and Locking Clip
(Manual placement required)

OTHER OPTIONS

–"XXX"
= Polarized Position
(Specify position of omitted pin)

–RC
= Retention Clip
(Mates to TCSD)
(Double row only, minimum position 4 and available only –06 lead style)



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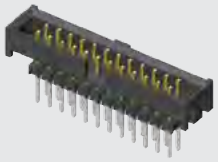
samtec

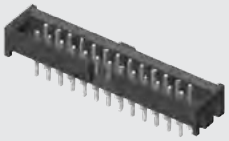
FLEX STACK



LTMM–110–02–F–D–RA

ZLTMM–112–75–L–D–285





LTMM–113–02–T–D

(2.00 mm) .0787"

LTMM, ZLTMM SERIES

SHROUDED HEADER & STACKER

Mates with:
SQT, SQW, ESQT, SMM

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LTMM or www.samtec.com?ZLTMM

Insulator Material:
High Temperature Nylon
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

- Shrouded IDC headers and stackers to mate with TCSD Series. See STMM and ZSTMM Series.

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings

Contact Samtec.

Note: This Series is non-standard, non-returnable.

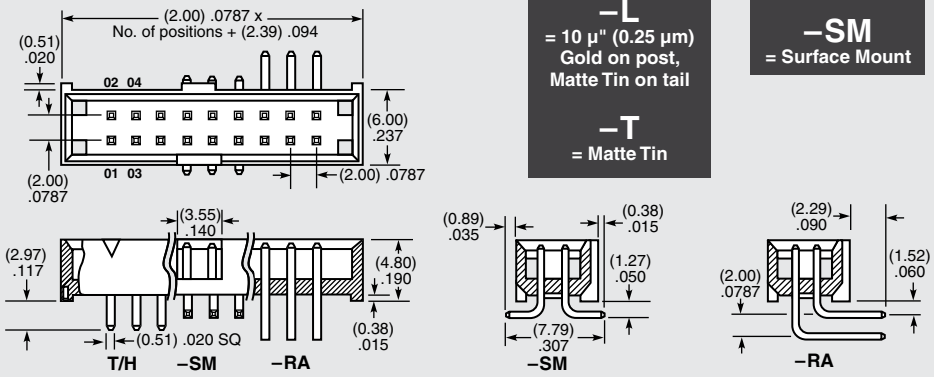
LTMM – 1 – NO. PINS PER ROW – 02 – PLATING OPTION – D – TAIL OPTION – OTHER OPTION

NO. PINS PER ROW: 04, 05, 06, 07, 08, 10, 12, 13, 15, 17, 20, 22, 25 (Standard sizes)

PLATING OPTION:
- –F = Gold flash on post, Matte Tin on tail
- –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail
- –T = Matte Tin

TAIL OPTION:
- Leave blank for Through-hole
- –RA = Right-angle
- –SM = Surface Mount

OTHER OPTION:
- –"XX" = Polarized Position
- –LC = Locking Clip (-SM only) (Manual placement required)
- –K = (7.50 mm) .295" DIA Film Pick & Place Pad (-SM only)
- –TR = Tape & Reel (–SM only)



ZLTMM – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – BODY HEIGHT – OTHER OPTION

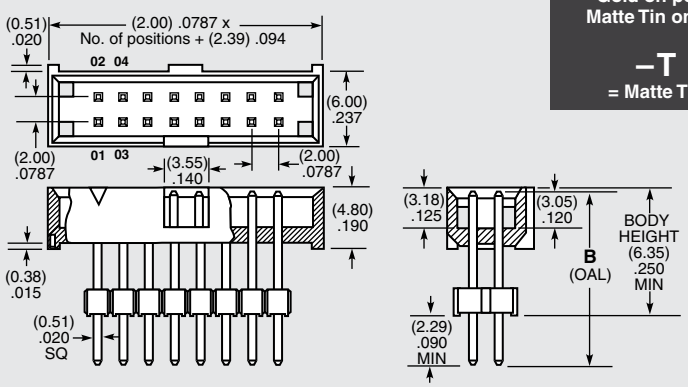
NO. PINS PER ROW: 04, 05, 06, 07, 08, 10, 12, 13, 15, 17, 20, 22, 25 (Standard sizes)

LEAD STYLE: Specify LEAD STYLE from chart.

PLATING OPTION:
- –F = Gold flash on post, Matte Tin on tail
- –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail
- –T = Matte Tin

BODY HEIGHT: –"XXX" = Body Height

OTHER OPTION: –"XX" = Polarized Position



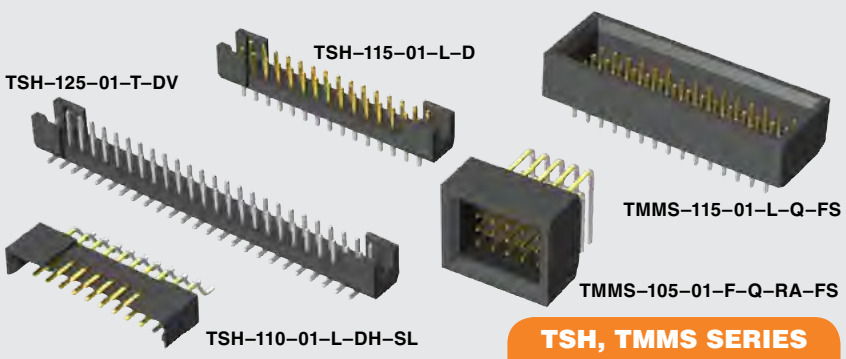
LEAD STYLE	B (OAL)	MAX BODY HEIGHT
–75	(9.58) 0.377	(7.42) 0.292
–62	(10.08) 0.397	(7.92) 0.312
–65	(10.49) 0.413	(8.33) 0.328
–73	(12.09) 0.476	(9.93) 0.391
–63	(14.10) 0.555	(11.94) 0.470
–66	(15.09) 0.594	(12.93) 0.509
–69	(15.60) 0.614	(13.44) 0.529
–74	(17.09) 0.673	(14.94) 0.588
–70	(17.60) 0.693	(15.44) 0.608
–71	(21.08) 0.830	(18.92) 0.745
–72	(21.62) 0.851	(19.46) 0.766

Note: For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec



(2.00 mm) .0787"

TSH, TMMS SERIES

SHROUDED HEADERS

Mates with:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS, PTF

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TSH

Insulator Material: Black Liquid Crystal Polymer
Terminal Material: Phosphor Bronze
Plating: Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +105 °C with Tin; -55 °C to +125 °C with Gold
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable: Yes
SMT Lead Coplanarity: (0.15 mm) .006" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note: Some lengths, styles and options are non-standard, non-returnable.

TSH – 1 – NO. PINS PER ROW – 01 – PLATING OPTION – ROW OPTION – OTHER OPTION

05, 10, 15, 20, 25, 30, 35, 40, 45
(40 & 45 = –D & -RA only)
(Standard sizes)

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

–D
= Vertical Through-hole

–DV
= Vertical Surface Mount

–RA
= Right-angle Through-hole

–DH
= Horizontal Surface Mount

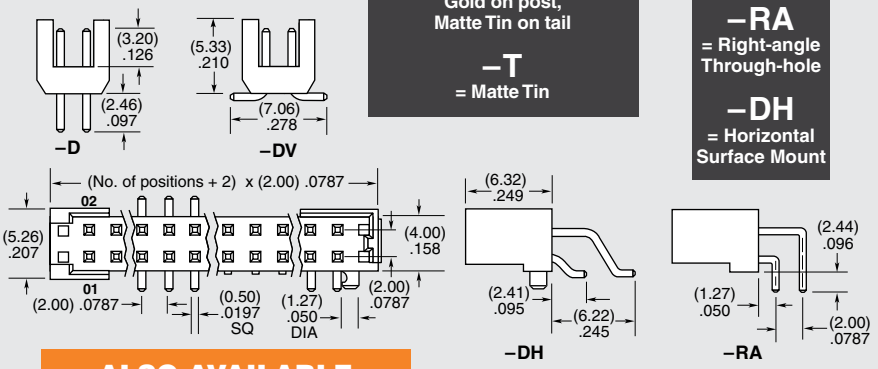
–LC
= Locking Clip (–DV only) (N/A with -A) (Manual placement required)

–A
= Alignment Pin (–DV only) (N/A with -LC)

–SL
= Solder Locks (–DH only)

–K
= (4.50 mm) .177" DIA Polyimide Film Pick & Place Pad (N/A with 15 - 30 positions) (–DH only)

–TR
= Tape & Reel



ALSO AVAILABLE
(MOQ Required)

- Other sizes and platings
  Contact Samtec.

Mates with:
SQT, SQW, ESQT

SPECIFICATIONS

For complete specifications see www.samtec.com?TMMS

Insulator Material: Black LCP
Terminal Material: Phosphor Bronze
Plating: Sn or Au over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +105 °C with Tin; -55 °C to +125 °C with Gold
RoHS Compliant: Yes
Lead–Free Solderable: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note: Some lengths, styles and options are non-standard, non-returnable.

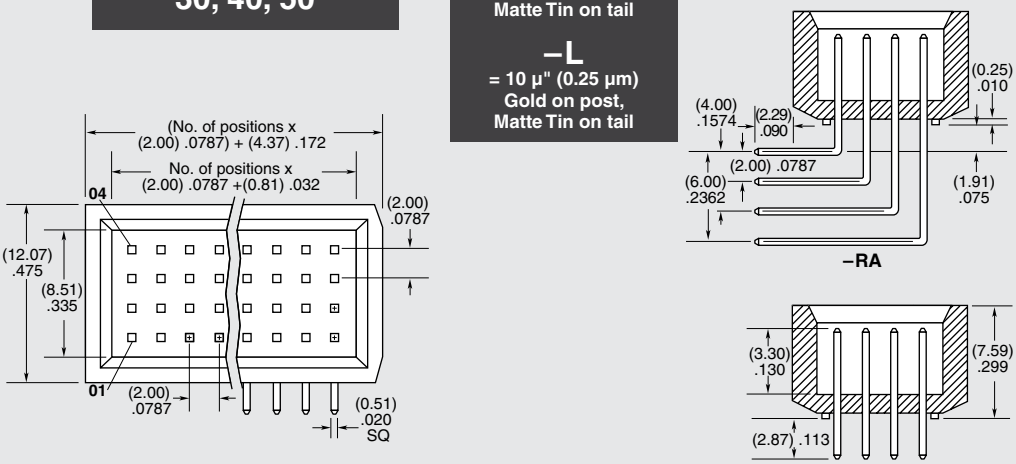
TMMS – 1 – NO. PINS PER ROW – 01 – PLATING OPTION – Q – OPTION – FS

05, 10, 15, 20, 30, 40, 50

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–RA
= Right-angle

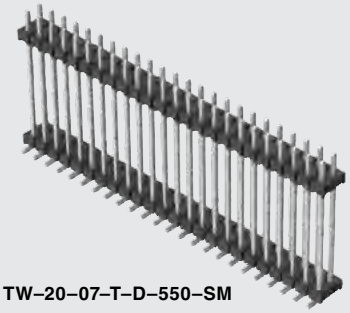


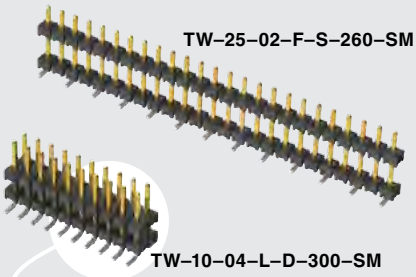
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samtec

FLEX STACK





(2.00 mm) .0787"

TW SERIES

SMT BOARD STACKERS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TW-SM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating:
4.9 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

- Other platings
- End shrouds with or without guide post

Contact Samtec.

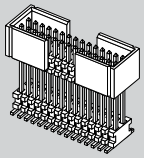
Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

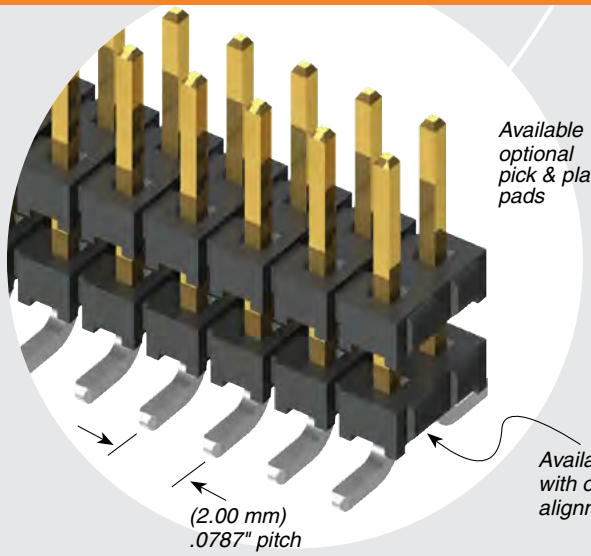
Cable Mates:
TCSD

OTHER SOLUTIONS

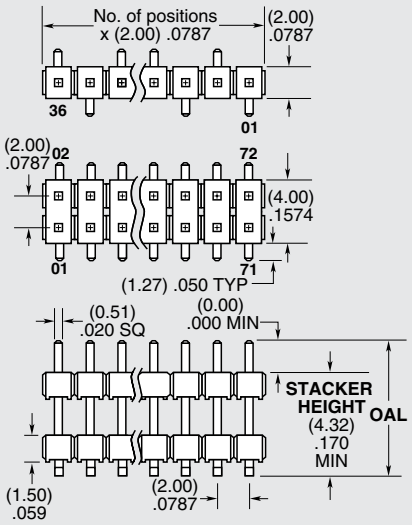
- Stacker height ranges and standard part numbers on double row.

Contact Samtec

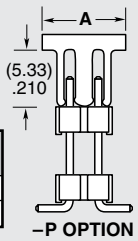




TW	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	STACKER HEIGHT	SM	OTHER OPTIONS
	02 thru 36	Specify LEAD STYLE from chart below.	–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –T = Matte Tin	–S = Single Row –D = Double Row	–"XXX" = Stacker Height in inches (0.13 mm) .005" increments Example: –250 = (6.35 mm) .250"		–"XXX" = Polarized Position –A = Alignment Pin (Metal or plastic at Samtec discretion) (4.83 mm) .190" min. board space (–D only) –P = Pick & Place Pad (1.91 mm) .075" min. post height (04-36 only) –TR = Tape & Reel Packaging (–07 lead style not available) (–06 lead style with –P option not available as a standard)

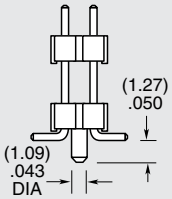


LEAD STYLE	OAL
–02	(7.85) .309
–03	(11.86) .467
–04	(12.37) .487
–06	(15.37) .605
–07	(17.35) .683
–09	(9.86) .388



–P OPTION

ROW OPTION	A
–S	(5.08) .200
–D	(6.35) .250



–A OPTION

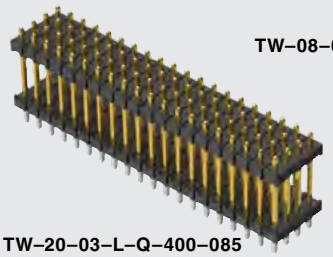
Note: For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

Note: This Series is non-standard, non-returnable.

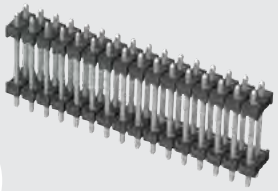
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(2.00 mm) .0787"

TW SERIES

THROUGH-HOLE BOARD STACKERS

SPECIFICATIONS

For complete specifications see www.samtec.com?TW-TH

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating:
5.2 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

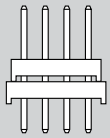
Note: For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

Note: This Series is non-standard, non-returnable.

Board Mates:
CLT, SQT, SQW, ESQT, TLE, SMM, MMS

Cable Mates:
TCSD

OTHER SOLUTIONS

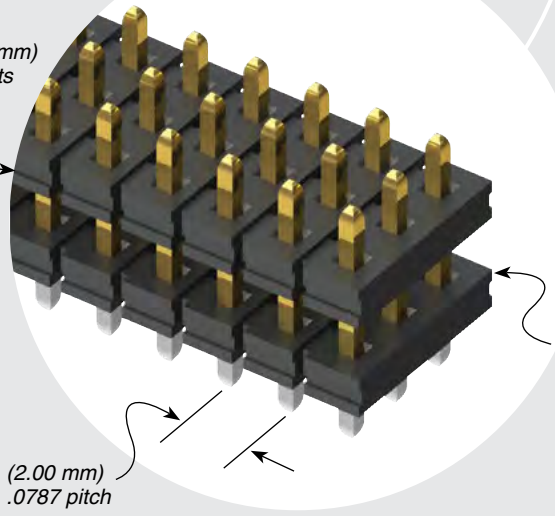


Paste In Hole (PIH) processing.
Contact Samtec ASP Group.

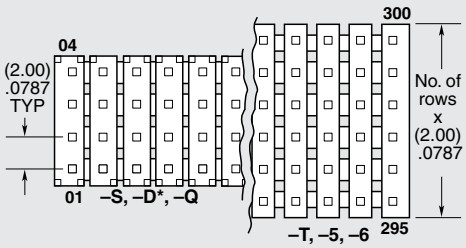
ALSO AVAILABLE
(MOQ Required)

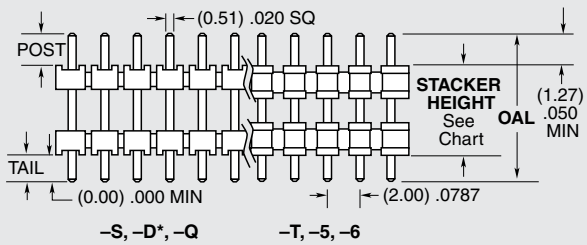
- Other platings

Contact Samtec.



TW	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	STACKER HEIGHT	TAIL SPEC
	02 thru 50	Specify LEAD STYLE from chart below.	–F = Gold flash on post, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail –T = Matte Tin	–S = Single Row –D = Double Row –T = Triple Row –Q = Four Row –5 = Five Row –6 = Six Row	–"XXX" = Stacker Height in inches (0.13 mm) .005" increments Example: –250 = (6.35 mm) .250"	–"XXX" = Tail Length in inches (0.13 mm) .005" increments Example: -150 = (3.81 mm) .150" –"XXX" = Polarized Position (Specify position to be removed)





LEAD STYLE	OAL
–01	(8.20) .323
–02	(9.60) .377
–03	(13.60) .535
–04	(14.10) .555
–05	(15.10) .594
–06	(17.10) .673
–07	(19.10) .751
*–08	(21.10) .830
–09	(11.60) .456
–10	(15.60) .614
–11	(10.08) .397
*–12	(28.19) 1.110

*Style –08 & –12 = S & D only

ROW OPTION	STACKER HEIGHT
–S, –D*, & –Q	(3.05) .120 MIN
–T, –5, –6	(4.06) .160 MIN

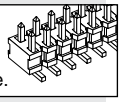
*–D with stacker height greater than (4.06 mm) .160" will not have standoffs.

Other Solutions

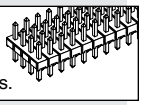
2 mm Shunt
See 2SN Series.



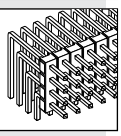
Surface Mount
See previous page.



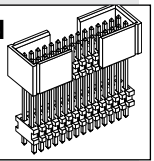
Low Profile
See TMM Series.



Right-angle
See TMM Series.



Shrouded Double Row
See ZLTMM Series.



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(2.00 mm) .0787"

PTT, PTF SERIES

PRESS-FIT HEADERS & SOCKETS

PTT Mates with:
PTF, ESQT, PTHF, SQW, SQT, SMM

PTF Mates with:
PTT, TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM

SPECIFICATIONS

For complete specifications see www.samtec.com?PTT or www.samtec.com?PTF

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
2.9 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(2.67 mm) .105" to
(3.56 mm) .140"
Normal Force:
60 grams (0.59 N) average
Max Cycles:
100 with 30 µ" (0.76 µm) Au
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

TOOLING

- Press-fit tooling

Contact Samtec.

ALSO AVAILABLE (MOQ Required)

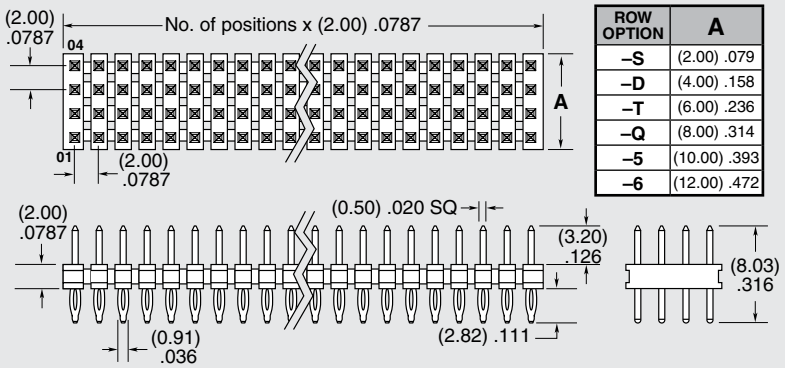
- Other platings

Contact Samtec.

Note: Some sizes, styles and options are non-standard, non-returnable.

PTT – 1 – NO. PINS PER ROW – 01 – PLATING OPTION – ROW OPTION – OPTION

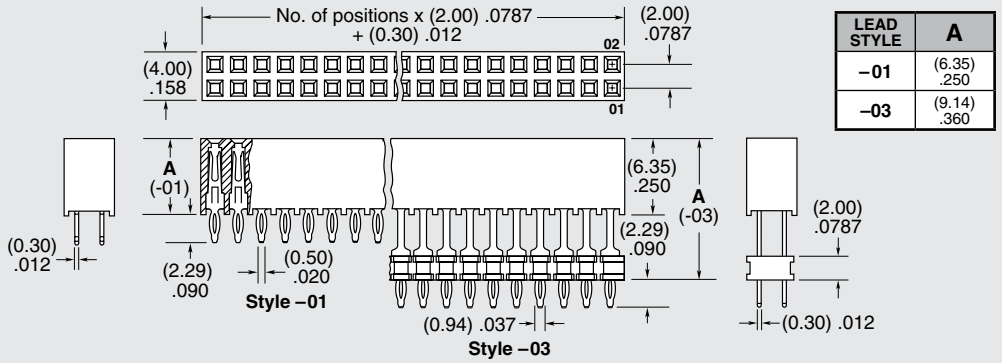
- NO. PINS PER ROW: 02 thru 50
- PLATING OPTION: –L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail
- ROW OPTION:
  - –S = Single Row
  - –D = Double Row
  - –T = Triple Row
  - –Q = Four Row
  - –5 = Five Row
  - –6 = Six Row
- OPTION: –"XXX" = Polarized Position



ROW OPTION	A
–S	(2.00) .079
–D	(4.00) .158
–T	(6.00) .236
–Q	(8.00) .314
–5	(10.00) .393
–6	(12.00) .472

PTF – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – OPTION

- NO. PINS PER ROW: 02 thru 50
- LEAD STYLE: Specify LEAD STYLE from chart
- PLATING OPTION: –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail
- OPTION: –"XXX" = Polarized Position

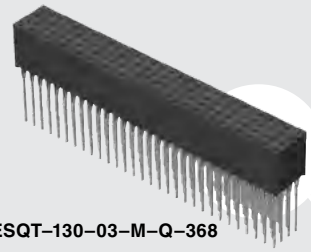


LEAD STYLE	A
–01	(6.35) .250
–03	(9.14) .360

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(2.00 mm) .0787"

ESQT (-368), PTHF SERIES

PC/104-PLUS™ SELF-NESTING SOCKETS

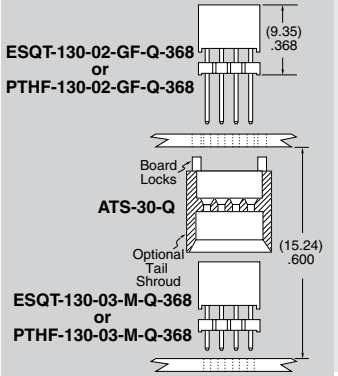
SPECIFICATIONS

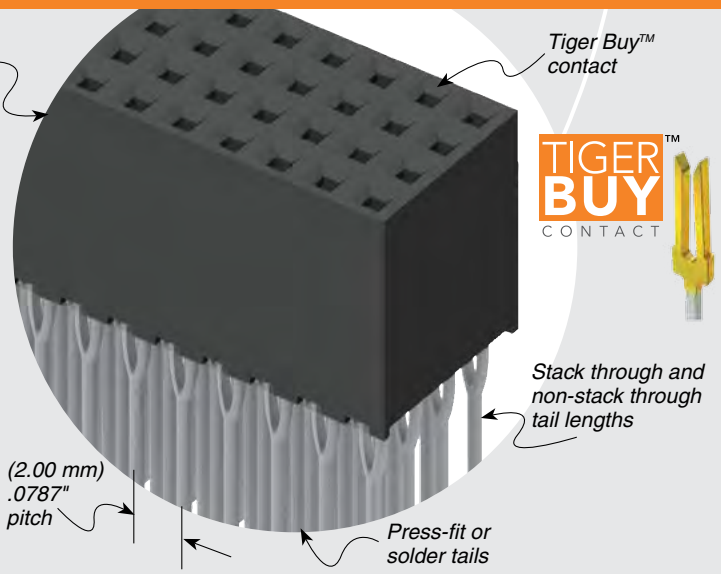
For complete specifications and recommended PCB layouts see www.samtec.com?ESQT or www.samtec.com?PTHF

Insulator Material:
Black Liquid Crystal Polymer (ESQT)
Black High Temp Nylon (PTHF)
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Normal Force:
60 grams (0.59 N) average
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes (ESQT)

Mates with:
ESQT, PTHF

APPLICATIONS





RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

TYPE STRIP	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	Q	–	368
ESQT = Solder Tails **PTHF** = Press-fit Tails			30		Specify LEAD STYLE from chart		**–GF** = 15 µ" (0.38 µm) Gold on contact, Gold flash on tail (–02 Lead Style only) **–M** = 20 µ" (0.51 µm) Gold on contact, Matte Tin on tail (–03 Lead Style only)				

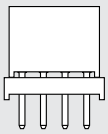
LEAD STYLE	ESQT A	ESQT B	PTHF A	PTHF B
–02	(21.59) .850	(12.24) .482	(21.59) .850	(12.24) .482
–03	(11.63) .458	(2.29) .090	(12.34) .486	(3.00) .118

TOOLING

- Press-fit tooling

Contact Samtec.

OTHER SOLUTIONS

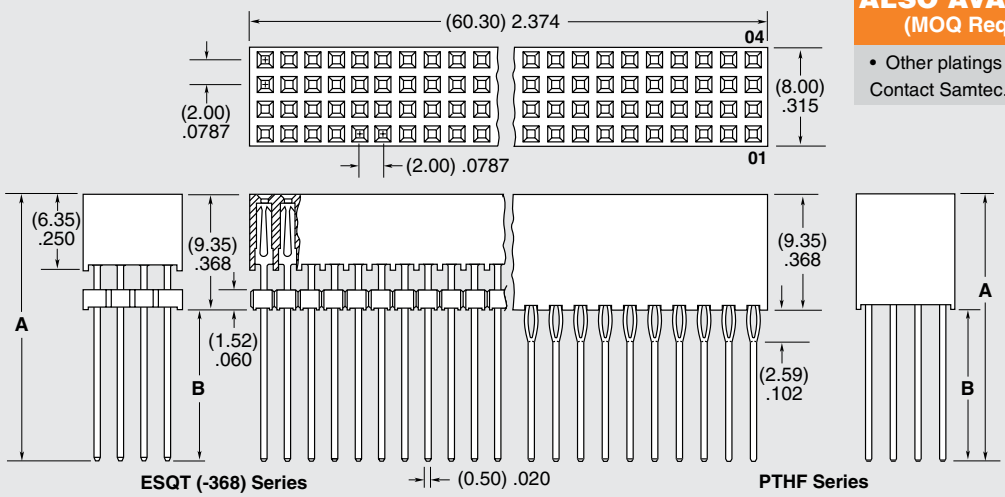


Paste In Hole (PIH) processing.
Contact Samtec ASP Group.
(Not recommended for stack through applications)
ESQT only.

ALSO AVAILABLE
(MOQ Required)

- Other platings

Contact Samtec.

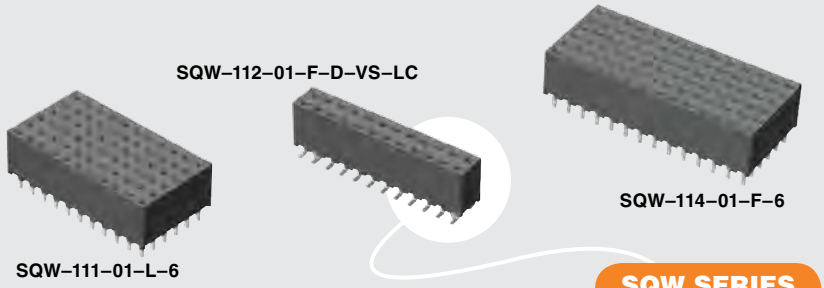


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(2.00 mm) .0787"

SQW SERIES

COST-EFFECTIVE RUGGED SOCKETS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SQW

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (SQW/TMMH):
3.8 A per pin
(2 pins powered)
Voltage Rating:
281 VAC mated with TMM;
250 VAC mated with TMMH
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(2.62 mm) .103" to
(5.03 mm) .198" with
(0.38 mm) .015" wipe
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes, for -D & -D-VS
(Wave only for -T, -Q, -5 & -6)
SMT Lead Coplanarity:
(0.15 mm) .006" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

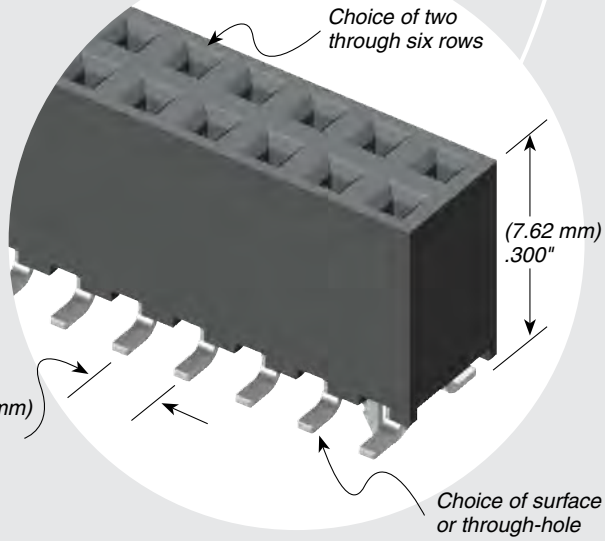
FILE NO. E111594

FILE NO: 090871_0_000

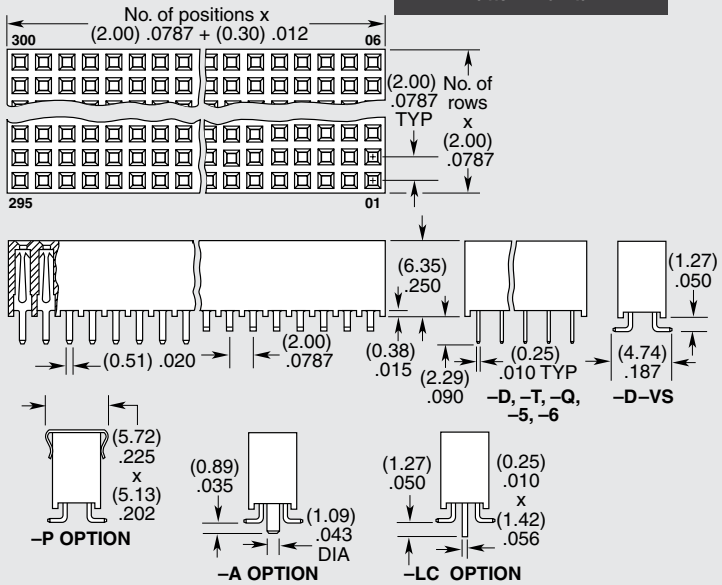
Board Mates:
TMMH, TMM, MTMM, MMT, TW, TSH, LTMM, PTT

Cable Mates:
TCMD

TIGER BUY™ CONTACT



SQW	– 1	NO. PINS PER ROW	– 01	– PLATING OPTION	– ROW OPTION	– OPTION
		02 thru 50		–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	–D = Double Row –D–VS = Double Row Surface Mount –T = Triple Row –Q = Four Row –5 = Five Row –6 = Six Row	–"XXX" = Polarized Position –D–VS only options: –A = Alignment Pin (5 positions minimum) Metal or plastic at Samtec discretion. (N/A with -LC) –LC = Locking Clip (5 positions minimum) (N/A with -A) (Manual placement required) –K = (4.25 mm) .167" DIA Polyimide Film Pick & Place Pad (4 positions minimum) –P = Pick & Place Pad (4 positions minimum) –TR = Tape & Reel Packaging (4 thru 28 positions only)

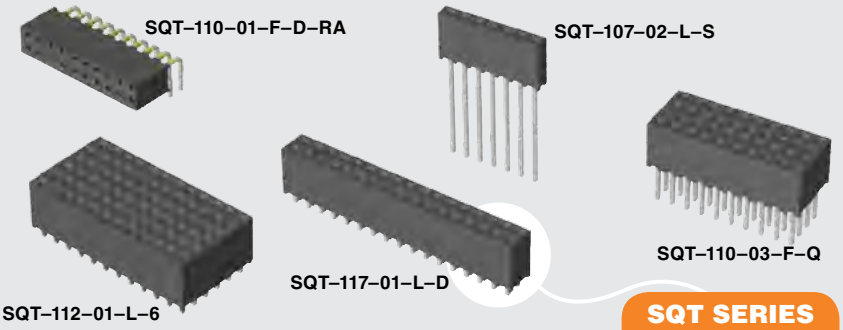


Note: Some lengths, styles and options are non-standard, non-returnable.

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(2.00 mm) .0787"

SQT SERIES

COST-EFFECTIVE RUGGED SOCKETS

SPECIFICATIONS

For complete specifications see www.samtec.com?SQT

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating (TMMH/SQT):
5.1 A per pin
(2 pins powered)
Voltage Rating:
281 VAC mated with TMM;
250 VAC mated with TMMH
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(2.62 mm) .103" to
(5.03 mm) .198"
Normal Force:
60 grams (0.59 N) average
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

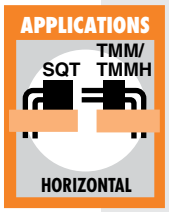
FILE NO. E111594

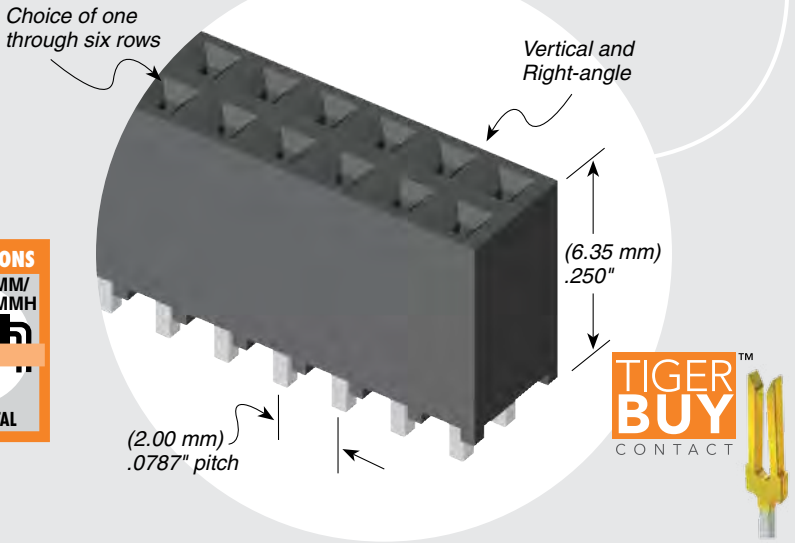
FILE NO: 090871_0_000

Note: Some lengths, styles and options are non-standard, non-returnable.

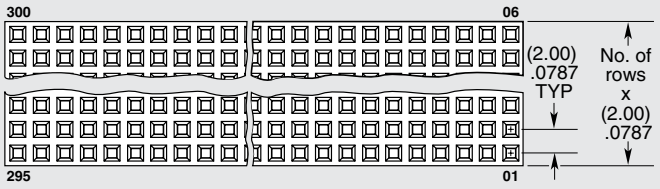
Board Mates:
TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, ESQT, PTT, TSH

Cable Mates:
TCMD

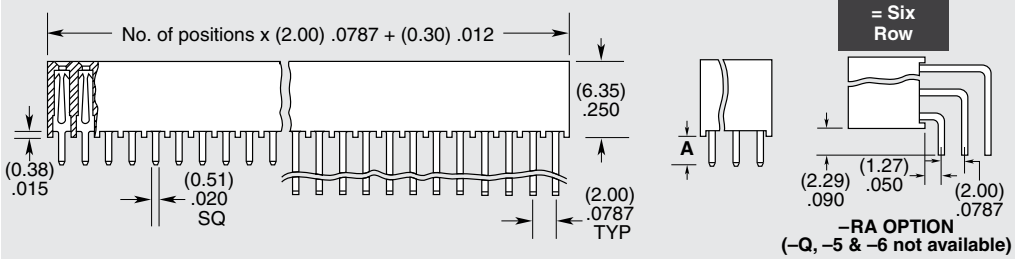




SQT	– 1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OTHER OPTION
		02 thru 50	Specify LEAD STYLE from chart	–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail	–S = Single Row –D = Double Row –T = Triple Row –Q = Four Row –5 = Five Row –6 = Six Row	–RA = Right-angle (–Q, –5 & –6 Row not available) (Lead Style –01 only) –"XXX" = Polarized Position (Indicate position number)



LEAD STYLE	A
–01	(2.29) .090
–02	(15.24) .600
–03	(5.28) .208



Other Solutions

Elevated
See ESQT Series.

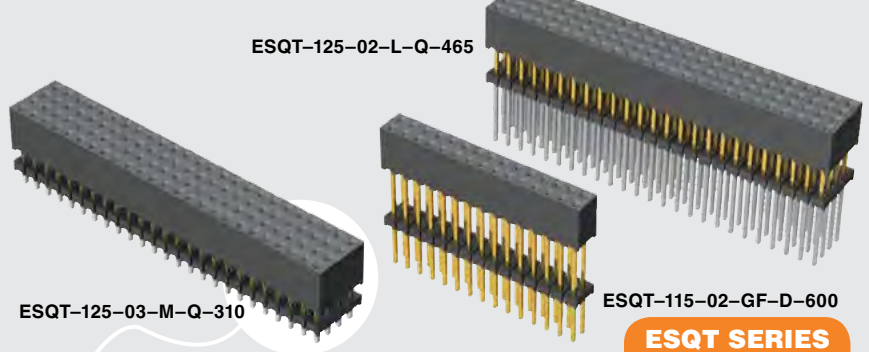
Surface Mount
See SQW and TLE Series.

Low Profile
See CLT Series.

High Reliability
See SMM Series.

Press-Fit
See PTF Series.

samtec



(2.00 mm) .0787"

ESQT SERIES

FLEXIBLE ELEVATED SOCKET STRIPS

SPECIFICATIONS

For complete specifications see www.samtec.com?ESQT

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (ESQT/TMMH):
4.5 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(2.62 mm) .103" to
(5.03 mm) .198" with
(0.38 mm) .015" wipe
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes, for -S, -D & -Q
(Wave only for -T, -5 & -6)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

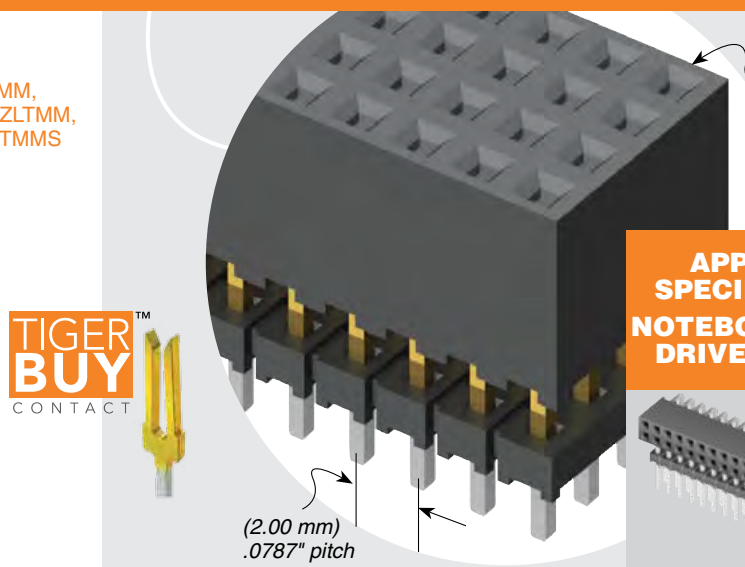
FILE NO: 090871_0_000

Note: This Series is non-standard, non-returnable.

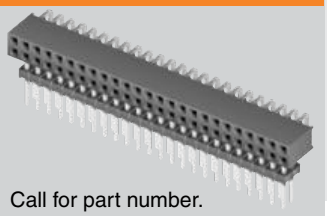
Board Mates:
TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, ESQT, PTT, TSH, TMMS

Cable Mates:
TCMD

TIGER BUY™ CONTACT

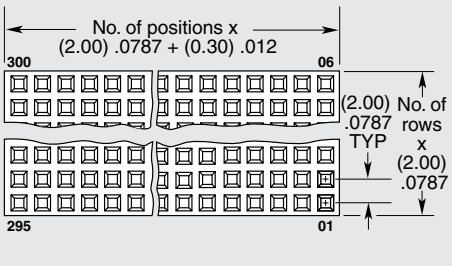


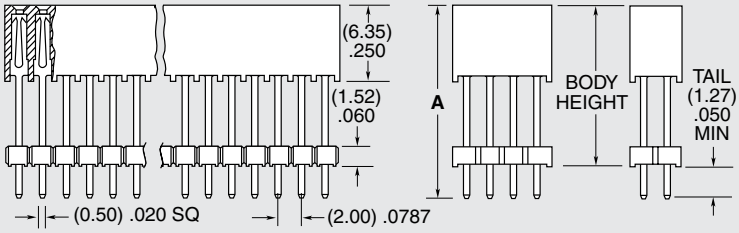
APPLICATION SPECIFIC OPTION:
NOTEBOOK 2.5" DISK DRIVE INTERFACE



Call for part number.

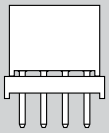
ESQT	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	BODY HEIGHT	OTHER OPTION
		02 thru 50	Specify LEAD STYLE from chart	–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –M = 20 µ" (0.51 µm) Gold on contact, Matte Tin on tail –GF = 15 µ" (0.38 µm) Gold on contact, Gold flash on tail (Recommended for self-nesting) (–02 lead style only)	–S = Single Row –D = Double Row –T = Triple Row –Q = Quad Row –5 = Five Row –6 = Six Row	–"XXX" = Body Height (in inches) (7.87 mm) .310" minimum for –S, –D, –Q (9.53 mm) .375" minimum for –T, –5, –6	–"XXX" = Polarized Position (Indicate position number)





LEAD STYLE	A	MAX TAIL	MAX BODY HEIGHT
–02	(21.59) .850	(13.72) .540	(20.32) .800
–03	(11.63) .458	(3.76) .148	(10.36) .408

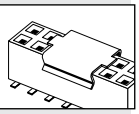
OTHER SOLUTIONS



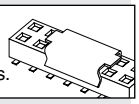
Paste In Hole (PIH) processing. Contact Samtec ASP Group.
(Not recommended for stack through applications)

Other Solutions

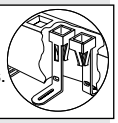
Surface Mount
See SQW and TLE Series.



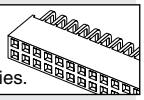
Low Profile
See CLT Series.



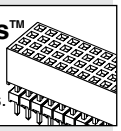
High Reliability
See SMM Series.



Right-Angle
See SQW Series.



PC/104-Plus™ Sockets
See ESQT-368 and PTHF Series.

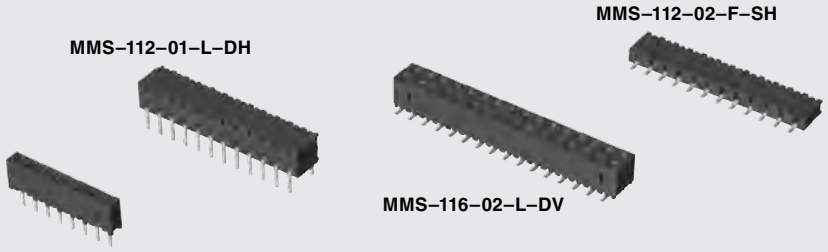


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TIGER™ CLAW CONTACT



(2.00 mm) .0787"

MMS SERIES

TIGER CLAW™ SOCKET STRIP

Board Mates:
TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, TSH

Cable Mates:
TCMD

SPECIFICATIONS

For complete specifications see www.samtec.com?MMS

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Current Rating (MMS/TMM):
3.9 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
DH = (2.13 mm) .084" to (2.79 mm) .110",
SH = (2.13 mm) .084" minimum or pass-through
Top Entry DV/SV = (2.13 mm) .084" to (4.32 mm) .170"
Bottom Entry DV/SV = (4.27 mm) .168" minimum (Plus board)
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594 FILE NO: 090871_0_000

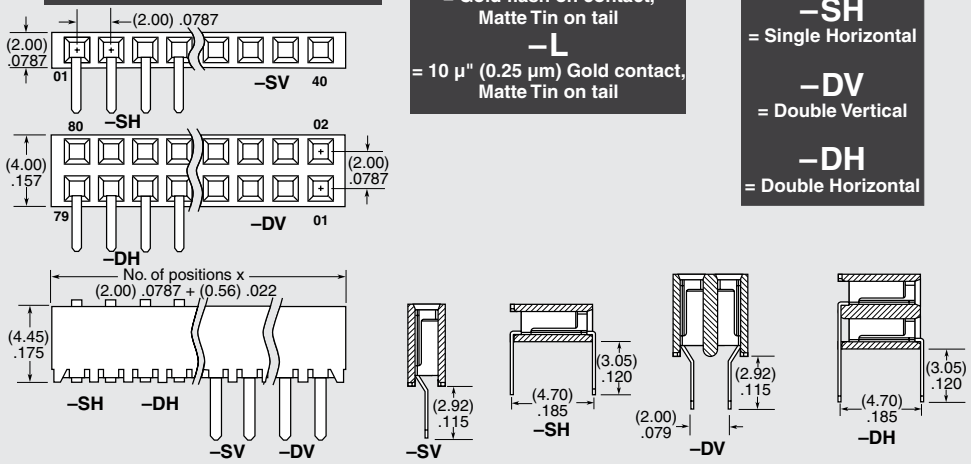
ALSO AVAILABLE (MOQ Required)

- Alignment Pin (–DV only)
- Locking clips and Through-hole pass-through options
- Other platings

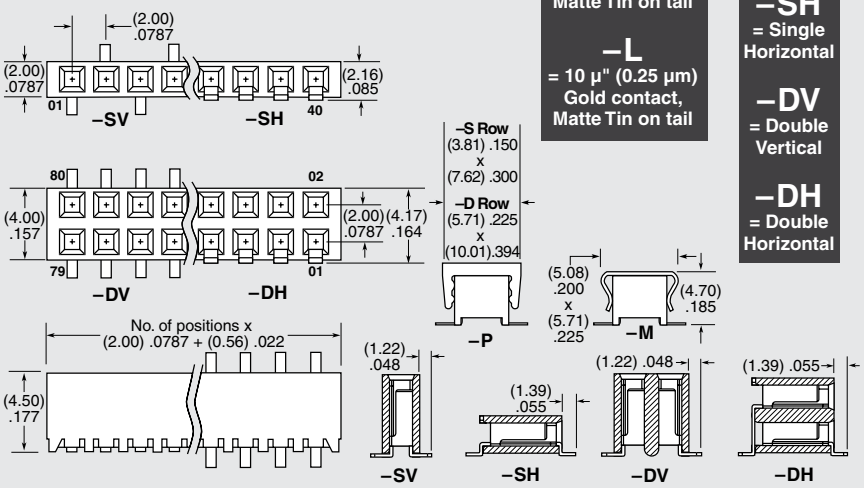
Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

MMS	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION
			02 thru 40				–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail		–SV = Single Vertical –SH = Single Horizontal –DV = Double Vertical –DH = Double Horizontal		–"XX" = Polarized Position



MMS	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION
			02 thru 40				–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail		–SV = Single Vertical –SH = Single Horizontal –DV = Double Vertical –DH = Double Horizontal		–"XX" = Polarized Position –K = (5.50 mm) .217" DIA Polyimide Film Pick & Place Pad (–SV & –DV only) (–SV= 3 positions min.) (–DV= 4 positions min.) –M = Metal Pick & Place Pad (4 positions min.) (–DV only) –P = Plastic Pick & Place Pad (4 pos. min., –SV only) (5 pos. min., –DV only) –TR = Tape & Reel Packaging

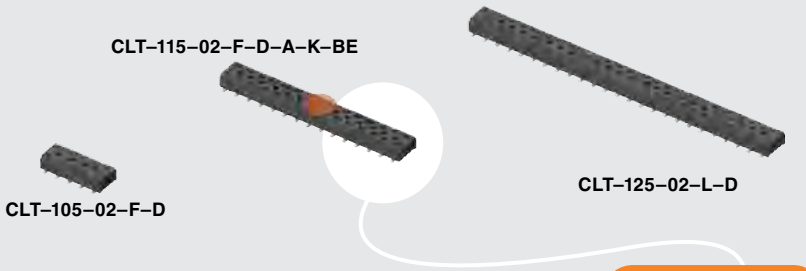


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10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



(2.00 mm) .0787"

CLT SERIES

LOW-PROFILE DUAL WIPE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?CLT

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating: Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating (TMMH/CLT):
4.1 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
Top Entry=
(1.40 mm) .055" minimum
Bottom Entry=
(2.57 mm) .101" minimum
(add board thickness for correct post OAL)
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-25)
(0.15 mm) .006" max (26-34)
(0.20 mm) .008" max (35-50)

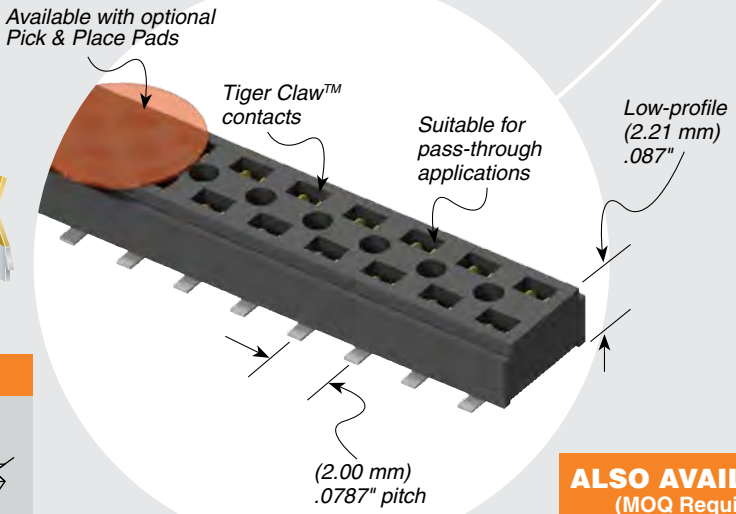
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

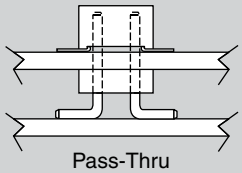
FILE NO. E111594

Mates with:
TMM, TMMH, MTMM, MMT, TW, TSH

TIGER™ CLAW CONTACT



APPLICATION



ALSO AVAILABLE (MOQ Required)

- Other platings

Contact Samtec.

CLT	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	OTHER OPTIONS

02 thru 50

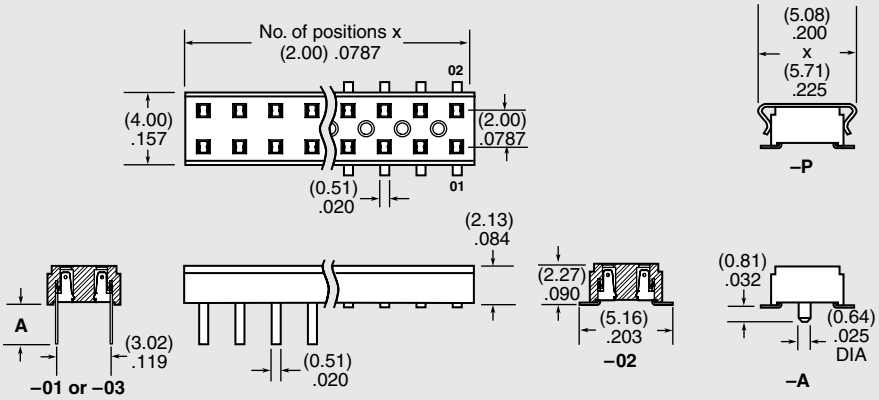
–01 = Through-hole
–02 = Surface Mount
–03 = Through-hole

–F = Gold flash on contact, Matte Tin on tail
–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail
–G = 10 µ" (0.25 µm) Gold on contact, Gold flash on tail

All options require Style –02

–BE = Bottom Entry (Required for bottom entry applications)
–A = Alignment Pin (3 positions minimum) Metal or plastic at Samtec's discretion
–K = (5.00 mm) .197" DIA Polyimide Film Pick & Place Pad (04 thru 50 only)
–P = Pick & Place Pad (4 positions minimum) (Not always necessary for auto placement.)
–TR = Tape & Reel Packaging (36 positions max)

LEAD STYLE	A
–01	(2.16) .085
–03	(2.95) .116



Note: Some lengths, styles and options are non-standard, non-returnable.

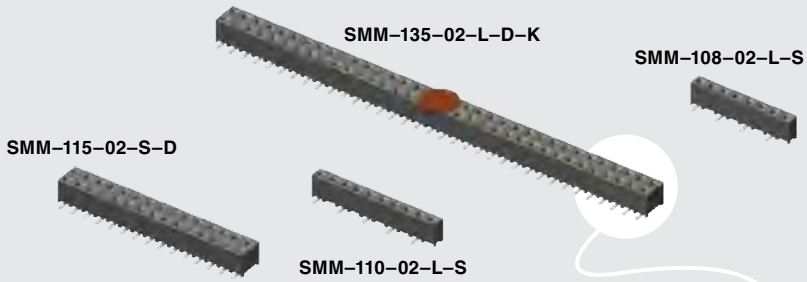
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TIGER™ EYE SYSTEM

(2.00 mm) .0787"



SMM SERIES

TIGER EYE™ SOCKET STRIP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SMM

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating: Sn or Au over 50 µ" (1.27 µm) Ni
Current Rating (TMM/SMM):
3.2 A per pin
(2 pins powered)
Voltage Rating:
350 VAC
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(3.05 mm) .120" to
(3.25 mm) .128"
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

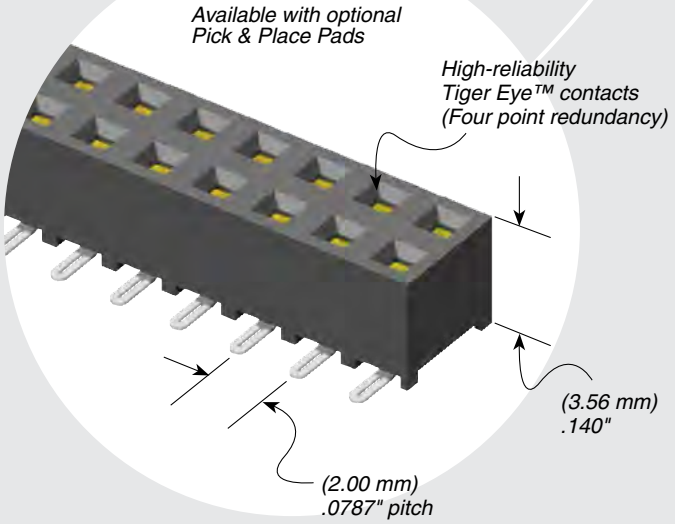
FILE NO. E111594

Board Mates:
TMM, TMMH, MTMM, MMT, LTMM, TW, PTT, ZLTMM

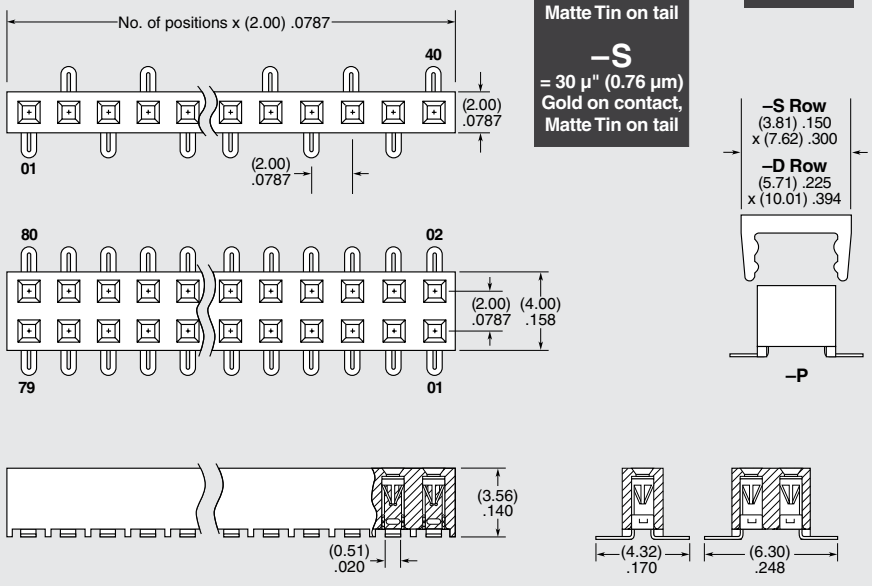
Cable Mates:
TCMD

TIGER™ EYE CONTACT

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



SMM	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION
			02 thru 40				–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail –S = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail		–S = Single Row –D = Double Row		–"XX" = Polarized Position –K = (5.50 mm) .217" DIA Polyimide Film Pick & Place Pad (2 positions minimum, –02 thru –05 requires –TR) –P = Plastic Pick & Place Pad (–02 thru –05 requires –TR) –TR = Tape & Reel Packaging (27 positions maximum)



ALSO AVAILABLE (MOQ Required)

- Locking clip (Manual placement required)
- Other platings

Contact Samtec.

POLARIZING KEY

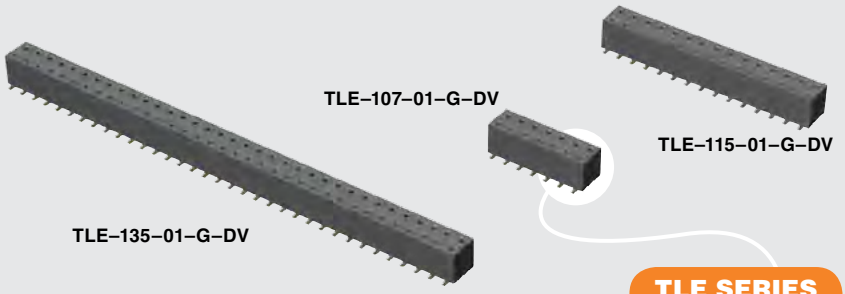
Specify PK–01–07 for polarizing key (Available in wheels of six each). Also polarizes TCSD Series IDC Cable.

Note: Some lengths, styles and options are non-standard, non-returnable.

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samtec



(2.00 mm) .0787"

TLE SERIES

COST-EFFECTIVE RELIABLE SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TLE

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni
Current Rating (TLE/TMMH):
3.2 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(2.08 mm) .082" to
(4.37 mm) .172" with
(0.38 mm) .015" wipe,
pass-through, or
(3.35 mm) .132" min
for bottom entry
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-26)
(0.15 mm) .006" max (27-50)

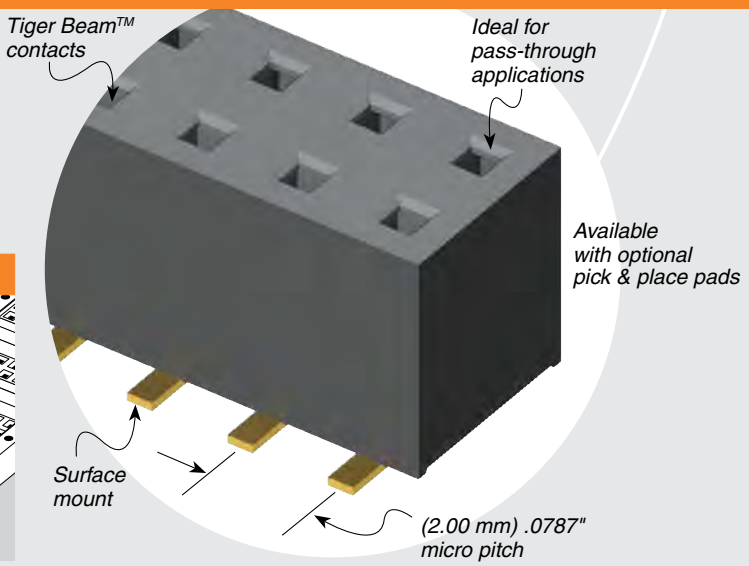
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

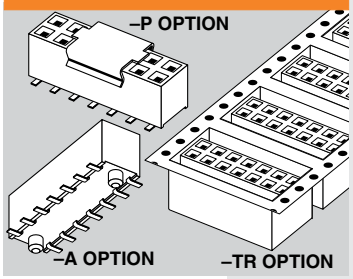
FILE NO. E111594

Mates with:
TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, TCMD, TSH

TIGER™ BEAM CONTACT

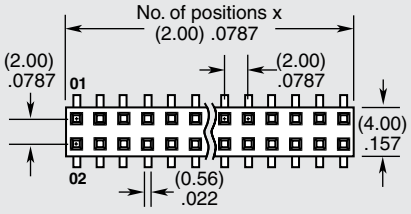


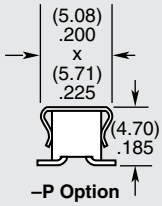
OPTIONS

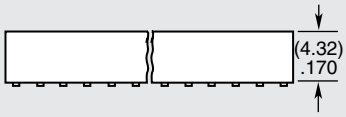


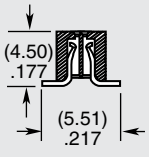
Note: Some lengths, styles and options are non-standard, non-returnable.

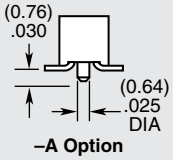
TLE	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	DV	–	OPTION
			02 thru 50				–G = 10 µ" (0.25 µm) Gold				–A = Alignment Pin (3 positions minimum) –K = (5.00 mm) .197" DIA Polyimide Film Pick & Place Pad (3 positions minimum) –P = Metal Pick & Place Pad (4 positions minimum) –TR = Tape & Reel Packaging (2-37 positions only)



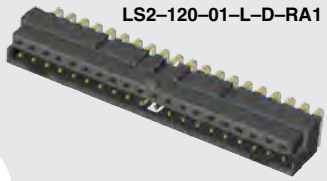




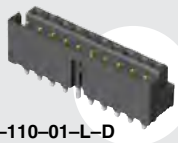




samtec







(2.00 mm) .0787"

LS2 SERIES

SELF MATING HERMAPHRODITIC STRIP

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?LS2

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating:
3.2 A per pin
(6 adjacent pins powered)
Voltage Rating:
475 VAC mated with LS2
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

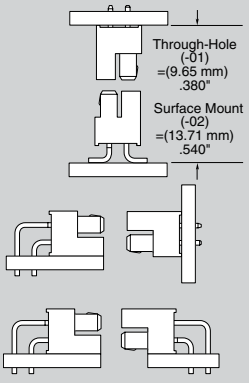
- Alignment pin
- Other platings
- Other stack heights

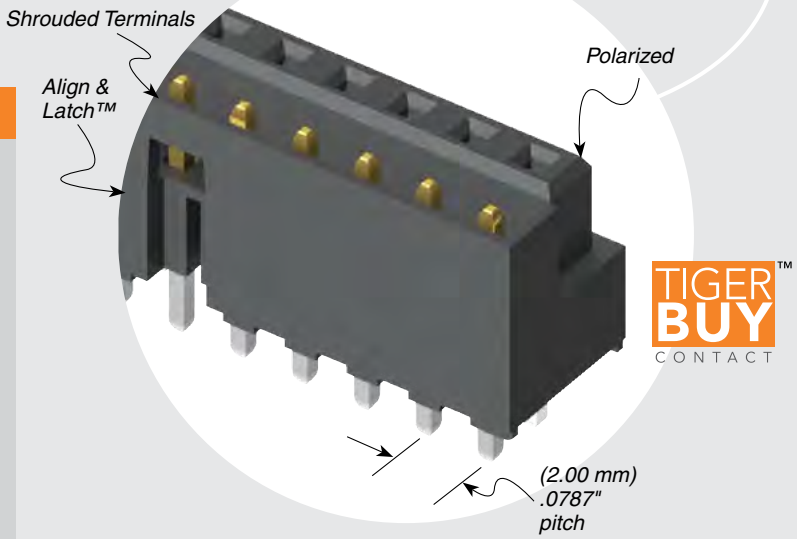
Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

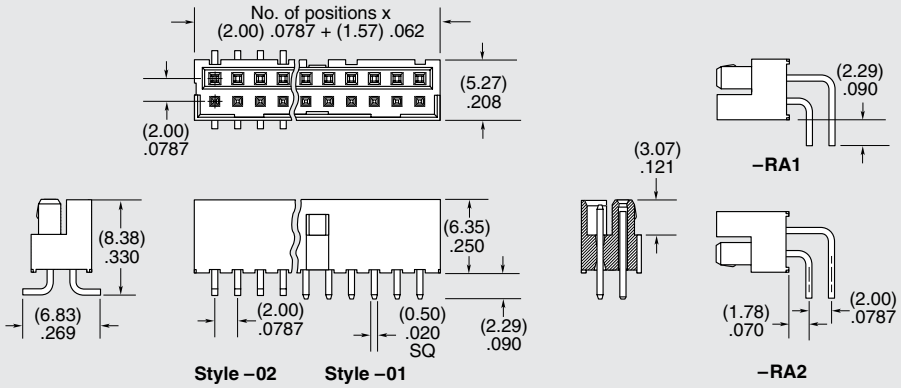
Mates with:
LS2

APPLICATION





LS2	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	TAIL OPTION	–	OPTION
			05, 10, 15, 20, 25, 30		–01 =Through-hole –02 = Surface Mount		–F = Gold flash on contact, Matte Tin on tail –L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail				–01 only –RA1 = Right-angle (Shroud Down) –RA2 = Right-angle (Shroud Up)		–K = (6.30 mm) .248" DIA Polyimide Film Pick & Place Pad (–02 only) –TR = Tape & Reel Packaging

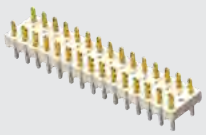


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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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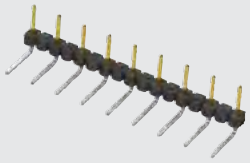
10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



HTSW–115–05–L–Q



HTSW–116–11–G–S



TSW–209–09–F–S–RA

(2.54 mm) .100"

THROUGH-HOLE .025" SQ POST HEADER

Board Mates:
SSW, SSQ, SSM, ESW, ESQ, BCS, BSW, CES, SLW

Cable Mates:
IDSD, IDSS, SMSD, SMSS

SPECIFICATIONS

For complete specifications see www.samtec.com?TSW or www.samtec.com?HTSW

Insulator Material:
TSW: Black Glass Filled Polyester
HTSW: Natural Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Voltage Rating:
550 VAC mated with SSW;
500 VAC mated with BCS or ESQ;
450 VAC -RA/-RE mated with BCS or SSM
400 VAC mated with CES
RoHS Compliant: Yes
Lead–Free Solderable:
HTSW: Yes
TSW: No, Lead Wave Only

CURRENT RATING (PER PIN)						
TSW mated with						
ESW	SSW	SLW	SSQ	SSM	BCS	SNT
5.2 A	5.7 A	5.2 A	6.3 A	5.2 A	4.6 A	4.3 A
2 POSITIONS POWERED						

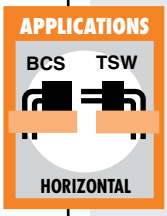
RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

APPLICATIONS



ALSO AVAILABLE
(MOQ Required)

- Other platings
  Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

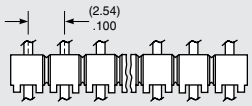
TYPE STRIP

TSW = Standard Strip

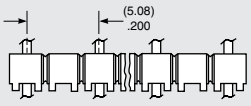
HTSW = Hi-Temp Strip

PIN CENTERS

–1 = .100" (2.54 mm) Centers, All Positions Filled

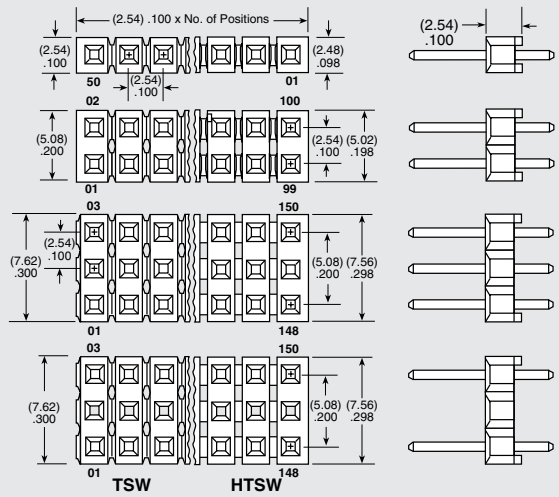


–2 = .200" (5.08 mm) Centers, Every Other Position Filled



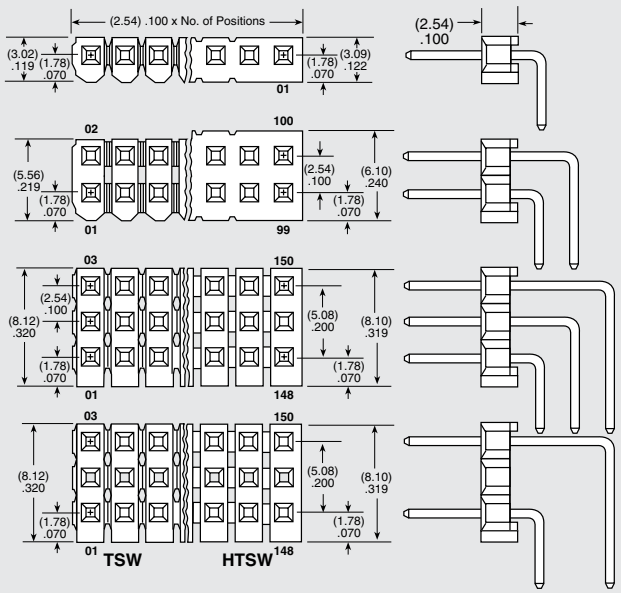
NO. PINS PER ROW

Straight Pin Versions



–S
–D
–T
–Q

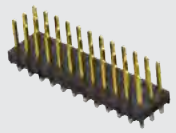
Right-Angle Versions



–S
–D
–T
–Q

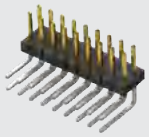
01 thru 50
= .100" (2.54 mm) Center Version

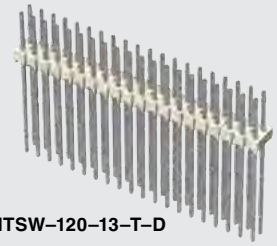
02 thru 25
= .200" (5.08 mm) Center Version



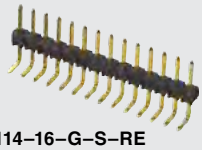
TSW–112–07–G–T

TSW–109–10–F–D–RA





HTSW–120–13–T–D



TSW–114–16–G–S–RE

LEAD STYLE

PLATING OPTION

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold on post, Gold flash on balance

–T
= Matte Tin

OTHER SOLUTIONS

- Elevated Right-angle option
- Shunts

Contact Samtec

ROW OPTION

–S
= Single Row

–D
= Double Row

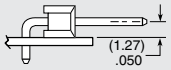
–T
= Triple Row

–Q
= Double Row (5.08 mm) .200" row space

OTHER OPTIONS

– RA or –RE
= Right-angle

–NA
= Right-angle (using straight body for coplanar mating with SSW-RA series)

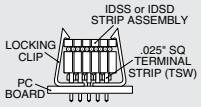


–LL
= Locking Lead



Two leads per strip crimped in opposite directions on or near centerline. See charts for available styles. N/A with single row 1 or 2 positions. Recommended hole size (1.02 mm ± 0.03 mm) .040" ± .001"

–LC
= Locking Clip (Styles –08 thru –13 & –22 only)



Requires 4 pin minimum (NA with -T,-Q,-RA or -RE)

–LA
= –RA Option with –LL Option

–"XXX"
= Polarized Position

Straight Pin Versions
(Specify "LEAD STYLE" from chart)

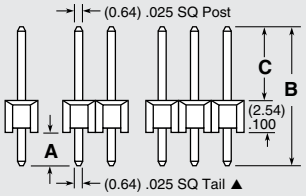
	STYLE	A	B	C
*	– 05	(3.30) .130	(8.51) .335	(2.67) .105
*	– 06	(2.41) .095	(7.62) .300	(2.67) .105
*	– 07	(2.54) .100	(10.92) .430	(5.84) .230
*	– 08	(5.08) .200	(13.46) .530	
	– 09	(10.16) .400	(18.54) .730	
	–10	(12.70) .500	(21.08) .830	
	–11	(15.24) .600	(23.62) .930	
	–12	(17.78) .700	(26.16) 1.030	
	–13	(22.86) .900	(31.24) 1.230	
	–14	(2.79) .110	(13.46) .530	(8.13) .320
*	–15		(18.54) .730	(13.21) .520
*	–16	(7.87) .310		(8.13) .320
*	–17	(2.79) .110	(21.08) .830	(15.74) .620

* Available with –LL (Locking Lead) Option

	STYLE	A	B	C
*	–18	(2.79) .110	(23.62) .930	(18.29) .720
*	–19		(26.16) 1.030	(20.83) .820
*	– 20		(31.24) 1.230	(25.91) 1.020
*	– 21		(36.32) 1.430	(30.99) 1.220
*	– 22	(7.62) .300	(16.00) .630	(5.84) .230
*	– 23	(2.92) .115	(11.30) .445	
*	– 24		(12.15) .480	(6.73) .265
*	– 25	(5.33) .210	(16.00) .630	(8.13) .320
▲	– 26	(3.20) .126	(11.58) .456	(5.84) .230
	– 27	(25.40) 1.000	(33.78) 1.330	
	– 28	(20.32) .800	(28.70) 1.130	
	– 29	(23.11) .910	(33.78) 1.330	(8.13) .320
	– 30	(18.03) .710	(28.70) 1.130	
+	– 41	(0.89) .035	(9.27) .365	(5.84) .230
+	– 42	(1.27) .050	(11.94) .470	(8.13) .320

\+ Style –41 & –42 available with HTSW only.

▲Except: Style –26 (0.46) .018 DIA Tail



Specify -07 for best mate with IDXX Series IDC Cable

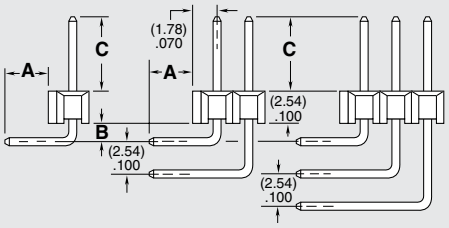
Right-Angle Versions
(Specify "LEAD STYLE" from chart and select –RA or –RE from other options)

–RA LEAD STYLE	SINGLE (–S) A	SINGLE (–S) C	DOUBLE (–D) A	TRIPLE (–T & –Q) A
– 08	(2.29) .090	(5.84) .230	(2.29) .090	(2.29) .090
– 09	(7.37) .290		(7.37) .290	(7.37) .290
–10	(9.91) .390		(9.91) .390	(9.91) .390
–11	(12.45) .490		(12.45) .490	(12.45) .490
–12	(14.99) .590		(14.99) .590	(14.99) .590
–13	(20.07) .790		(20.07) .790	N/A
* –16	(5.08) .200	(8.13) .320	(5.08) .200	(5.08) .200
– 21	(25.15) .990	(5.84) .230	N/A	N/A
* – 22	(4.83) .190		(4.83) .190	(4.83) .190
* – 25	(2.54) .100	(8.13) .320	(2.54) .100	(2.54) .100
– 27	(22.61) .890	(5.84) .230	N/A	N/A
– 28	(17.53) .690		(17.53) .690	
– 29	(20.32) .800	(8.13) .320	N/A	
– 30	(15.24) .600		(15.24) .600	

– RE LEAD STYLE	SINGLE A	C
– 09	(4.83) .190	(5.84) .230
–10	(7.37) .290	
–11	(9.91) .390	
–12	(12.45) .490	
–13	(17.53) .690	
–16	(2.54) .100	(8.13) .320
– 21	(22.61) .890	(5.84) .230
– 22	(2.29) .090	
– 27	(20.07) .790	
– 28	(14.99) .590	

*Available with –LA (Locking Lead) Option

LEAD STYLE	B
– RA	(1.52) .060
– RE	(4.06) .160



Due to technical progress, all designs, specifications and components are subject to change without notice.

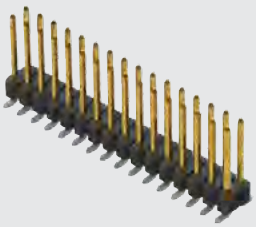
WWW.SAMTEC.COM

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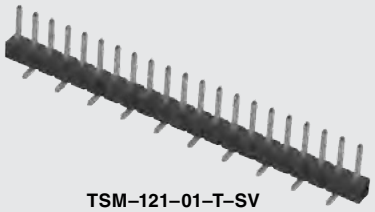
samtec

10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

TSM–116–02–S–DV–LC



TSM–121–01–T–SV



(2.54 mm) .100"

SMT .025" SQ POST HEADER

Board Mates:
SSW, SSQ, SSM, BSW, ESW, ESQ, BCS, SLW, CES, HLE

Cable Mates:
IDSS, IDSD, SMSD, SMSS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TSM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
Voltage Rating:
475 VAC -SV/-DV mated with BCS or SSM
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes
-DH/-SH Lead Coplanarity:
(0.15 mm) .006" max (02-36)
-DV/-SV Lead Coplanarity:
(0.10 mm) .004" max (02-05)
(0.13 mm) .005" max (06-10)
(0.15 mm) .006" max (11-36)

MATES	CURRENT RATING (PER PIN)
TSM/SSW	4.7 A
TSM/SSM	5.4 A
TSM/HLE	4.1 A
2 PINS POWERED	

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594 FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

- Edge Mount and Locking Clips for –SV
- Solder Locks for –DH and Shrouds for –DV
- Other platings

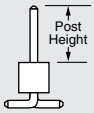
Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

TSM – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION

NO. PINS PER ROW: 02 thru 36

LEAD STYLE:



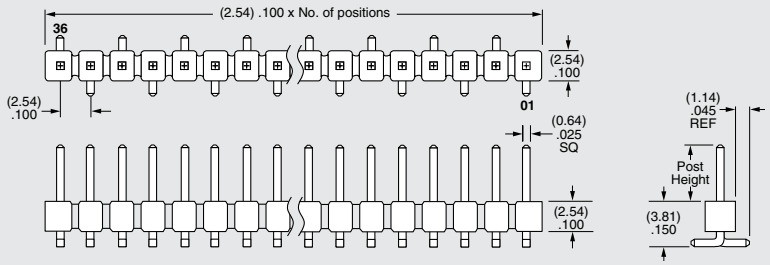
- –01 = .230" (5.84 mm) Post Height (Mates with SSW, BCS, SSM, IDSS, IDSD)
- –02 = .320" (8.13 mm) Post Height (Mates with SSM -DH)
- –03 = .420" (10.67 mm) Post Height (For Bottom Mount & Pass Through)
- –04 = .120" (3.05 mm) Post Height (Mates with SLW, CES, HLE)

PLATING OPTION:

- –F = Gold flash on post, Matte Tin on tail
- –L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail
- –S = 30 µ" (0.76 µm) Gold on post, Matte Tin on tail
- –T = Matte Tin

ROW OPTION

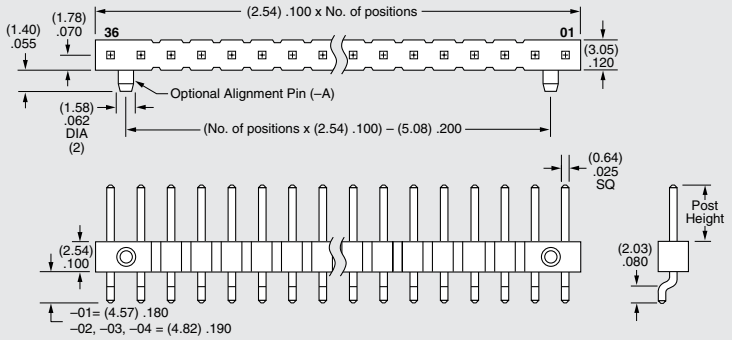
–SV
= Single Row Vertical Pin



APPLICATIONS

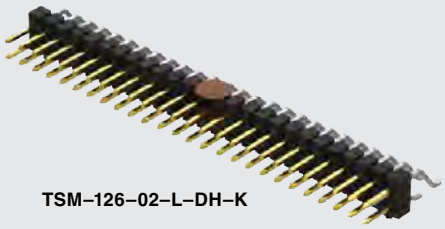


–SH
= Single Row Horizontal Pin



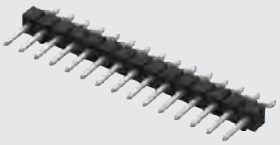
Due to technical progress, all designs, specifications and components are subject to change without notice.

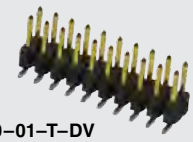
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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.



TSM–126–02–L–DH–K

TSM–115–01–T–SH–A





TSM–110–01–T–DV

TSM SERIES

OTHER OPTIONS

–A
= Alignment Pin metal or plastic at Samtec discretion (Not available with –TM or –MT) (02 positions min.) (Not available with –LC)

–LC
= Locking Clip (Not available with –TM) (3 positions min.) (Not available with –A) (Manual placement required)

–K
= (6.50 mm) .256" DIA Polyimide Film Pick & Place Pad

(–SH: 4 positions minimum without –TR; 2 & 3 positions available with –TR)

(–DH: 4 positions minimum without –TR)

–"XXX"
= Polarized Position

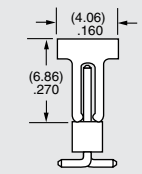
–P
= Plastic Pick & Place Pad

(–DV: 4 positions minimum without –TR; 2 & 3 positions available with –TR)

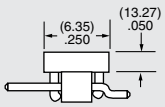
(–SH: 4 positions minimum without –TR; 2 & 3 positions available with –TR)

(–DH: 5 positions minimum without –TR)

(–SV: 4 positions minimum without –TR; 2 & 3 positions available with –TR)



–SV



–SH & –DH

–TR
= Tape & Reel Packaging

–SV = 02-22 positions

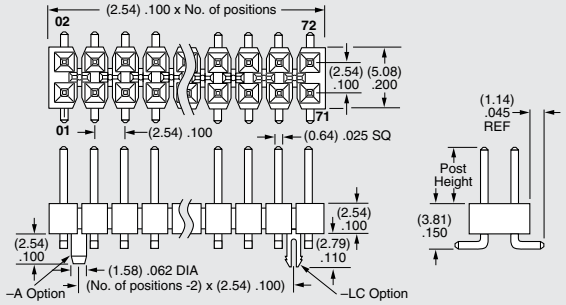
–DV = 02-28 positions

–SH = 02-30 positions

–DH = 02-29 positions

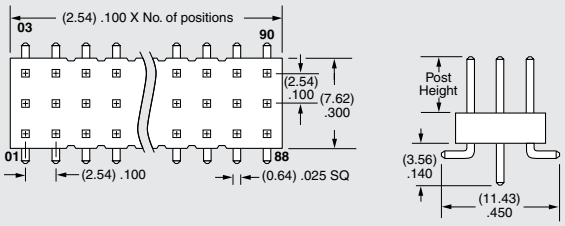
Not available with –MT or –TM

–DV
= Double Row Vertical Pin

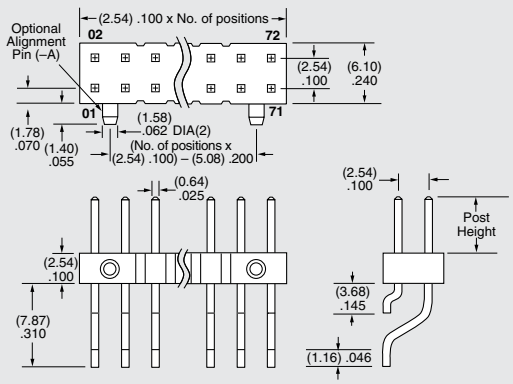


–TM
= Triple Row Vertical Mixed Technology (Style –01 only)

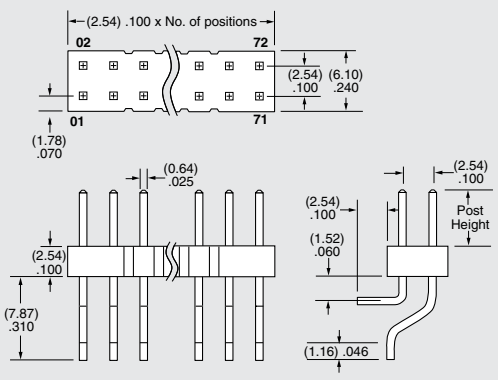
02 thru 30 positions only



–DH
= Double Row Horizontal Pin
(Style –01, –02 or –03 only)



–MT
= Mixed Technology Pin
(Style –01, –02 or –03 only)

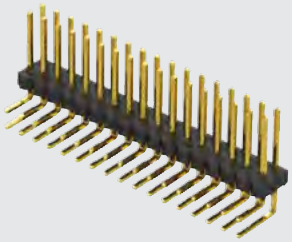


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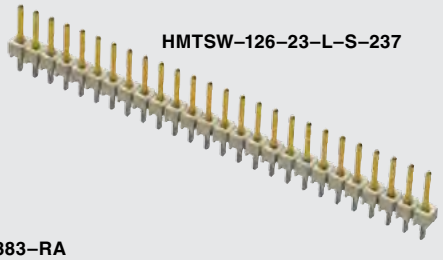
samtec

FLEX STACK

(2.54 mm) .100"



MTSW–117–09–G–D–383–RA



HMTSW–126–23–L–S–237

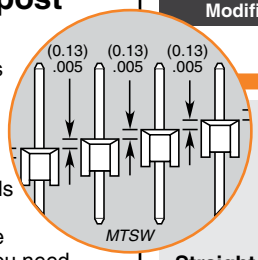
MODIFIED .025" SQ POST HEADERS

Board Mates:
SSW, SSQ, ESW,
ESQ, BCS, BSW
CES, SLW, HLE, SSM

Cable Mates:
IDSD, IDSS, SMSD, SMSS

Modified .025" strips permit custom post heights.

Samtec offers the greatest stacking flexibility in the industry. The "M" stands for Modified. You tell us the post height you need and we'll deliver it.



SPECIFICATIONS

For complete specifications see www.samtec.com?MTSW or www.samtec.com?HMTSW

Insulator Material:
MTSW: Black Glass Filled Polyester
HMTSW: Natural Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
RoHS Compliant:
Yes
Lead–Free Solderable:
MTSW: No, Wave Only
HMTSW: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

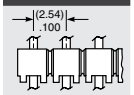
Note:
These Series are non-standard, non-returnable.

TYPE STRIP – **PIN PITCH** – **NO. PINS PER ROW** – **LEAD STYLE**

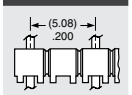
MTSW
= Modified Strip

HMTSW
= Hi-Temp Modified Strip

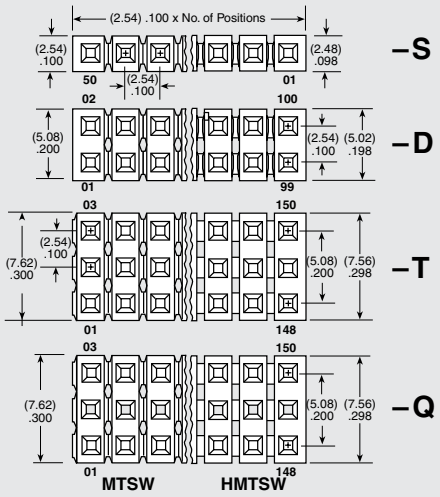
–1
= (2.54 mm) .100" Pitch



–2
= (5.08 mm) .200" Pitch

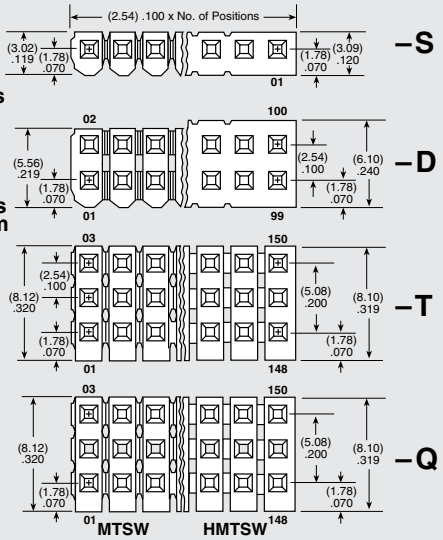


Straight Pin Versions



Right Angle Versions

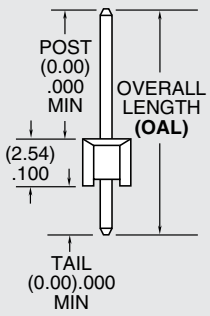
HMTSW –S & –D = 36 positions maximum



01 thru 50
= (2.54 mm) .100" Center Version

02 thru 25
= (5.08 mm) .200" Center Version

SPECIFY "LEAD STYLE" FROM CHART



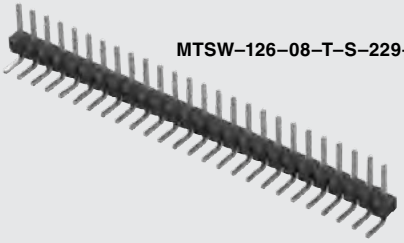
LEAD STYLE	OAL
–06	(7.62) .300
–07	(10.92) .430
–08	(13.46) .530
–09	(18.54) .730
–10	(21.08) .830
–11	(23.62) .930
–12	(26.16) 1.030
–13	(31.24) 1.230
–21	(36.32) 1.430
–22	(16.00) .630
–23	(11.30) .445
–24	(12.19) .480
–27	(33.78) 1.330
–28	(28.70) 1.130

Due to technical progress, all designs, specifications and components are subject to change without notice.

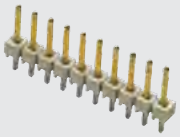
All parts within this catalog are built to Samtec's specifications.
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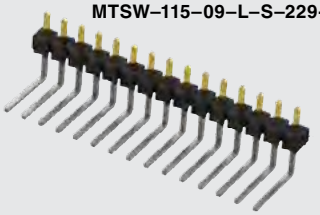
MTSW–108–28–G–D–920



MTSW–126–08–T–S–229–RA



HMTSW–110–23–L–S–237



MTSW–115–09–L–S–229-RE

MTSW, HMTSW SERIES

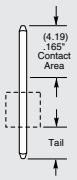
PLATING OPTION

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold on post, Gold flash on balance

–T
= Matte Tin



ROW OPTION

–S
= Single

–D
= Double

–T
= Triple

–Q
= Double Row .200" (5.08 mm) row space

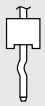
POST HEIGHT

–"XXXX" = "C" Dimension (Specify post height in INCHES – .005" (0.13 mm) increments)

OTHER OPTION

–RA or **–RE** = Right-angle

–LL
= Locking Lead (N/A with –RE, N/A in single row 1 or 2 positions. Available on tails from (2.29 mm) .090" to (10.16 mm) .400" only)



Two leads per strip crimped in opposite directions on or near centerline. See TSW for availability.

–LA = –RA Option with –LL Option (Maximum "C" = (13.46 mm) .530)

POLARIZED OPTION

–"XXX"
= Polarized (Specify 'XXX' as position number)

ALSO AVAILABLE
(MOQ Required)

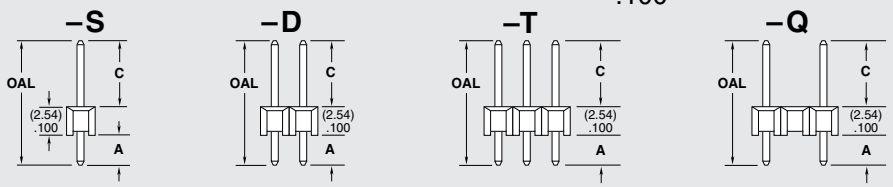
- Other platings

Contact Samtec.

FOR A = (2.29) .090				
LEAD STYLE	OAL	C MAXIMUM STRAIGHT	C MAXIMUM with/–RA	C MAXIMUM with/–RE
– 06	(7.62) .300	(2.79) .110	Not Available	Not Available
– 07	(10.92) .430	(6.10) .240	(3.30) .130	Not Available
– 08	(13.46) .530	(8.64) .340	(5.84) .230	(3.30) .130
– 09	(18.54) .730	(13.72) .540	(10.92) .430	(8.38) .330
– 10	(21.08) .830	(16.26) .640	(13.46) .530	(10.92) .430
– 11	(23.62) .930	(18.80) .740	(16.00) .630	(13.46) .530
– 12	(26.16) 1.030	(21.34) .840	(18.54) .730	(16.00) .630
* – 13	(31.24) 1.230	(26.42) 1.040	(23.62) .930	(21.08) .830
* – 21	(36.32) 1.430	(31.50) 1.240	(28.70) 1.130	(26.16) 1.030
– 22	(16.00) .630	(11.18) .440	(8.38) .330	(5.84) .230
* – 23	(11.30) .445	(6.48) .255	(3.68) .145	Not Available
* – 24	(12.19) .480	(7.37) .290	(4.57) .180	
* – 27	(33.78) 1.330	(28.96) 1.140	(26.16) 1.030	(23.62) .930
* – 28	(28.70) 1.130	(23.88) .940	(21.08) .830	(18.54) .730

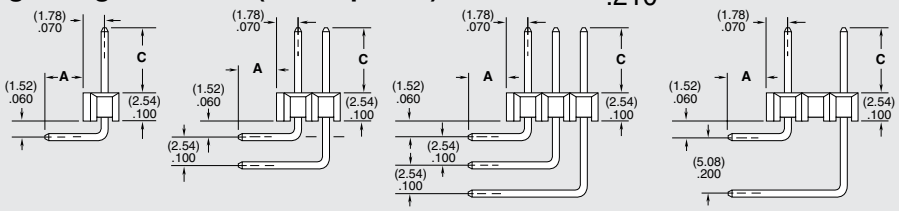
*** Styles –21, –23, –24, –27 not available with –D Right-angle**
Styles –13, –21, –23, –24, –27, –28 not available with –T or –Q Right-angle

Straight Pin Versions $A = OAL - C - \frac{(2.54)}{.100}$



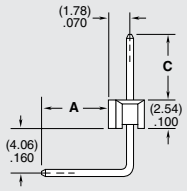
Right-Angle Versions (–RA Options) $A = OAL - C - \frac{(5.33)}{.210}$

Styles –21, –23, –24, –27 N/A with –D
Styles –13, –21, –23, –24, –27, –28 N/A with –T or –Q

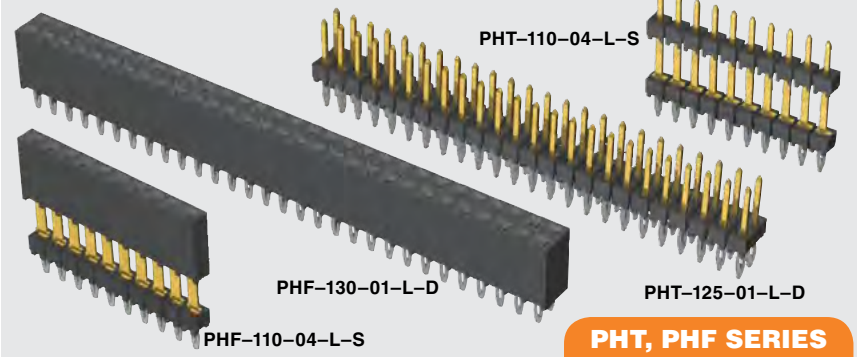


Right-Angle Versions (–RE Options) Single Row Only

$A = OAL - C - \frac{(7.87)}{.310}$



samtec



(2.54 mm) .100"

PHT, PHF SERIES

PRESS-FIT HEADERS & SOCKETS

PHT Board Mates:
SSW, SSQ, ESW, ESQ, BCS, BSW, CES, SLW, PHF, SSM, CLH,

PHT Cable Mates:
IDSD, IDSS, SMSD, SMSS

PHF Board Mates:
TSW, MTSW, MTLW, EW, ZW, TSS, ZSS, TSM, TSSH, PHT, DW, HW

SPECIFICATIONS

For complete specifications see www.samtec.com?PHT or www.samtec.com?PHF

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (PHT/PHF):
4.8 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C with Gold
(PHF) Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"
RoHS Compliant:
Yes

PROCESSING

Contact ipg@samtec.com

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

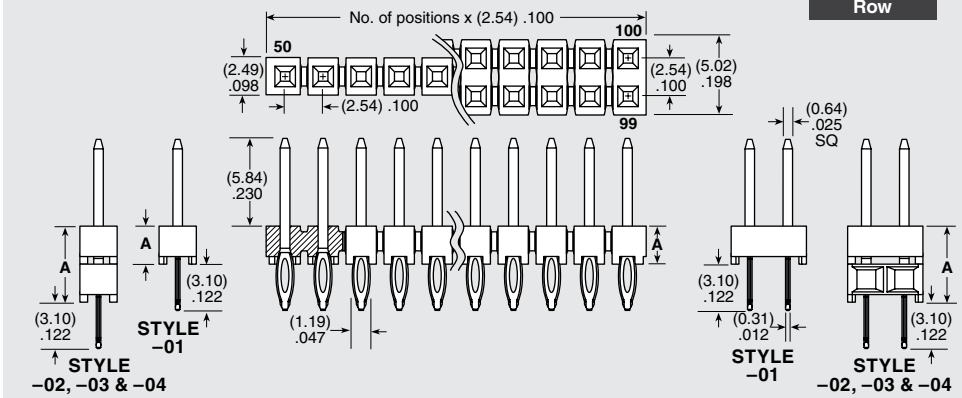
- Other platings
  Contact Samtec.

TOOLING

- Press-fit tooling
  Contact Samtec.

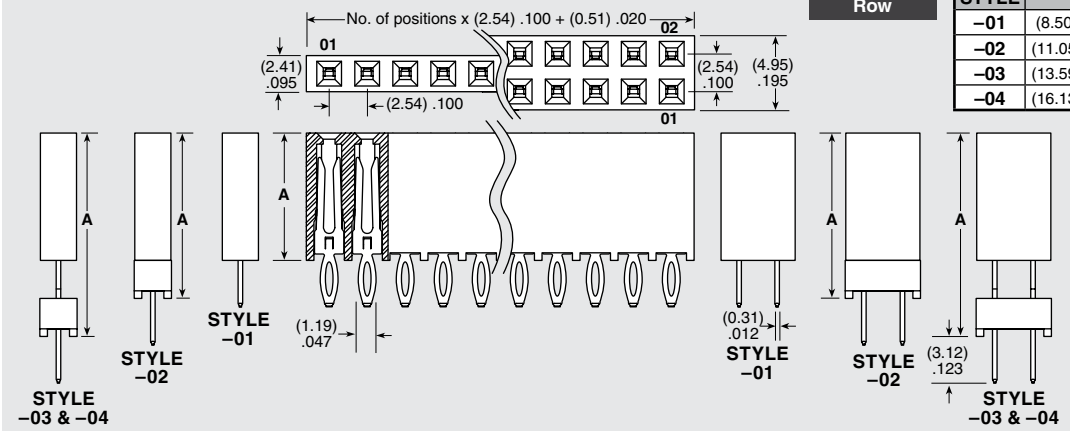
Note:
Some lengths, styles and options are non-standard, non-returnable.

PHT	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION
			01 = (single row only) 02 thru 50		Specify LEAD STYLE from chart		–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail		–S = Single Row –D = Double Row		–"XXX" = Polarized Position



LEAD STYLE	A
–01	(2.54) .100
–02	(5.08) .200
–03	(7.62) .300
–04	(10.16) .400

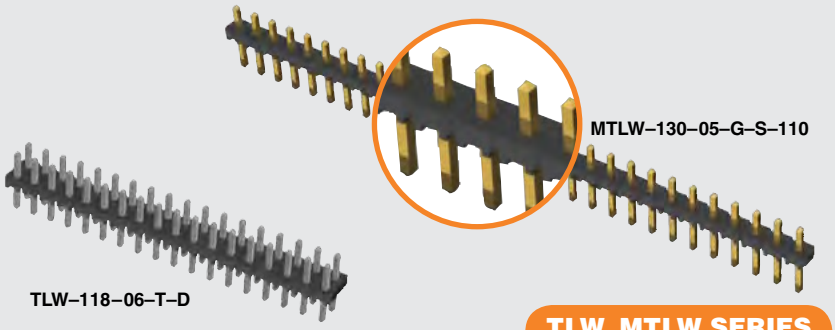
PHF	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION
			01 = (single row only) 02 thru 50		Specify LEAD STYLE from chart		–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail		–S = Single Row –D = Double Row		–"XXX" = Polarized Position



LEAD STYLE	A
–01	(8.50) .335
–02	(11.05) .435
–03	(13.59) .535
–04	(16.13) .635

samtec

FLEX STACK



(2.54 mm) .100"

TLW, MTLW SERIES

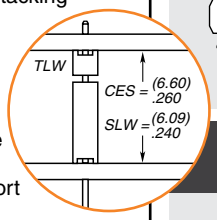
LOW-PROFILE .025" SQ POST HEADERS

Board Mates:
BSW, CES, SLW, HLE

Cable Mates:
SMSD, SMSS

FEATURES

These headers provide the ultimate low-profile (0.64 mm) .025" square post board stacking system. The high quality Phosphor Bronze terminals are available with a standard short post height (TLW Series) for mating with low-profile sockets, or the post height can be Modified (MTLW Series) to accommodate IDC assemblies and other applications.



SPECIFICATIONS

For complete specifications see www.samtec.com?TLW or www.samtec.com?MTLW

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (TLW/SLW):
5.2 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +105 °C with Tin
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

RECOGNITIONS

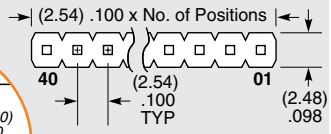
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

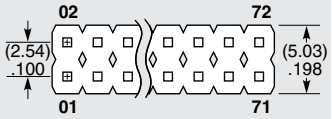
Note:
Some lengths, styles and options are non-standard, non-returnable. MTLW Series is non-standard, non-returnable.

TLW – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – OTHER OPTION

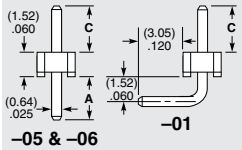
01 thru 40
= Single Row



01 thru 36
= Double Row



Specify LEAD STYLE from chart



LEAD STYLE	A	C
–01	N/A	(5.84) .230
–05	(4.32) .170	(2.67) .105
–06	(3.43) .135	(2.67) .105

PLATING OPTION

–F
= Gold flash on post, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold on post, Gold flash on tail

–T
= Matte Tin

ROW OPTION

– S
= Single Row

– D
= Double Row

OTHER OPTION

–RA
= Right-angle
(–01 Lead Style only)

–"XX"
= Polarized Position
Specify position for omitted pin.

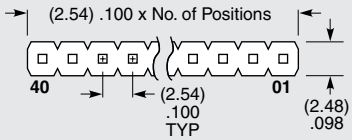
ALSO AVAILABLE
(MOQ Required)

- Other platings

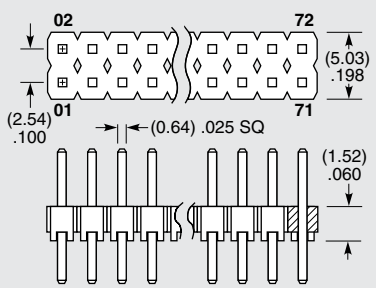
Contact Samtec.

MTLW – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – POST HEIGHT

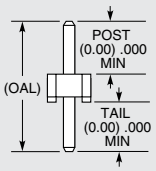
01 thru 40
= Single Row



01 thru 36
= Double Row



Specify LEAD STYLE from chart



LEAD STYLE	OAL
–05	(8.51) .335
–06	(7.62) .300
–07	(10.92) .430
–08	(13.46) .530
–09	(18.54) .730
–10	(21.08) .830
–22	(16.00) .630
–23	(11.30) .445
–24	(12.19) .480

PLATING OPTION

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold on post, Gold flash on tail

–T
= Matte Tin

ROW OPTION

– S
= Single Row

– D
= Double Row

POST HEIGHT

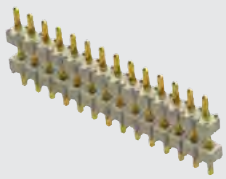
–"XXX"
= Post Height Dimension (In inches)

Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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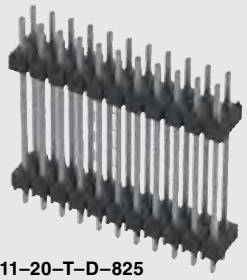
FLEX STACK



HW–14–08–G–S–300–100



ZW–06–13–L–D–787–118



DW–11–20–T–D–825

(2.54 mm) .100"

DW, EW, ZW, HW-TH SERIES

FLEXIBLE .025" SQ BOARD STACKERS

Mates with:
SSW, SSQ, ESW, ESQ, CES, SLW, BSW, BCS, SSM, HLE, PHF

Cable Mates:
IDSS, IDSD, SMSD, SMSS

SPECIFICATIONS

For complete specifications see www.samtec.com?DW, www.samtec.com?EW, www.samtec.com?ZW or www.samtec.com?HW-TH

Insulator Material:
DW, EW, ZW: Black Glass Filled Polyester
HW: Natural Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
RoHS Compliant:
Yes
Lead–Free Solderable:
DW, EW, ZW:
No, Lead Wave Only
HW: Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

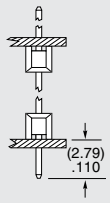
- Other platings
  Contact Samtec.

Note: For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

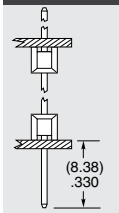
Note: This Series is non-standard, non-returnable.

TYPE STRIP - NO. PINS PER ROW - LEAD STYLE - PLATING OPTION - ROW OPTION - STACKER HEIGHT - OTHER OPTIONS

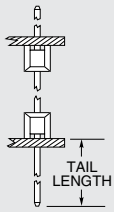
DW
= (2.79 mm) .110" Tail



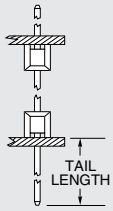
EW
= (8.38 mm) .330" Tail



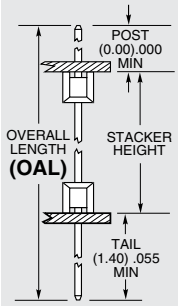
ZW
= Custom Tail



HW
= High Temp Custom Tail

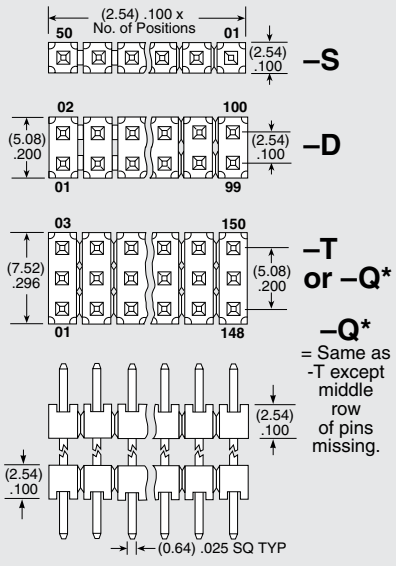


Specify LEAD STYLE from chart



LEAD STYLE	OAL
–07	(10.92) .430
–08	(13.46) .530
–09	(18.54) .730
–10	(21.08) .830
–11	(23.62) .930
–12	(26.16) 1.030
–13	(31.24) 1.230
–14	(36.32) 1.430
–15	(16.00) .630
–16	(11.30) .445
–17	(12.19) .480
–19	(33.78) 1.330
–20	(28.70) 1.130

01 thru 50



–Q*
= Same as -T except middle row of pins missing.

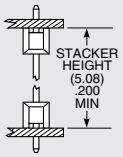
–S
= Single Row

–D
= Double Row

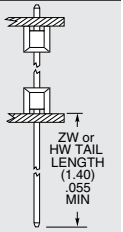
–T
= Triple Row

–Q
= Double Row .200" (5.08 mm) row space

–"XXX"
= Stacker Height (in inches) (5.08 mm) .200" minimum
Example: –250 = (6.35 mm) .250"



–"XXX"
= ZW or HW Tail Length (in inches) (1.40 mm) .055" minimum
Example: –250 = (6.35 mm) .250"



–LL
= Locking Lead (Shortest dimension between the tail and the post is the end that will be crimped. Available on tails from (2.29 mm) .090" to (7.87 mm) .310" only.) Single row, 01 & 02 positions & –Q row not available

–"XXX"
= Polarized
Specify omitted pin position

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact area of longer tail, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold on contact area of longer tail, Gold flash on balance

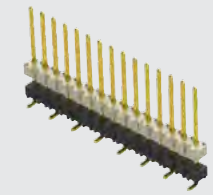
–T
= Matte Tin

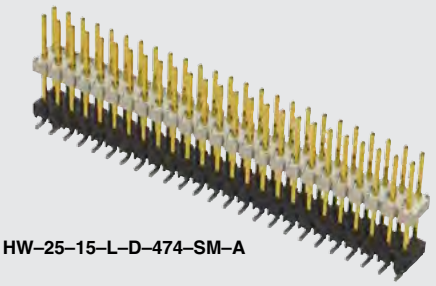
Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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FLEX STACK





(2.54 mm) .100"

HW-SM SERIES

FLEXIBLE .025" SQ BOARD STACKERS

Board Mates:
SSW, SSQ, ESW, ESQ, CES, SLW, BSW, BCS, SSM, HLE, PHF

Cable Mates:
IDSS, IDSD, SMSD, SMSS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HW-SM

Insulator Material:
Top: Natural LCP
Bottom: Black LCP
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

- Other platings
- Locking Clip (Manual placement required) available with double row –SM

Contact Samtec.

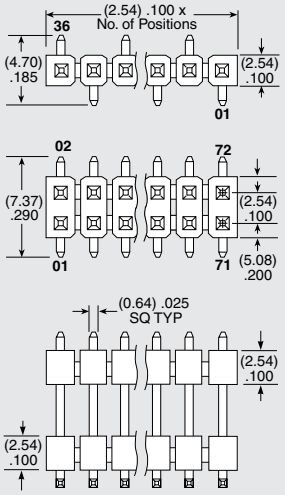
Note: For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

Note: This Series is non-standard, non-returnable.

HW – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – STACKER HEIGHT – SM – OTHER OPTIONS

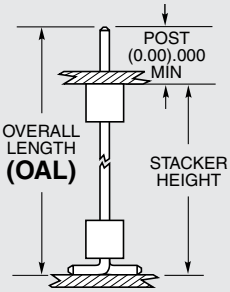
NO. PINS PER ROW

02 thru 36



LEAD STYLE

Specify LEAD STYLE from chart



LEAD STYLE	OAL (SMT)
–08	(11.81) .465
–09	(16.89) .665
–10	(19.43) .765
–11	(21.97) .865
–12	(24.51) .965
–15	(14.35) .565
–16	(9.65) .380
–17	(10.54) .415
–20	(27.05) 1.065

PLATING OPTION

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact area of longer tail, Matte Tin on tail

–G
= 10 µ" (0.25 µm) Gold on contact area of longer tail, Gold flash on balance

–T
= Matte Tin

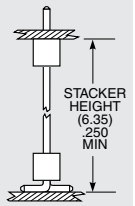
ROW OPTION

– S
= Single Row

– D
= Double Row

STACKER HEIGHT

–"XXX"
= Stacker Height

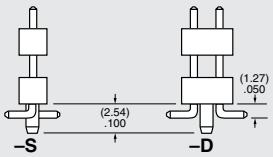


SM

–"XXX"
= Polarized

Specify omitted pin position

–A
= Alignment Pin



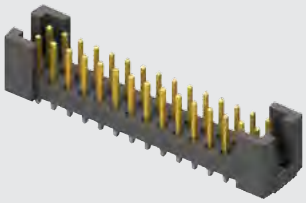
(Metal or plastic at Samtec discretion)

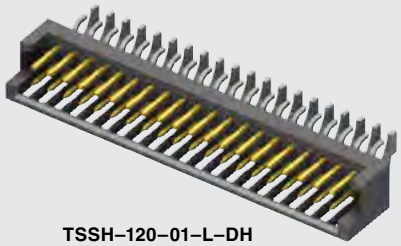
–TR
= Tape & Reel Packaging
(4–27 pins per row only)
(Not Available on Lead Styles 10, 11, 12 & 20)

OTHER OPTIONS

samtec

TSSH–115–01–L–D





TSSH–120–01–L–DH

(2.54 mm) .100"

TSSH SERIES

SHROUDED .025" SQ POST HEADERS

Board Mates:
SSW, SSQ, SSM

Cable Mates:
SMSD

Important Note:
This Series will only mate with SSW, SSQ, SSM & SMSD Series

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?TSSH

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity (–DV):
(0.10 mm) .004" max (05-10)
(0.15 mm) .006" max (15-20)
(0.20 mm) .008" max (25-36)
SMT Lead Coplanarity (–DH):
(0.15 mm) .006" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

APPLICATIONS

SSM TSSH

HORIZONTAL

ALSO AVAILABLE
(MOQ Required)

- Other platings

Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

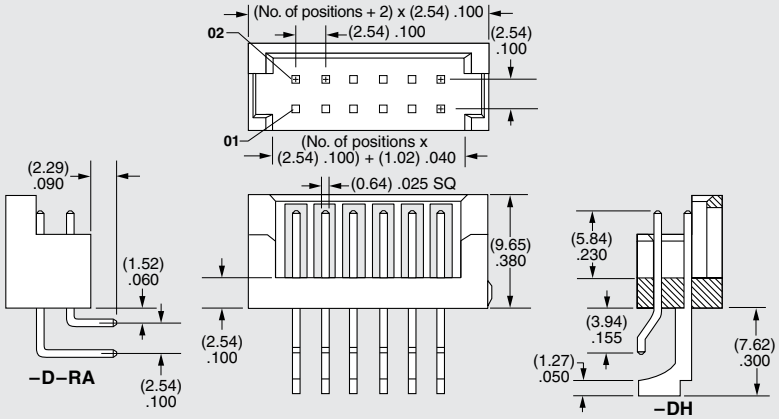
TSSH	–	1	NO. PINS PER ROW	–	01	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION

NO. PINS PER ROW
05, 10, 15, 20, 25, 30, 34 (–D–RA, –DH)
05, 10, 15, 20, 25, 30, 35, 36 (–D, –DV)

PLATING OPTION
–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail
–T = Matte Tin

ROW OPTION

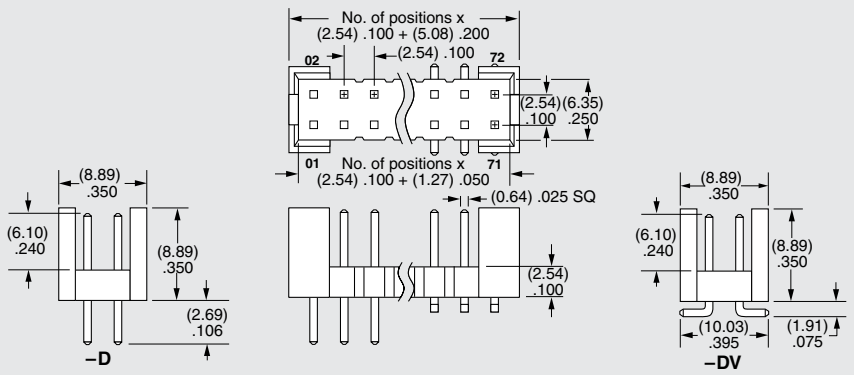
–D–RA = Double Row Right-angle Pin Through-hole



–DH = Double Row Horizontal Pin Surface Mount

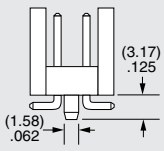
–D = Double Row Vertical Pin Through-hole

–DV = Double Row Vertical Pin Surface Mount

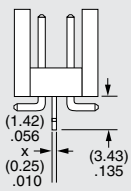


OTHER OPTION

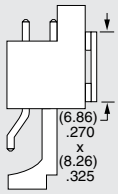
–A = Alignment Pin (N/A with -LC)



–LC = Locking Clip (–DV only) (N/A with -A) (Manual placement required)



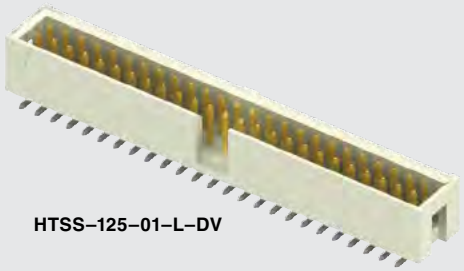
–P = Plastic Pick & Place Pad (–DH only) 5 pos. min



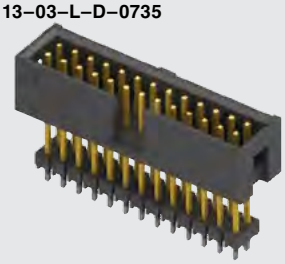
–TR = Tape & Reel 5 to 25 positions (–DH & –DV only)

samtec

FLEX STACK



ZSS–113–03–L–D–0735



(2.54 mm) .100"

TSS, HTSS, ZSS SERIES

SHROUDED .025" SQ POST HEADERS

Mates with:
SSW, SSQ, ESW, ESQ, SSM, BCS

SPECIFICATIONS

For complete specifications see www.samtec.com?TSS, www.samtec.com?HTSS or www.samtec.com?ZSS

Insulator Material: TSS, ZSS: Black Glass Filled Polyester
HTSS: Natural PCT
Insulation Resistance: 5000 MΩ min
Terminal Material: Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Flammability Rating: UL 94V-O
Withstanding Voltage: 1000 VRMS
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable:
HTSS: Yes
TSS, ZSS: Wave Only
SMT Lead Coplanarity:
(0.15 mm) .006"

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

- Shrouded IDC headers and stackers to mate with IDSD, SMSD Series.See TST, HTST and ZST Series.

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings
- Alignment Pins
- Single Row
- Locking Leads
- Polarized

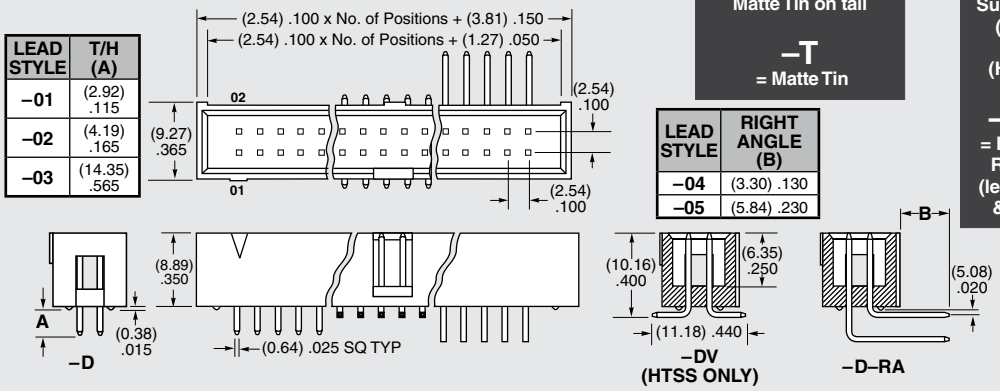
Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable. ZSS is non-standard, non-returnable.

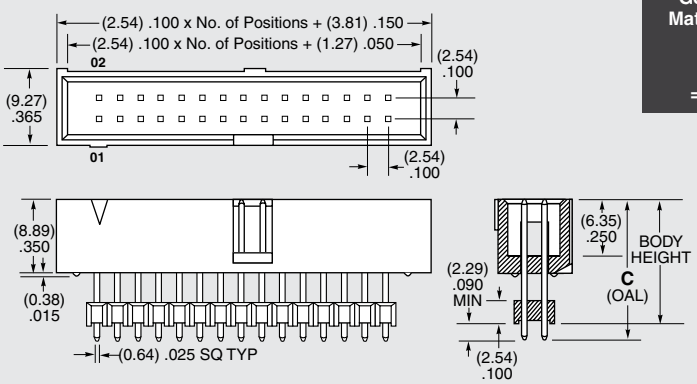
TYPE STRIP	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION
TSS = Connector Strip **HTSS** = High Temp Connector Strip		**03** (TSS only) **05, 07, 08, 10, 12, 13, 15, 17, 20, 25, 32, 36** (Standard sizes)	Specify LEAD STYLE from chart.	**–F** = Gold flash on post, Matte Tin on tail (Not available on -DV) **–L** = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail **–T** = Matte Tin	**–D** = Double Row Through-hole (lead style –01, –02 & –03 only) **–DV** = Double Row Surface Mount (lead style –01 only) (HTSS only) **–D–RA** = Double Row Right-angle (lead style –04 & –05 only)

LEAD STYLE	T/H (A)
–01	(2.92) .115
–02	(4.19) .165
–03	(14.35) .565

LEAD STYLE	RIGHT ANGLE (B)
–04	(3.30) .130
–05	(5.84) .230



ZSS	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	D	BODY HEIGHT
		03, 05, 07, 08, 10, 12, 13, 15, 17, 20, 25, 32, 36 (Standard sizes)	Specify LEAD STYLE from chart.	**–F** = Gold flash on post, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail **–T** = Matte Tin		**–"XXXX"** = Body Height



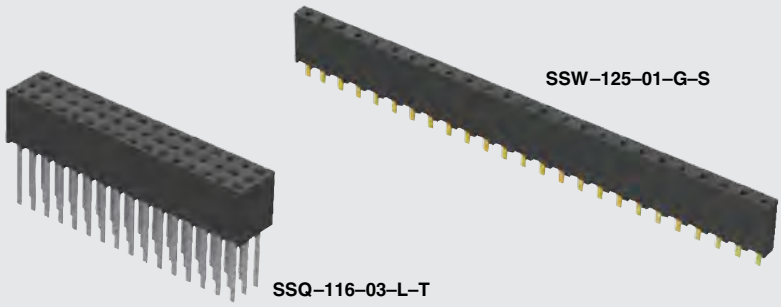
LEAD STYLE	C (OAL)	MAX BODY HEIGHT
–01	(16.00) .630	(13.72) .540
–02	(18.54) .730	(16.26) .640
–03	(21.08) .830	(18.80) .740
–04	(23.62) .930	(21.34) .840
–05	(26.16) 1.030	(23.88) .940
–06	(28.70) 1.130	(26.42) 1.040
–07	(31.24) 1.230	(28.96) 1.140
–08	(33.78) 1.330	(31.50) 1.240
–09	(36.32) 1.430	(34.04) 1.340

Note: For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

Due to technical progress, all designs, specifications and components are subject to change without notice.

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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(2.54 mm) .100"

THROUGH-HOLE .025" SQ POST SOCKET

SPECIFICATIONS

For complete specifications see www.samtec.com?SSW or www.samtec.com?SSQ

Insulator Material:
Black Liquid Crystal Polymer (-S & -D) or
Black High Temperature Thermoplastic (-T)
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (SSW/TSM):
4.7 A per pin
(2 pins powered)
Current Rating (SSQ/TSW):
6.3 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"
Normal Force:
Standard= 125 grams (4.4 N)
Max Cycles:
100 with 10 µ" (0.25 µm) Au
Voltage Rating:
465 VAC / 655 VDC
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes:
-S and -D row option
Wave only:
-P, -T and -Q row option

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

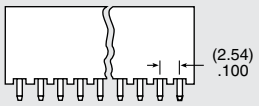
Note:
Some lengths, styles and options are non-standard, non-returnable.

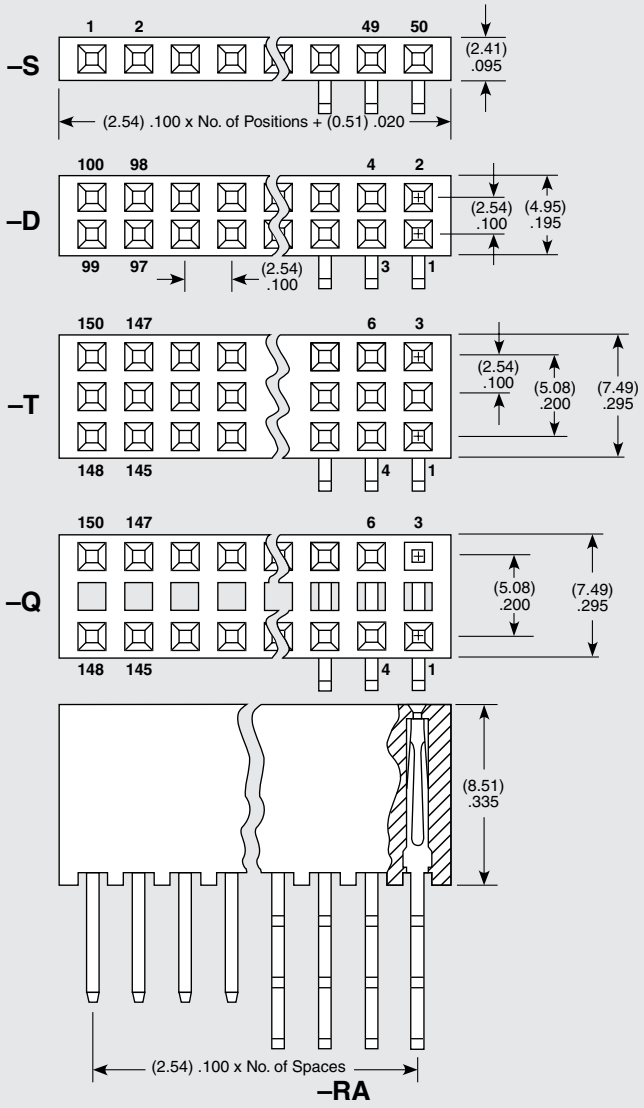
Mates With:
TSW, MTSW, MTLW, EW, ZW, TSS, ZSS, TSM, TSSH, HTSS

TIGER BUY™ CONTACT



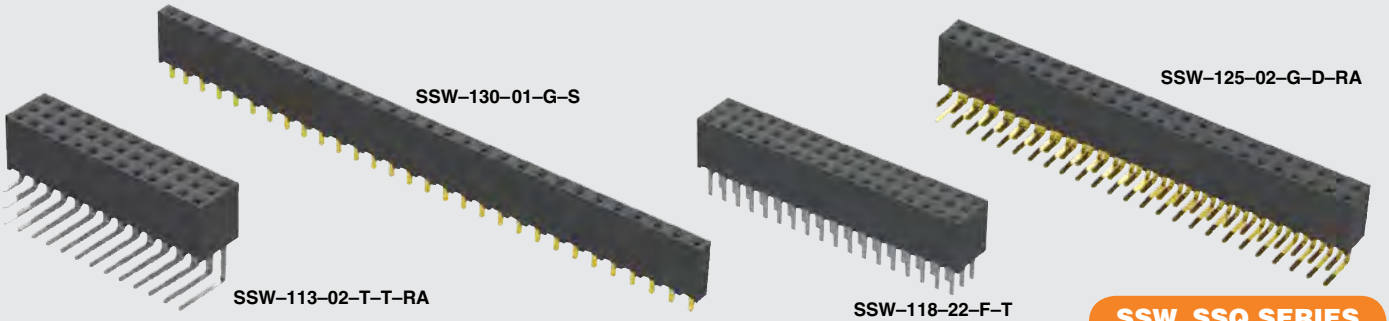
TYPE STRIP		PIN CENTERS		NO. PINS PER ROW
SSW = Solder Tail		–1 = (2.54 mm) .100" Centers		01 thru 50
SSQ = Square Tail				





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SSW, SSQ SERIES

LEAD STYLE

PLATING OPTION

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 20 µ" (0.51 µm) Gold on contact, Gold flash on tail

–T
= Matte Tin
(-T N/A on LIF contacts)

ROW OPTION

–S
= Single Row

–P
= Single Row
(36 pins max)

–D
= Double Row

–T
= Triple Row

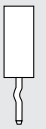
–Q
= Double Row
.200" (5.08 mm) row space
(Outer rows filled only)

TAIL OPTION

–RA
= Right-angle
(Leave blank for straight pin version)

OTHER OPTION

–LL
= Locking Lead



Two leads per strip crimped in opposite directions on or near centerline. Available on tails from (2.29 mm) .090" to (7.87 mm) .310" only. N/A with single row 1 or 2 positions.

–"XXX"
= Polarized
(Specify "XXX" as position number)

ALSO AVAILABLE
(MOQ Required)

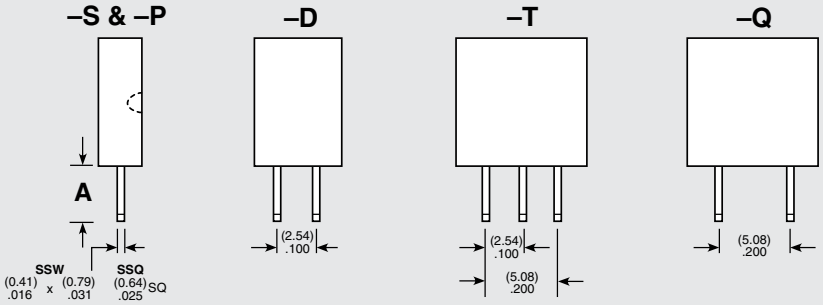
- Other platings
- Notch option

Contact Samtec.

Straight Pin Versions (Specify "LEAD STYLE" from chart)

LEAD STYLE		SINGLE DOUBLE OR TRIPLE
Standard Insertion Force	Low Insertion Force*	A
–01	–21	(2.64) .104
–02	–22	(4.93) .194
–03	–23	(10.00) .394
–04	–24	(14.83) .584
–06**	Not Available	(3.15) .124

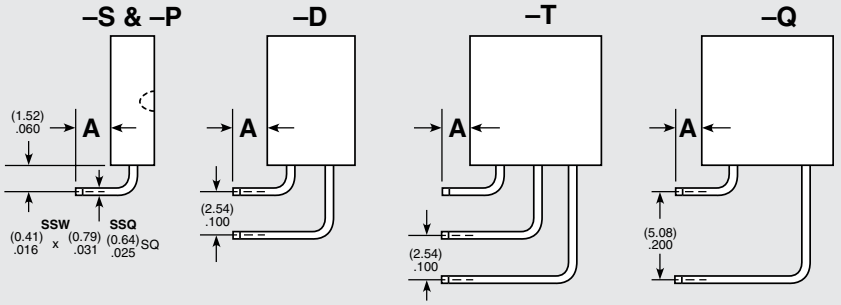
* LIF not available with Tin Plating
**Style –06 Not available with SSQ



Right-Angle Versions (Specify "LEAD STYLE" from chart)

LEAD STYLE		SINGLE	DOUBLE	TRIPLE
Standard Insertion Force	Low Insertion Force*	(–S) A	(–D) A	(–T & –Q) A
–02	–22	(2.54) .100	(2.54) .100	(2.54) .100
–03	–23	(7.62) .300	(7.62) .300	Not Available
–04	–24	(12.45) .490	Not Available	Not Available

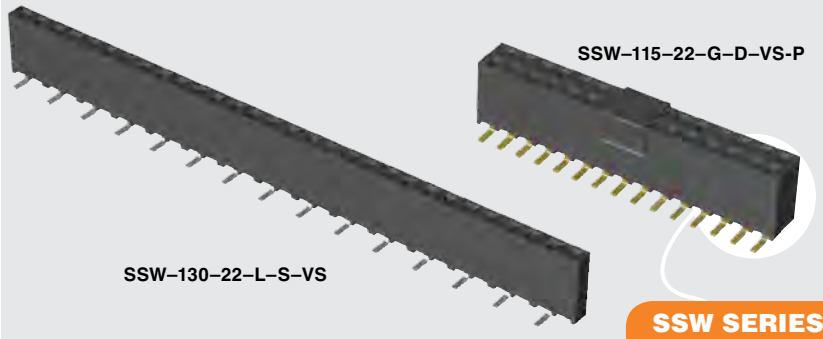
*LIF not available with Tin Plating



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(2.54 mm) .100"

SSW SERIES

SMT .025" SQ POST SOCKET

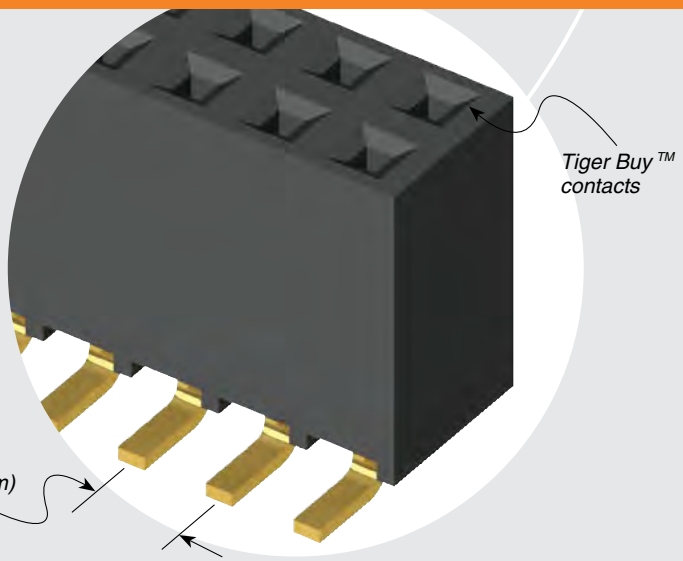
SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SSW

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (SSW/TSM):
4.7 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"
Max Cycles:
100 with 10 µ" (0.25 µm) Au
Voltage Rating:
465 VAC / 655 VDC
RoHS Compliant:
Yes

Mates With:
TSW, MTSW, HTSW, HMTSW, MTLW, EW, ZW, TSS, HTSS, ZSS, TSM, TSSH, DW, HW

TIGER BUY™ CONTACT



PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

- Other platings
- Notch option

Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

SSW	–	1	NO. PINS PER ROW	–	22	–	PLATING OPTION	–	ROW OPTION	–	VS	–	OTHER OPTION

02 thru 36

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 20 µ" (0.51 µm) Gold on contact, Gold flash on tail

–S
= Single Row

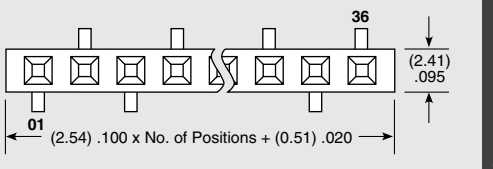
–D
= Double Row

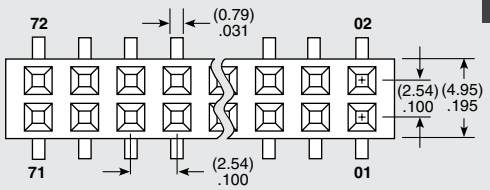
–"XX"
= Polarized Position

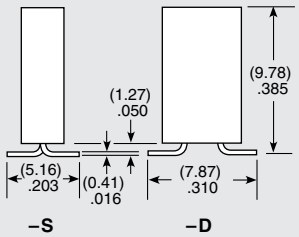
–K
= –S: (3.50 mm) .138" DIA, –D: (6.50 mm) .256" DIA Polyimide film Pick & Place Pad (03 positions min.)

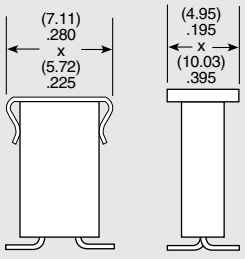
–P
= Pick & Place Pad (05 positions min.)

–TR
= Tape & Reel Packaging (–02 thru –28)







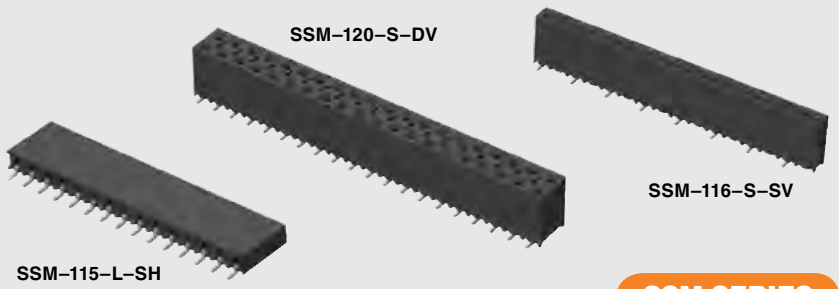


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10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



(2.54 mm) .100"

SSM SERIES

TIGER CLAW™ SURFACE MOUNT SOCKET

Mates with:
TSW, MTSW, TST, TSS, ZST, ZSS, DW, EW, ZW, TSM, HMTSW, HTSW, TSSH, BST, HTSS, TLW, MTLW

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SSM

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (SSM/TSW):
5.2 A per pin
(2 pins powered)
Voltage Rating:
405 VAC / 572 VDC
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
SV/DV is (4.34 mm) .171" to (7.24 mm) .285" or pass-through from top; (5.56 mm) .219" plus board thickness minimum from bottom; SH/DH is (4.34 mm) .171" to (6.35 mm) .250"
Normal Force:
125 grams (1.21 N) average
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
–DH Coplanarity:
Less than 28 positions
(0.15 mm) .006" max
More than 27 positions
(0.20 mm) .008" max
–SH, –SV, –DV Coplanarity:
(0.15 mm) .006" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594
FILE NO: 090871_0_000

Note: Some lengths, styles and options are non-standard, non-returnable.

SSM	– 1	NO. PINS PER ROW	PLATING OPTION	ROW OPTION	OTHER OPTION

NO. PINS PER ROW
- 02 thru 36 (–SV, – SH, –DH)
- 02 thru 40 (–DV)

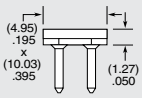
PLATING OPTION
- **–F** = Gold flash on contact, Matte Tin on tail
- **–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail
- **–S** = 30 µ" (0.76 µm) Gold on contact, Matte Tin on tail



OTHER OPTION
- **–BE** = Bottom Entry (–DV & –SV only)
- **–LC** = Locking Clip (–DV & –SV only) Contact Samtec for –DH & –SH
- **–K** = (6.50 mm) .256" DIA Polyimide film Pick & Place Pad (2 positions min.) –DV & –SV only
- **–"XXX"** = Polarized Position (–BE not available)
- **–TR** = Tape & Reel Packaging (29 positions max.)
- **–M** = Metal Pick & Place Pad (5 positions min.) –DV only



- **–P** = Plastic Pick & Place Pad (–DV & –SV only) (6 pos. minimum. Contact Samtec for availability on smaller positions)



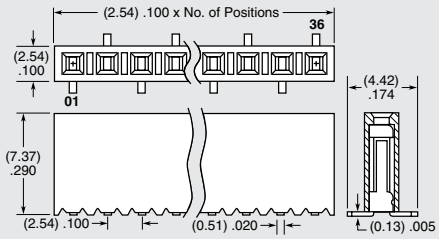
ALSO AVAILABLE (MOQ Required)
- Alignment pin

Contact Samtec.

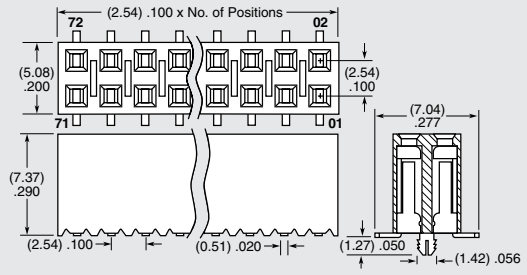
APPLICATIONS



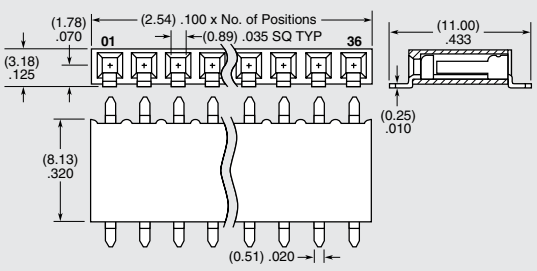
–SV = Single Row Vertical Pin



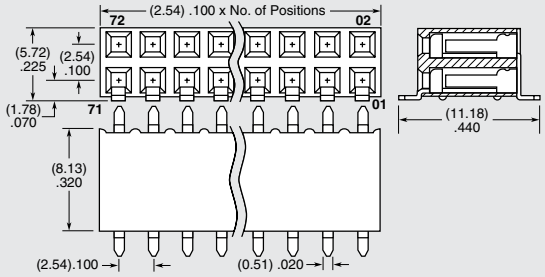
–DV = Double Row Vertical Pin



–SH = Single Row Horizontal Pin



–DH = Double Row Horizontal Pin



samtec



ESW, ESQ SERIES

(2.54 mm) .100"

ELEVATED SOCKET

Mates with:
TSW, MTSW, EW, MTLW, TSS, ZSS, TSM, DW, ZW, HW, TSSH, HTSS

SPECIFICATIONS

For complete specifications see www.samtec.com?ESW or www.samtec.com?ESQ

Insulator Material:
Black Glass Filled Polyester
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (ESW/TSW):
5.2 A per pin
(2 pins powered)
Current Rating (ESQ/TSW):
5.7 A per pin
(2 pins powered)
Voltage Rating:
550 VAC mated with TSW or ESQ
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"
Normal Force:
Standard = 125 grams (4.4 N)
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes
Lead-Free Solderable:
Wave only

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

TIGER BUY™ CONTACT

ALSO AVAILABLE (MOQ Required)

- Other platings
  Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

TYPE STRIP	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OTHER OPTION

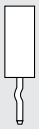
TYPE STRIP
- **ESW** = Solder Tail
- **ESQ** = Square Tail

NO. PINS PER ROW
- 01 thru 36

PLATING OPTION
- **–L** = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail
- **–G** = 20 µ" (0.51 µm) Gold contact, Gold Flash on Balance
- **–T** = Matte Tin (N/A w/LIF contact)

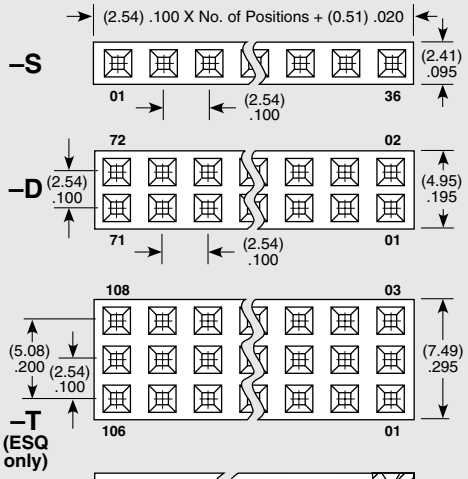
ROW OPTION
- **–S** = Single Row
- **–D** = Double Row
- **–T** = Triple Row (ESQ only)

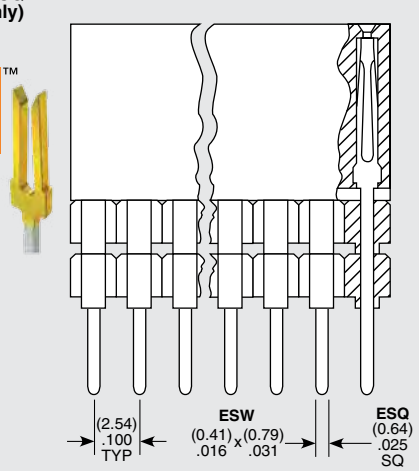
OTHER OPTION
- **–LL** = Locking Lead



Two leads per strip crimped. N/A with single row 1 or 2 positions.

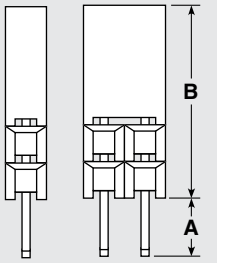
- **–"XXX"** = Polarized





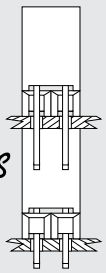
Specify LEAD STYLE from chart below.

STANDARD INSERTION FORCE	LOW INSERTION FORCE	A	B
– 12	– 37	(2.29) .090	(11.05) .435
– 13	– 38	(7.36) .290	
– 23	– 48	(4.83) .190	(13.59) .535
– 33	– 58	(2.29) .090	(16.13) .635
– 14	– 39	(12.19) .480	(11.05) .435
– 24	– 49	(9.65) .380	(13.59) .535
– 34	– 59	(7.11) .280	(16.13) .635
– 44	– 69	(4.57) .180	(18.67) .735



APPLICATIONS

Self Nesting Sockets



(ESQ Series)

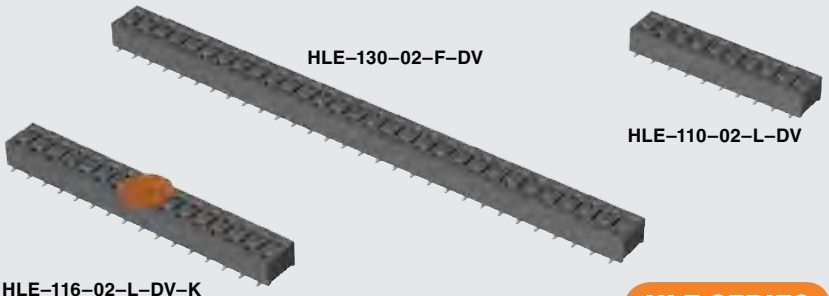
PC/104™ J1/P1 "Stackthrough" Connectors	
Standard Insertion Force	ESQ-132-14-G-D
Low Insertion Force	ESQ-132-39-G-D
PC/104™ J1 "Non-Stackthrough" Connectors	
Standard Insertion Force	ESQ-132-12-G-D
Low Insertion Force	ESQ-132-37-G-D
PC/104™ J2/P2 "Stackthrough" Connectors	
Standard Insertion Force	ESQ-120-14-G-D
Low Insertion Force	ESQ-120-39-G-D

PC/104 is a trademark of the PC/104 Consortium.

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(2.54 mm) .100"

HLE SERIES

COST-EFFECTIVE RELIABLE SOCKET

Mates With:
TSW, MTSW, DW, EW, ZW, TLW, TSM, MTLW, HW

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HLE

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (HLE/TSM):
4.1 A per pin
(2 pins powered)
Voltage Rating:
400 VAC
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(1.78 mm) .070" to
(3.43 mm) .135", pass-through,
or (2.59 mm) .102" min
plus board thickness for
bottom entry
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-20)
(0.15 mm) .006" max (21-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

- Other platings
  Contact Samtec.

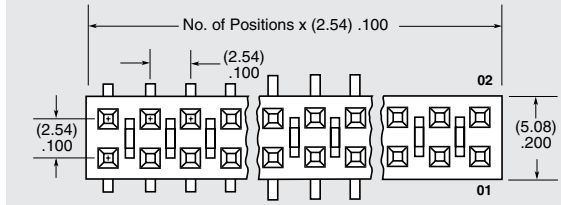
Note: Some lengths, styles and options are non-standard, non-returnable.

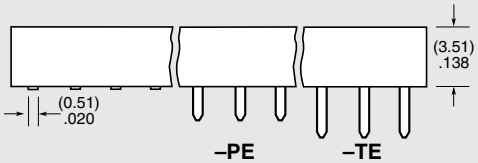
HLE	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	DV	–	TAIL OPTION	–	OTHER OPTION

NO. PINS PER ROW

02 thru 50

TIGER™ BEAM CONTACT





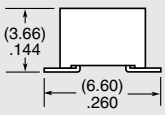
PLATING OPTION

–F
= Gold flash on contact, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

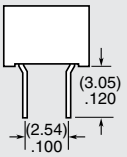
DV

Leave blank for Surface Mount

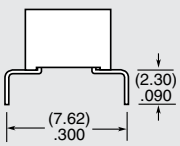


(Requires –BE for Bottom Entry)

–TE
= Through-hole Top Entry



–PE
= Through-hole Pass-through Entry

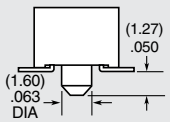


(Requires –BE for Bottom Entry)

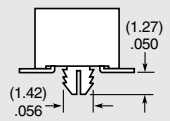
TAIL OPTION

–BE
= Bottom Entry (N/A with –TE)

–A
= Alignment Pin (4 positions min.) Metal or plastic at Samtec discretion (N/A with -TE, -PE & -LC)

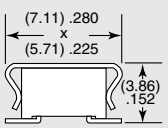


–LC
= Locking Clip (2 positions min.) (N/A with -A) (Manual placement required)



–K
= (6.50 mm) .256" DIA Polyimide Film Pick & Place Pad (3 positions min.) Not available with –TE or –PE tail option

–P
= Metal Pick & Place Pad (3 positions min.)



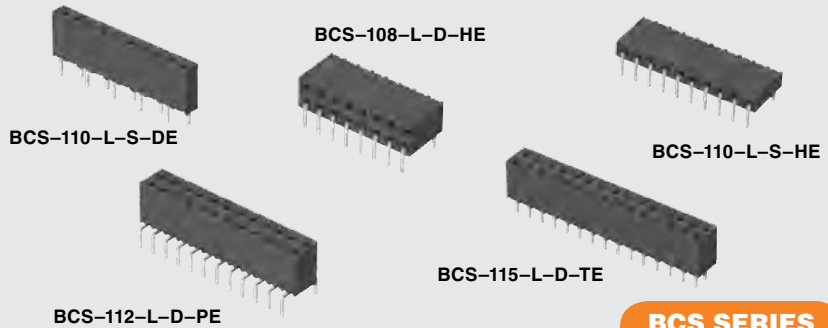
–TR
= Tape & Reel Packaging (29 positions max.)

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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10 YEAR MFG WITH 30 µ" GOLD
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES



(2.54 mm) .100"

BCS SERIES

TIGER CLAW™ PASS-THROUGH SOCKET

Mates with:
TSW, MTSW, HTSW, HMTSW, TSS, ZSS, DW, EW, ZW, HW, TSM, MTLW, PHT

SPECIFICATIONS

For complete specifications see www.samtec.com?BCS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Current Rating (BCS/TSW):
4.6 A per pin
(2 pins powered)
Voltage Rating:
475 VAC
(-TE/-DE/-PE mated with TSM)
450 VAC
(-HE mated with TSW)
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(4.34 mm) .171" to
(7.24 mm) .285" from top,
(5.64 mm) .222" plus
board thickness minimum
from bottom.
–HE is (4.34 mm) .171"
to (6.35 mm) .250"
RoHS Compliant:
Yes
Lead–Free Solderable:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594
FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

- Other platings

Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

BCS	–	1	NO. PINS PER ROW	–	PLATING OPTION	–	ROW OPTION	–	ENTRY OPTION	–	OTHER OPTION

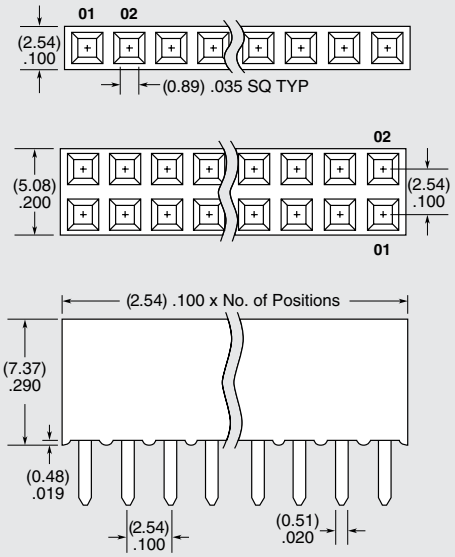
PLATING OPTION
- **–F** = Gold flash on contact, Matte Tin on tail
- **–L** = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

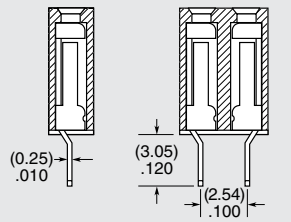
ROW OPTION
- **–S** = Single
- **–D** = Double

OTHER OPTION
- **–"XXX"** = Polarized Position (–BE not available)

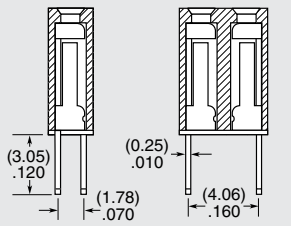


01 thru 50

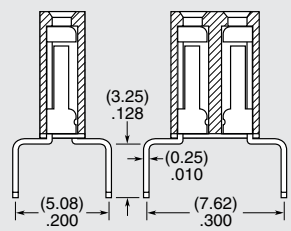




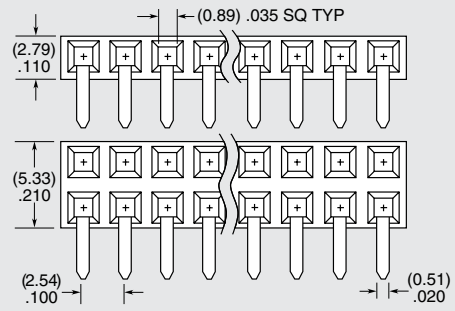
–TE = Top Entry

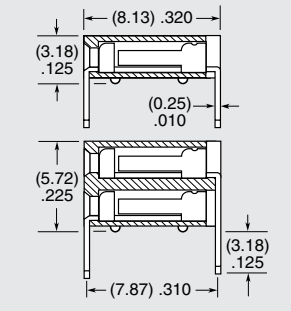


–DE = Top Entry (For Bottom Entry specify –DE–BE) Cannot be used with plated through-holes



–PE = Pass-through Entry (For Bottom Entry specify –PE–BE)





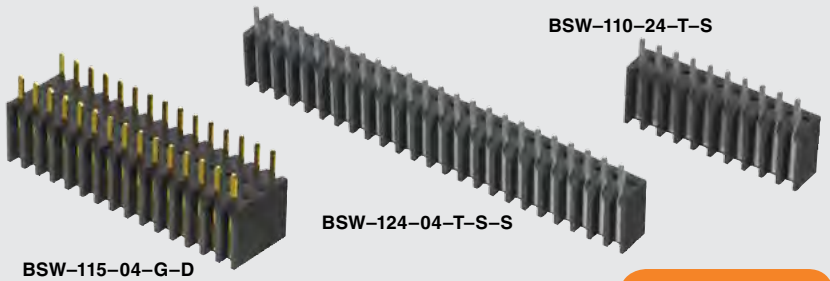
–HE = Horizontal Entry



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(2.54 mm) .100"

BSW SERIES

BOTTOM MOUNT SOCKET STRIPS

Mates with:
TSW, MTSW, HTSW, MTLW, TSM, EW, ZW, HW, DW, PHT

FEATURES

- Bottom mount socket strips accept .025" SQ terminals.
- Ideal for soldering and plugging from the same side of the board.
- For low-profile connections and high temperature soldering.

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?BSW

Insulator Material:
Black Thermoplastic
Insulation Resistance:
5000 MΩ min
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Withstanding Voltage:
1000 VRMS @ 60 Hz
Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"
RoHS Compliant:
Yes
Lead-Free Solderable:
Wave only

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

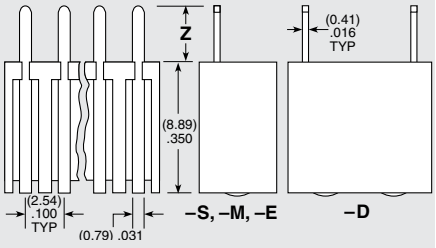
- Other platings

Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

BSW	–	1	NO. PINS PER ROW	–	LEAD STYLE	PLATING OPTION	ROW OPTION	–	OTHER OPTION

NO. PINS PER ROW: 02 thru 36



Row Option	Z
–S*	(4.31) .170
–M	(3.43) .135
–E	(2.54) .100
–D*	(4.32) .170

*Less (0.38 mm) .015" with standoffs

LEAD STYLE

–04 = Standard Lead

–24 = Low Insertion Force

PLATING OPTION

–L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail

–G = 20 µ" (0.51 µm) Gold contact, Gold Flash on tail

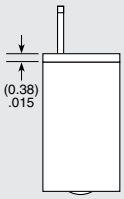
–T = Matte Tin (N/A with Low Insertion Force)

TIGER BUY™ CONTACT



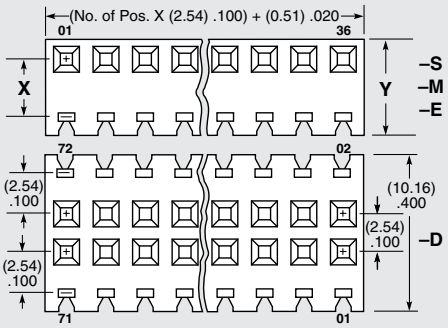
OTHER OPTION

–S = Standoffs for single and double rows only.



(–S & –D only)

ROW OPTION



Row Option	X	Y
–S	(2.54) .100	(5.08) .200
–M	(3.81) .150	(6.35) .250
–E	(4.31) .170	(6.86) .270

Body design may vary slightly from drawing shown.

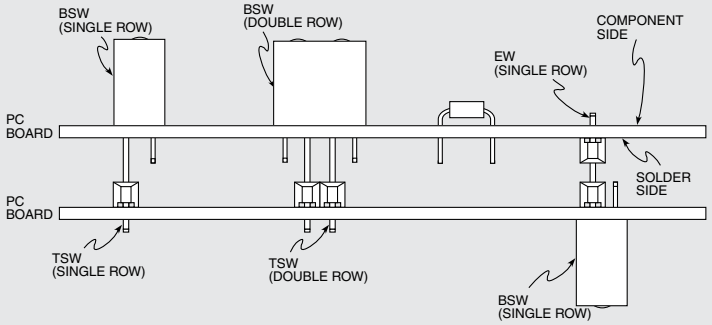
–S = Single Row

–M = Single Row More Plug Space

–E = Single Row Extended Plug Space

–D = Double Row

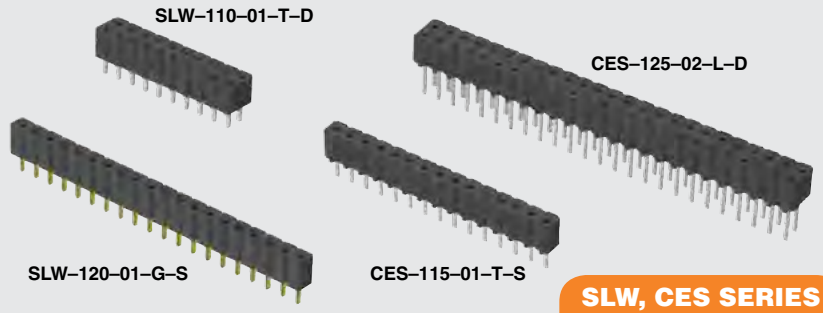
APPLICATIONS



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(2.54 mm) .100"

SLW, CES SERIES

LOW-PROFILE SOCKET STRIPS

SPECIFICATIONS

For complete specifications see www.samtec.com?SLW or www.samtec.com?CES

Insulator Material: Black G.F. Polyester
Contact Material: Phosphor Bronze
Plating: Au or Sn over 50 µ"(1.27 µm) Ni
SLW Current Rating (SLW/TSW): 5.2 A per pin (2 pins powered)
CES Current Rating (TSW/CES): 5.5 A per pin (2 pins powered)
Voltage Rating: SLW: 406 VAC CES: 400 VAC
Operating Temp Range: -55 °C to +125 °C with Gold -55 °C to +105 °C with Tin
Insertion Depth: SLW: (2.16 mm) .085" to (2.92 mm) .115" CES: (2.62 mm) .103" to (4.06 mm) .160"
RoHS Compliant: Yes
Lead-Free Solderable: No, Lead Wave only

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000 (CES ONLY)

ALSO AVAILABLE (MOQ Required)

- Other platings

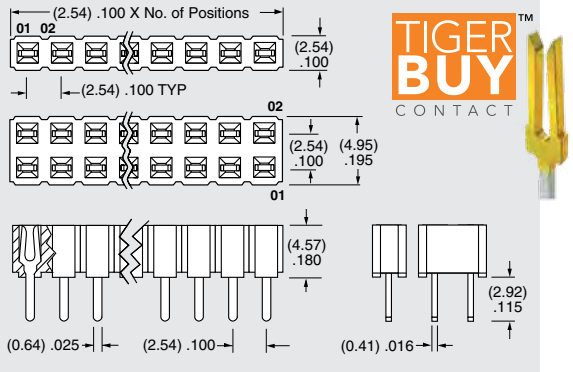
Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

SLW – 1 – NO. PINS PER ROW – 01 – PLATING OPTION – ROW OPTION

Mates with:
TLW, TSW, MTLW, MTSW, HW, EW, ZW, HTSW, HMTSW, TSM

01 thru 50



–F = Gold flash on contact, Matte Tin on tail

–L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G = 20 µ" (0.51 µm) Gold on contact, Gold flash on balance

–T = Matte Tin

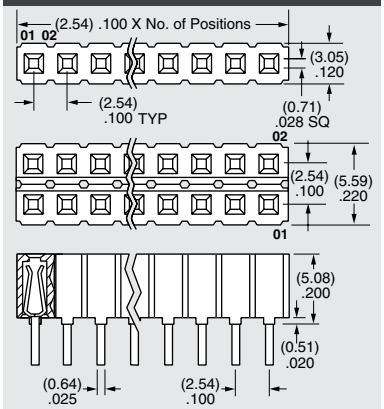
–S = Single Row

–D = Double Row

CES – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – ROW OPTION – RA OPTION

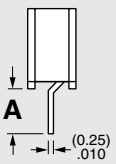
Mates with:
TLW, TSW, MTLW, MTSW, HW, EW, ZW, DW, HTSW, PHT, HMTSW

01 thru 50



–01 = (3.25 mm) .128 "A" Dim.

–02 = (5.66 mm) .223 "A" Dim.



–L = 10 µ" (0.25 µm) Gold contact, Matte Tin on tail

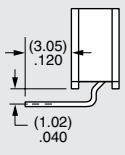
–T = Matte Tin

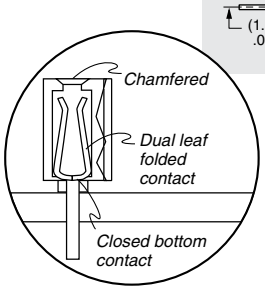
–S = Single Row

–D = Double Row

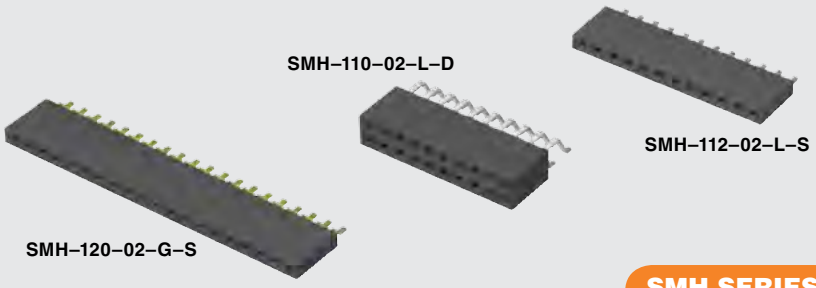
–RA = Right-angle version

Style –02 only
Single Row only





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(2.54 mm) .100"

SMH SERIES

SMT HORIZONTAL SOCKET

Mates With:
TSW, MTSW, MTLW,
EW, ZW, TSS, ZSS, TSM

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?SMH

Insulator Material:
Black LCP
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Insertion Depth:
(3.68 mm) .145" to
(6.35 mm) .250"
Max Cycles:
100 with 10 µ" (0.25 µm) Au
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.15 mm) .006" max (02-24)
(0.20 mm) .008" max (25-36)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

FILE NO: 090871_0_000

ALSO AVAILABLE (MOQ Required)

- Other platings

Contact Samtec.

Important Note:
SMH mated to TSM–DH/–SH not coplanar, SSM–DH/–SH recommended for coplanar applications.

Note:
Some lengths, styles and options are non-standard, non-returnable.

SMH	–	1	NO. PINS PER ROW	–	02	–	PLATING OPTION	–	ROW OPTION	–	OTHER OPTION

PLATING OPTION

–L
= 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail

–G
= 20 µ" (0.51 µm) Gold on contact, Gold flash on tail

–T
= Matte Tin

ROW OPTION

–S
= Single Row

–D
= Double Row

OTHER OPTION

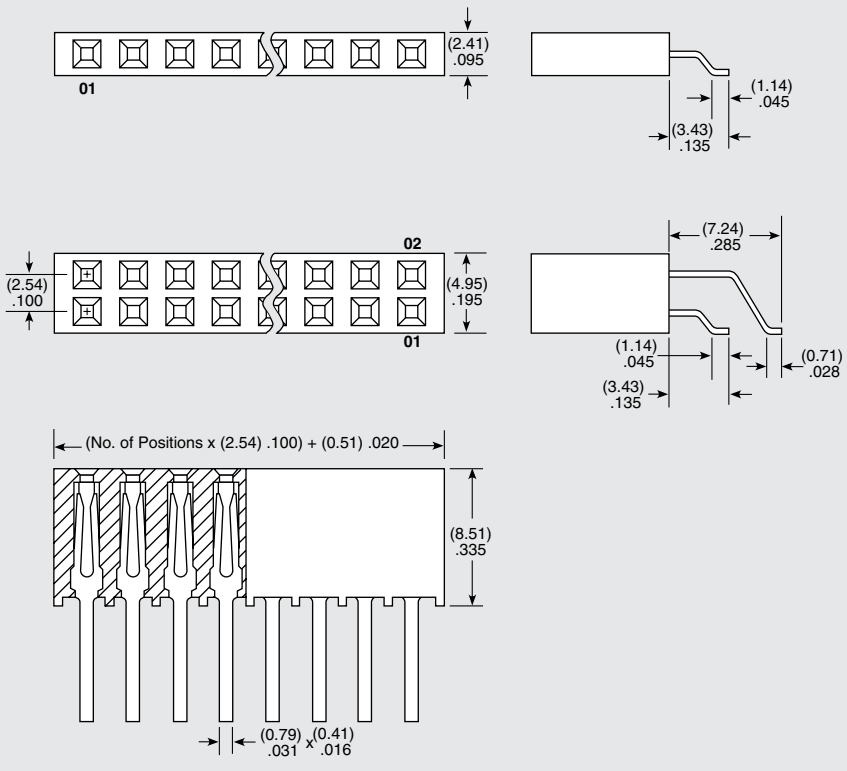
–"XX"
= Polarized Position

–TR
= Tape & Reel Packaging (02-29 positions only)

TIGER BUY™ CONTACT



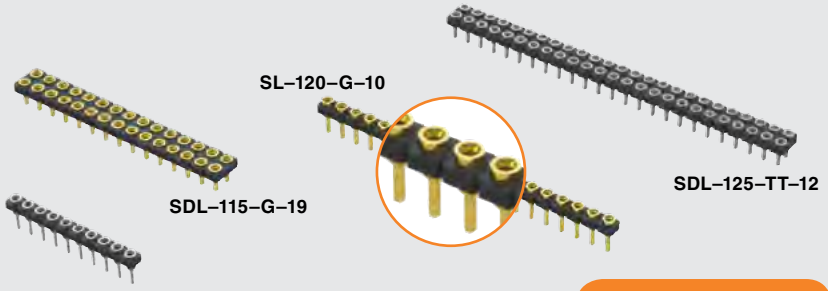
02 thru 36



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(2.54 mm) .100"

SL, SDL SERIES

LOW-PROFILE MACHINED SOCKET STRIPS

FEATURES

- Achieve low-profile without sacrificing insertion depth!
- Choice of four precision screw machined lead styles.
- Exceptionally low-profile, down to (2.11 mm) .083" off of board.
- Mates with BBL or BDL for board stacking spaces down to (3.89 mm) .153"

SPECIFICATIONS

For complete specifications see www.samtec.com?SL or www.samtec.com?SDL

Insulator Material:
Black Glass Filled Polyester
Contact/Shell Materials:
BeCu/Brass
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
RoHS Compliant: Yes
Lead-Free Solderable:
Wave only

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

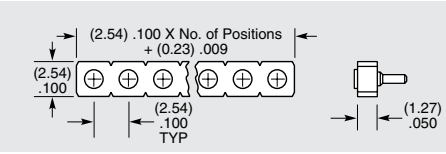
Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with:
TS, TD, HTS, BBS, BBD, BBL, BDL, BHS

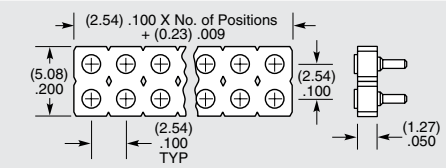
TYPE STRIP – **1** – **NO. PINS PER ROW** – **PLATING OPTION** – **LEAD STYLE**

SL
= Single Row Low-Profile Socket Strip

SDL
= Double Row Low-Profile Socket Strip



01 thru 32



01 thru 36

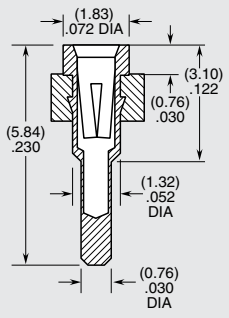
–G
= 30 µ" (0.76 µm) Gold contact, 10 µ" (0.25 µm) Gold shell

–T
= 30 µ"(0.76 µm) Gold contact, Tin shell

–TT
= Tin contact and shell (LIF not available)

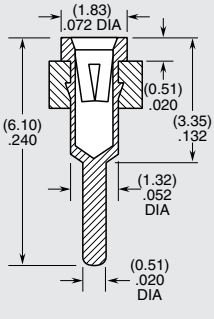
Low Insertion Force (LIF) Available

–10
= Low-Profile (Hollow Leg)



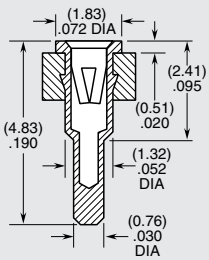
Contact Length = (2.11 mm) .083"
Lead DIA Accepted = (0.38 mm) .015" to (0.51 mm) .020"
Insertion Depth = (2.67 mm) .105" to (4.32 mm) .170"
Style 10 Component Part No. = SC-3P1

–11
= Low-Profile (Standard Mount) For LIF specify –31



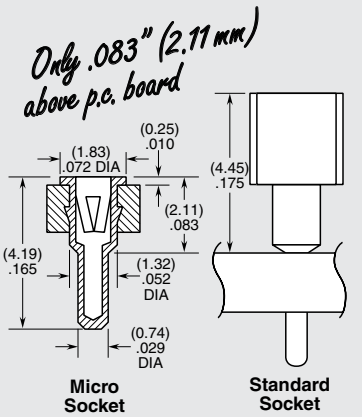
Contact Length = (1.58 mm) .062"
Lead DIA Accepted = (0.41 mm) .016" to (0.53 mm) .021"
Insertion Depth = (2.03 mm) .080" to (2.67 mm) .105"
Style 11 Component Part No. = SC-4P1
Style 31 Component Part No. = EZ-4P1

–12
= Micro-Socket (Hollow Leg)



Contact Length = (1.58 mm) .062"
Lead DIA Accepted = (0.41 mm) .016" to (0.51 mm) .020"
Insertion Depth = (1.65 mm) .065" to (3.81 mm) .150"
Style 12 Component Part No. = SC-5P1

–19
= Micro-Socket (Hollow Leg) For LIF specify –39



Micro Socket

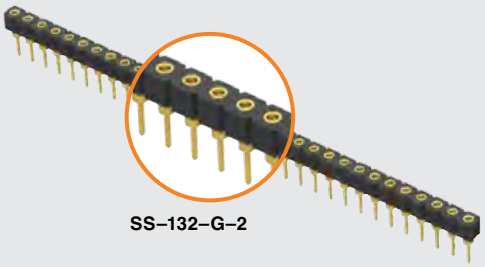
Standard Socket
(Reference only. Not available with SL & SDL)

Contact Length = (1.58 mm) .062"
Lead DIA Accepted = (0.41 mm) .016" to (0.51 mm) .020"
Insertion Depth = (1.65 mm) .065" to (3.56 mm) .140"
Style 19 Component Part No. = SC-8P1
Style 39 Component Part No. = EZ-8P1

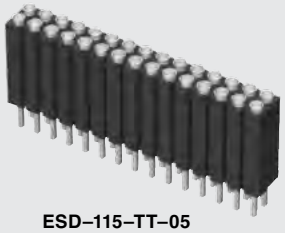
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SS–132–G–2



ESD–115–TT–05

(2.54 mm) .100"

SS, SD, ESD, ESS, HSS SERIES

PRECISION MACHINED SOCKET STRIPS

Mates with:
TS, TD, HTS, BBS, BBD, BBL, BDL, BHS

SPECIFICATIONS

For complete specifications see www.samtec.com?SS, www.samtec.com?ESS, www.samtec.com?SD, www.samtec.com?ESD or www.samtec.com?HSS

Insulator Material:
SS, SD, ESS, ESD= Black G.F. Polyester
HSS= Black Liquid Crystal Polymer
Contact:
BeCu
Shell:
Brass except Style 5A Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni or Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
Lead Size Range:
(0.38 mm to 0.56 mm) .015" to .022" DIA and most IC leads
RoHS Compliant:
Yes
Lead-Free Solderable:
Wave only

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Note:
Some lengths, styles and options are non-standard, non-returnable.

TYPE STRIP	1	NO. PINS PER ROW	PLATING OPTION	LEAD STYLE	OPTION	OTHER OPTION

01 thru 32
= SS, ESS Series

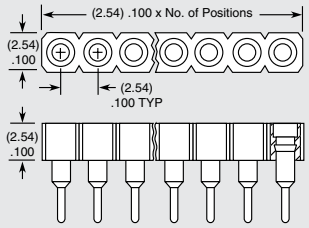
01 thru 36
= HSS, SD & ESD Series

SS
= Standard Single Row Socket

HSS
= High Temp Single Row Socket

ESS
= Elevated Single Row Socket

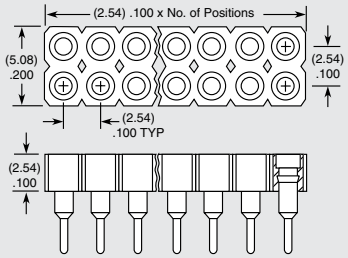
Styles –5A & –05 socket heads not countersunk.



SD
= Standard Double Row Socket

ESD
= Elevated Double Row Socket

Style –5A not available.
Styles –5A & –05 socket heads not countersunk.



LIF= Low Insertion Force

–S
= 10 µ" (0.25 µm) Gold contact, Tin shell (Styles 2 & 22 only)

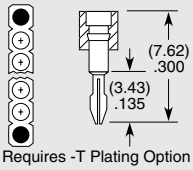
–T
= 30 µ" (0.76 µm) Gold contact, Tin shell

–G
= 30 µ" (0.76 µm) Gold contact, 10 µ" (0.25 µm) Gold shell

–TT
= Tin contact and shell (Styles 1, 2, 4, and 05 except LIF N/A)

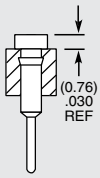
– L = Locking Socket

Add **–L** suffix for locking lead socket in end positions. Requires **Style -2** or **-22** and .035" ± .003 DIA board hole.



Requires -T Plating Option

– N
= Non Flush



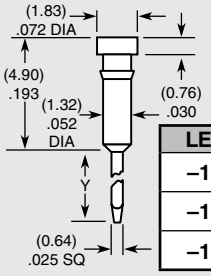
N/A Style –5A

ALSO AVAILABLE
(MOQ Required)

- Locking lead option on ESS and ESD series

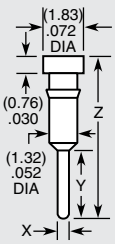
Contact Samtec.

–1A, –1B or –1C
For LIF specify –21A, –21B or –21C
(SS, HSS, SD)



LEAD STYLE	Y
–1A or –21A	(9.14) .360
–1B or –21B	(12.95) .510
–1C or –21C	(6.60) .260

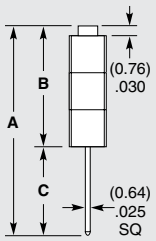
–2, –22*, –5A, or –38*
*For LIF specify –22 or –38 (SS, HSS, SD)



LEAD STYLE	X DIA	Y	Z
–2 or –22	(0.51) .020	(3.18) .125	(7.62) .300
–38	(0.51) .020	(4.57) .180	(8.89) .350
–5A	(0.89) .035	(12.95) .510	(17.86) .703

Locking lead available. See OPTION.

–03, –04, –05
For LIF specify –23
(ESS, ESD)

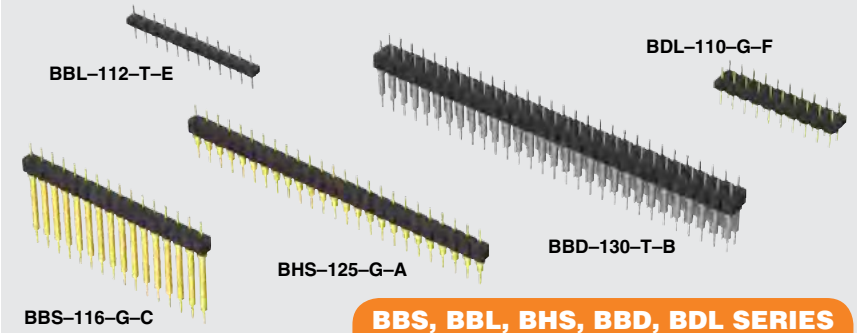


LEAD STYLE	A	B	C
–05	(17.86) .703	(13.46) .530	(4.39) .173
–03 or –23	(11.51) .453	(8.38) .330	(3.12) .123
–04	(14.05) .553	(10.92) .430	(3.12) .123

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(2.54 mm) .100"

BBS, BBL, BHS, BBD, BDL SERIES

MACHINED BOARD STACKING STRIPS

Mates with:
SS, SD, HSS, SL, SDL, ESS, ESD

FEATURES

- Low-profile design achieves (3.89 mm) .153" board spacings when mated with SL Series.
- Approach the reliability of a permanent connection with the flexibility of a separable connection.

SPECIFICATIONS

For complete specifications see www.samtec.com?BBS, www.samtec.com?BBL, www.samtec.com?BHS www.samtec.com?BBD or www.samtec.com?BDL

Insulator Material:
Black Glass Filled Polyester (BBS, BBD, BBL)
Black High Temp Nylon (BDL)
Black Liquid Crystal Polymer (BHS)
Temperature Range:
-55 °C to +125 °C
Terminal Material:
Phosphor Bronze or Brass
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
RoHS Compliant:
Yes
Lead-Free Solderable:
Wave only (BBS, BBD, BBL, BDL)
Wave, or reflow with all Au (BHS)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

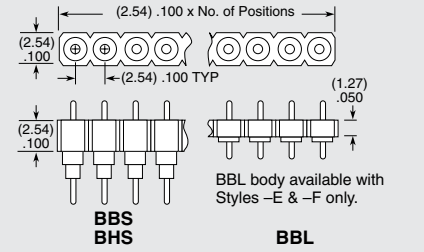
Note: Some lengths, styles and options are non-standard, non-returnable.

TYPE STRIP – **1** **NO. PINS PER ROW** – **PLATING OPTION** – **LEAD STYLE**

BBS = Standard Single Row

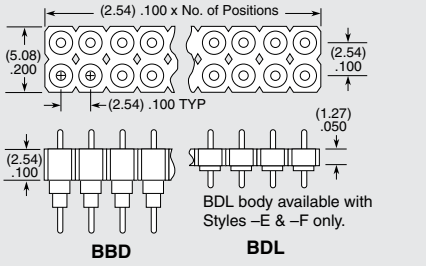
BBL = Low-Profile Single Row

BHS = High Temp Single Row



BBD = Standard Double Row

BDL = Low-Profile Double Row



–G =20 µ" (0.51 µm) Gold

–T =Tin

01 thru 32 =BBS & BBL

01 thru 36 =BBD, BDL & BHS

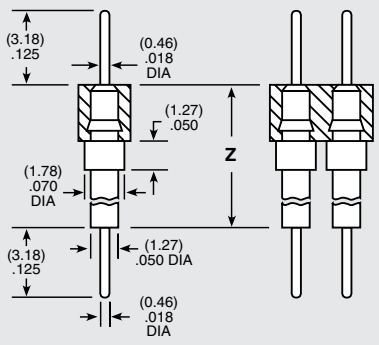
–A Z = (5.33 mm) .210"

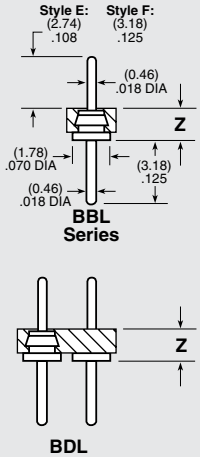
–B Z = (8.51 mm) .335"

–C Z = (14.86 mm) .585"

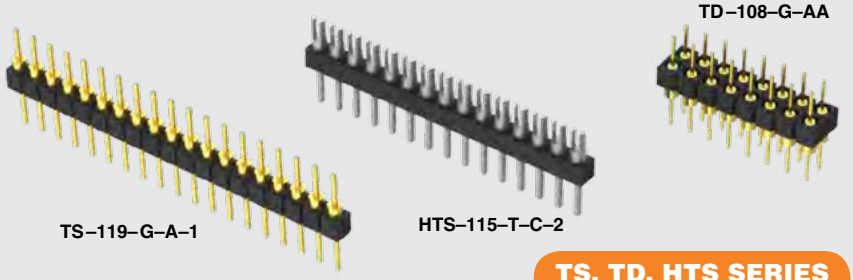
–E Z = (1.78 mm) .070"

–F Z = (2.16 mm) .085"





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(2.54 mm) .100"

TS, TD, HTS SERIES

PRECISION MACHINED TERMINAL STRIPS

SPECIFICATIONS

For complete specifications see www.samtec.com?TS, www.samtec.com?TD or www.samtec.com?HTS

Insulator Material:
Black G.F. Polyester (TS, TD)
Black Liquid Crystal Polymer (HTS)
Terminal Material:
Brass, except Style G is Phosphor Bronze
Plating:
Au over 50 µ" (1.27 µm) Ni or Sn over 100 µ" (2.54 µm) Cu or 50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
RoHS Compliant:
Yes
Lead-Free Solderable:
Wave only

RECOGNITIONS

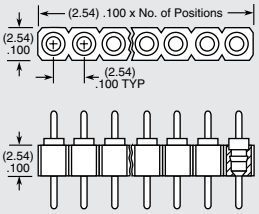
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

Mates with:
SS, SD, HSS, SL, SDL, ESS, ESD

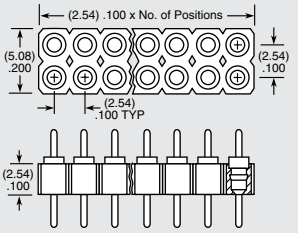
TYPE STRIP – **1** **NO. PINS PER ROW** – **PLATING OPTION** – **LEAD STYLE**

TS
= Single Row Terminal Strip



HTS
= Single Row High Temp Terminal Strip

TD
= Double Row Terminal Strip



–G
= 20 µ" (0.51 µm) Gold Except –J & –L are 10 µ" (0.25 µm) Gold

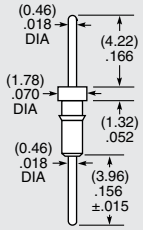
–T
= Tin

01 thru 32
=TS Series

01 thru 36
=HTS & TD Series

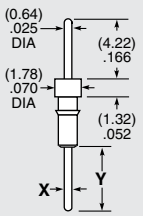
Note: Some lengths, styles and options are non-standard, non-returnable.

–AA



Component No. = T-1R5-

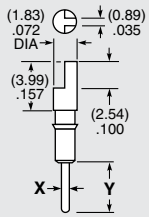
–A, –A–1, –A–2



LEAD STYLE	X (DIA)	Y (±.015)
–A	(0.46) .018	(3.96) .156
–A–1	(0.64) .025	(5.33) .210
–A–2	(0.89) .035	

-A Component No. =T-1R0-
-A-X Component No. =T-1R7

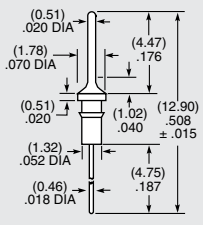
–C, –C–1, –C–2



LEAD STYLE	X (DIA)	Y (±.015)
–C	(0.46) .018	(3.96) .156
–C–1	(0.64) .025	(5.33) .210
–C–2	(0.89) .035	

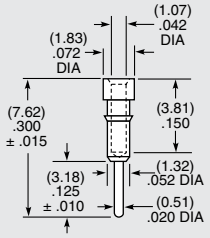
-C Component No. =T-1R2-
-C-X Component No. =T-1R9-

–G–1



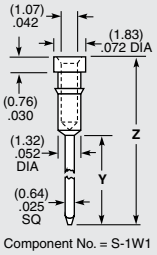
Component No. = T-1R5-

–J



Component No. = S-1P1-

–L–1, –L–2, –L–3



Component No. = S-1W1

LEAD STYLE	Y (DIA)	Y (±.015)
–L–1	(12.95) .510	(17.86) .703
–L–2	(9.14) .360	(14.05) .553
–L–3	(6.60) .260	(11.51) .453

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BTMM–106–01–T–S


SNT–100–BK–T–H


MNT–114–BK–G


JL–300–25–T


SNT–100–BK–G

(2.54 mm) .100"

SNT, MNT, 2SN, SNM, PK, JL, BTMM SERIES

SHUNTS & JUMPERS

SNT/MNT mates with:
TSW, HTSW, MTSW, HMTSW, TLW, DW, EW, ZW, HW, TSM, BST, PHT

2SN mates with:
TMMH, TMM, MTMM, MMT, TW, LTMM, ZLTMM, TSH, EHT

SNM mates with:
TMS, MTMS, DWM

SPECIFICATIONS

For complete specifications see www.samtec.com?SNT, www.samtec.com?MNT, www.samtec.com?2SN, www.samtec.com?SNM

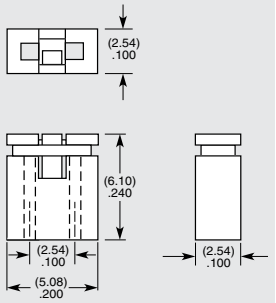
Insulator Material:
Glass Filled Polyester
Contact Material:
Phosphor Bronze
Current Rating (SNT/TSW):
SNT=4.3 A per pin
(1 pin powered per row)
Current Rating (MNT/TSM):
MNT=3.9 A per pin
(1 pin powered per row)
Operating Temp Range:
-55 °C to +125 °C
Working Voltage:
MNT: 450 VAC
Insertion Depth:
SNT=(4.32 mm) .170" min.
2SN=(2.29 mm) .090" min.
SNM=(3.43 mm) .135" min.
Lead Size accepted:
SNT= (0.64 mm) .025" SQ
2SN= (0.51 mm) .020" SQ
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

SNT – 100 – BODY COLOR – PLATING OPTION – HANDLE OPTION

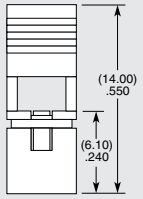


BODY COLOR
- **–BK** = Black
- **–OR** = Orange
- **–RD** = Red
- **–BL** = Blue
- **–YW** = Yellow

PLATING OPTION
- **–G** = 10 µ" (0.25 µm) Gold
- **–T** = Tin

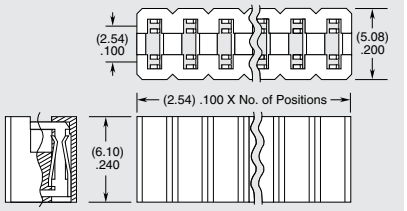
Note: Other Gold plating options available. Contact Samtec.

HANDLE OPTION
- **–H** = Handle (Black Only)



MNT – 1 – NO. OF POSITIONS – BODY COLOR – PLATING OPTION

NO. OF POSITIONS
02 thru 20

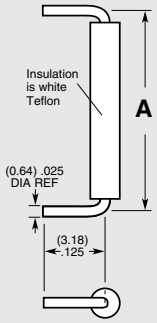


BODY COLOR
- **–BK** = Black

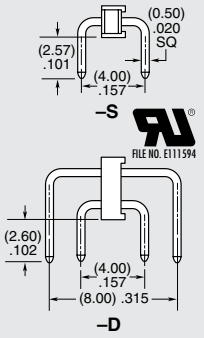
PLATING OPTION
- **–G** = 10 µ" (0.25 µm) Gold
- **–T** = Tin

Note: Some lengths, styles and options are non-standard, non-returnable.

JL



BTMM



For complete specifications see www.samtec.com?BTMM

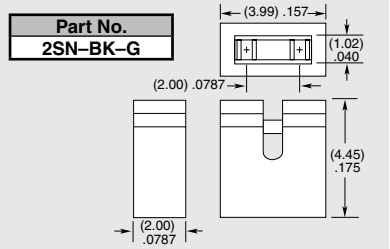
JL

For complete specifications see www.samtec.com?JL

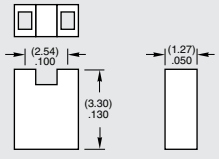
Part No.	A
JL–100–25–T	(2.54) .100
JL–250–25–T	(6.35) .250
JL–300–25–T	(7.62) .300
JL–400–25–T	(10.16) .400
JL–500–25–T	(12.70) .500
JL–600–25–T	(15.24) .600
JL–1000–25–T	(25.40) 1.000

2SN

Part No. 2SN–BK–G

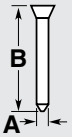


SNM



Part No. SNM–100–BK–G

PK

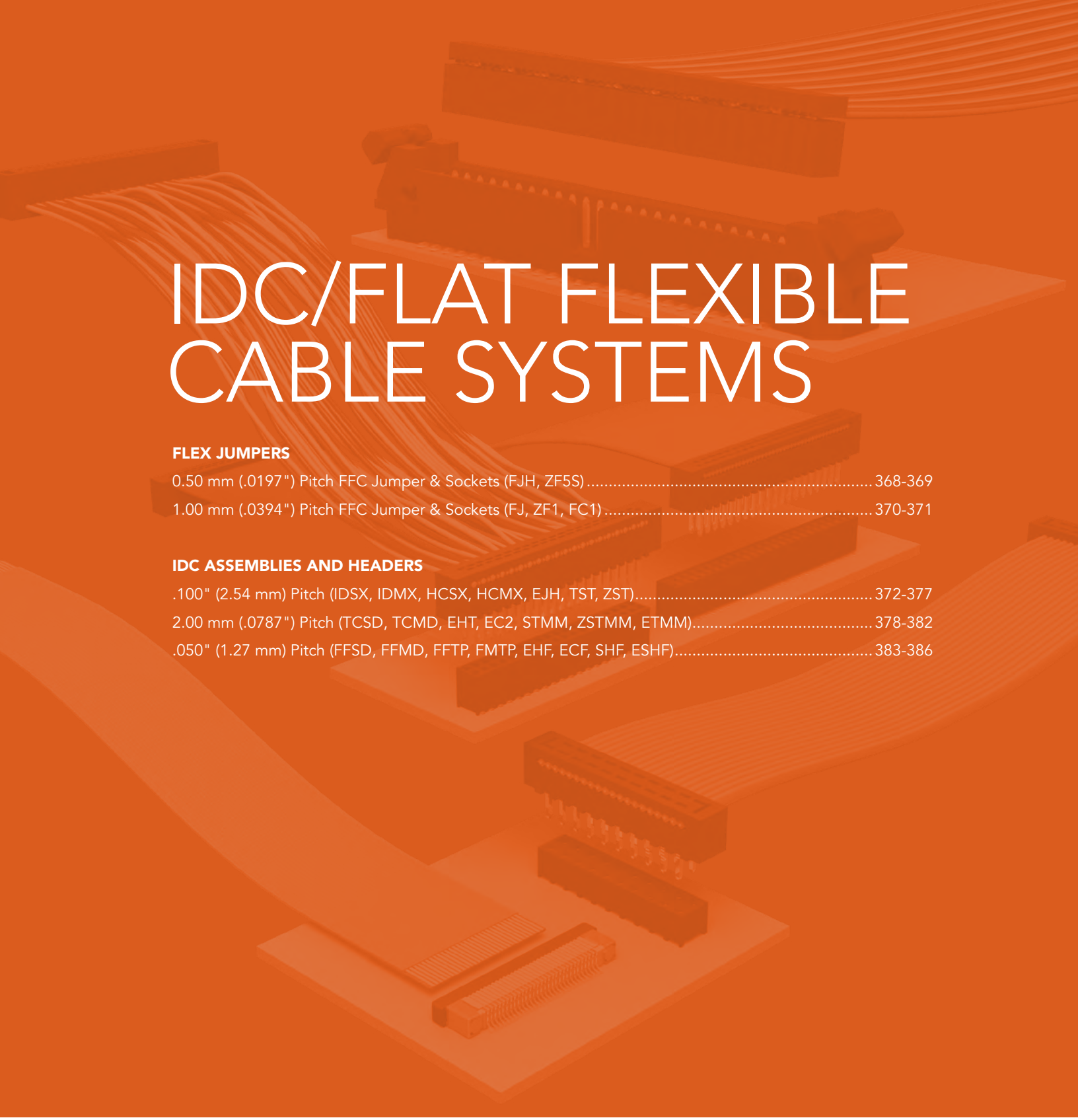


Part No.	A	B
PK–01–06	(0.64) .025 SQ	(5.84) .230
PK–01–07	(0.51) .020 SQ	(3.18) .125

Insulator Material:
Natural Thermoplastic
Note: Order per wheel.
6 pins per wheel.

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IDC/FLAT FLEXIBLE CABLE SYSTEMS

FLEX JUMPERS

0.50 mm (.0197") Pitch FFC Jumper & Sockets (FJH, ZF5S) 368-369

1.00 mm (.0394") Pitch FFC Jumper & Sockets (FJ, ZF1, FC1) 370-371

IDC ASSEMBLIES AND HEADERS

.100" (2.54 mm) Pitch (IDSX, IDMX, HCSX, HCMX, EJH, TST, ZST) 372-377

2.00 mm (.0787") Pitch (TCSD, TCMD, EHT, EC2, STMM, ZSTMM, ETMM) 378-382

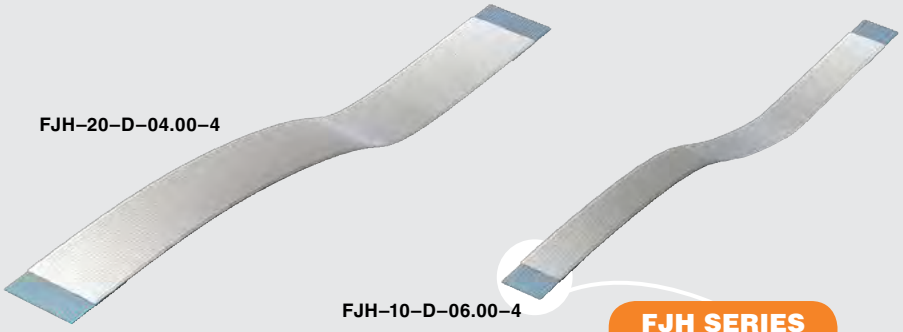
.050" (1.27 mm) Pitch (FFSD, FFMD, FFTP, FMTP, EHF, ECF, SHF, ESHF) 383-386

APPLICATIONS

IDC Cables 42

Modified and Custom 43

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(0.50 mm) .0197"

FJH SERIES

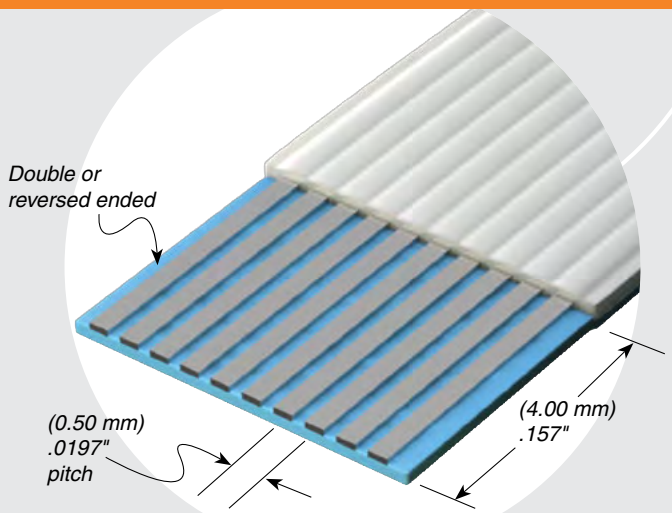
FLAT FLEXIBLE CABLE (FFC) JUMPER

SPECIFICATIONS

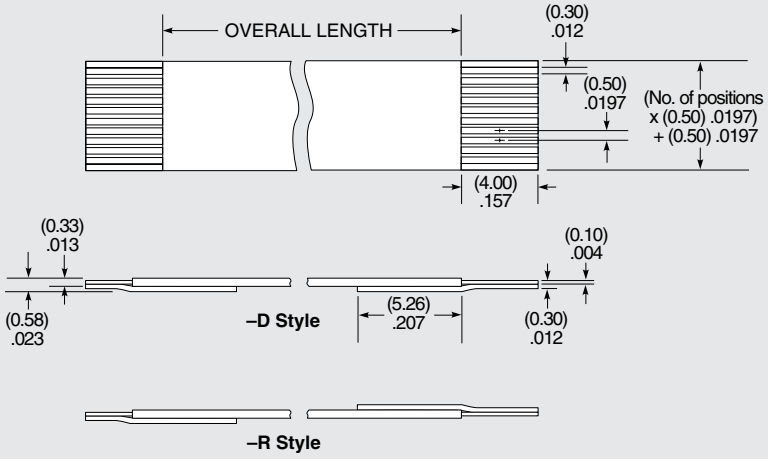
For complete specifications see www.samtec.com?FJH

Conductor: Tin Plated Copper
Conductor Resistance: 1000 Ω/km max
Insulation Resistance: 10 MΩ/km min (conductor-to-conductor)
Dielectric Test: 400 VAC during 1 minute (conductor-to-conductor)
Temperature Rating: -30 °C to +80 °C
Voltage Rating: 60 VAC
RoHS Compliant: Yes

Mates with:
ZF5S



FJH	– NO. OF POSITIONS	– STYLE	– OVERALL LENGTH	– STRIP LENGTH
	–10, –15, –20, –25, –30, –40, –43, –50	–D = Double End –R = Reversed End	–"XX.XX" = Specify OVERALL LENGTH in inches (±1/8 inch) (–D & –R = (50.80 mm) 2.00" minimum)	–4 = (4.00 mm) .157"

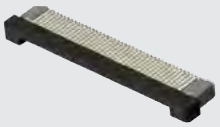


Note: Stiffener color will be blue or black at Samtec's discretion.

Note: Some sizes, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

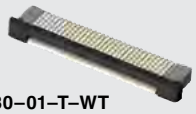
All parts within this catalog are built to Samtec's specifications.
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ZF5S–40–01–T–WT



ZF5S–20–01–T–WT



ZF5S–30–01–T–WT

(0.50 mm) .0197"

ZF5S SERIES

FLAT FLEXIBLE CABLE (FFC) SOCKET

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ZF5S

Insulator Material:
Natural LCP
Contact Material:
Phosphor Bronze
Plating:
Sn over 50 µ" (1.27 µm) Ni
Weld Tab:
Phosphor Bronze
Operating Temp Range:
-55 °C to +105 °C
Current Rating:
1.8 A per pin
(1 pin powered)
RoHS Compliant:
Yes

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (10-30)
(0.15 mm) .006" max (40-50)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

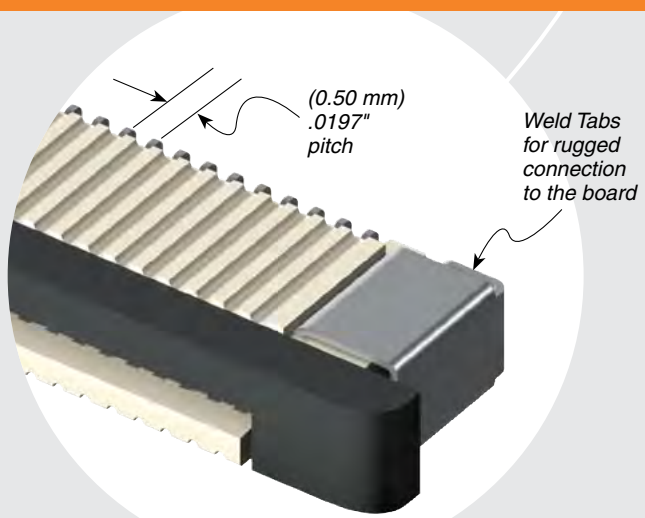
ALSO AVAILABLE
(MOQ Required)

- Vertical
- Contact top
- Other positions

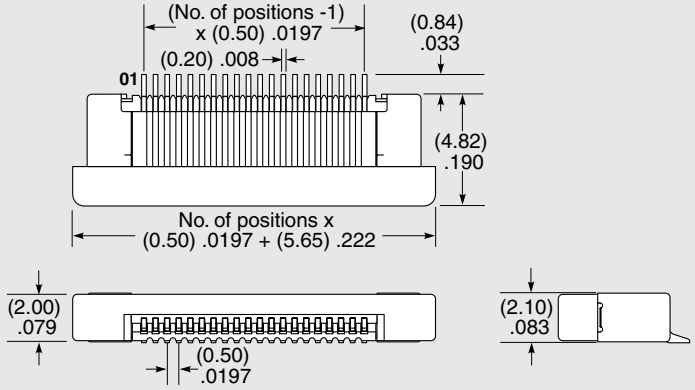
Contact Samtec.

Note: Some sizes, styles and options are non-standard, non-returnable.

Mates with:
FJH



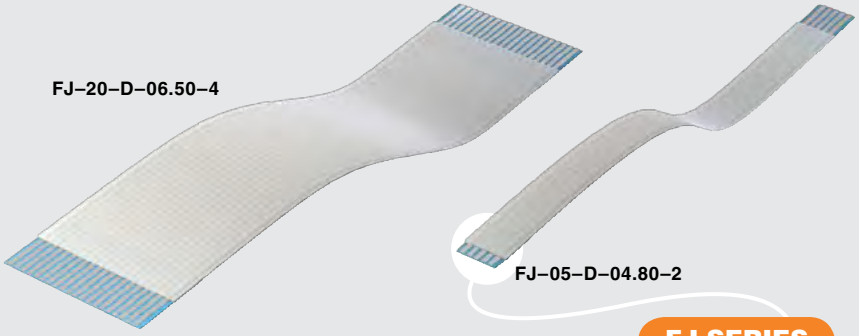
ZF5S –	NO. OF POSITIONS –	LEAD STYLE –	PLATING OPTION –	WT –	OPTION
	–10, –15, –20, –25, –30, –40, –43, –50 (Standard sizes)	–01 = Contact Bottom	–T = Matte Tin	–WT = Weld Tab	–K = (3.00 mm) .118" DIA Polyimide Film Pick & Place Pad –TR = Tape & Reel Packaging



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(1.00 mm) .0394"

FJ SERIES

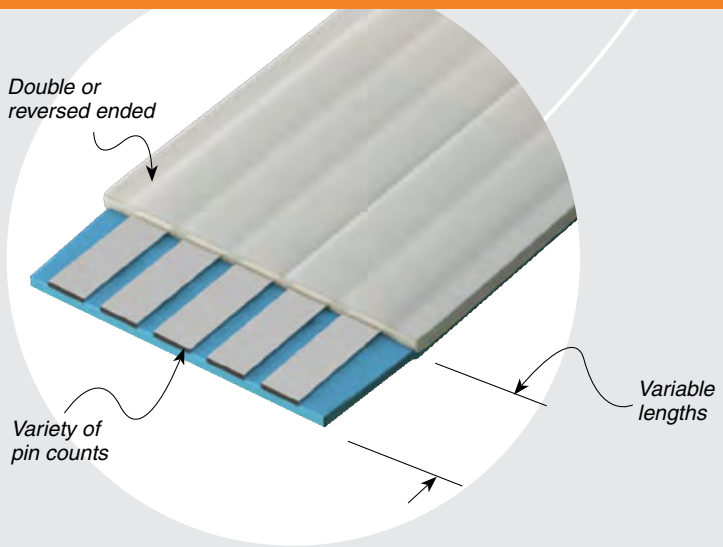
FLAT FLEXIBLE CABLE (FFC) JUMPER

SPECIFICATIONS

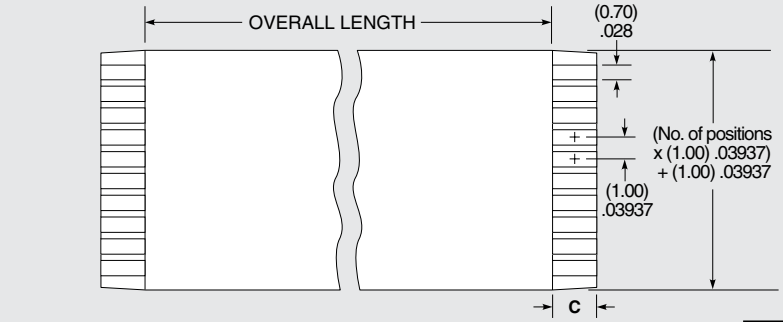
For complete specifications see www.samtec.com?FJ

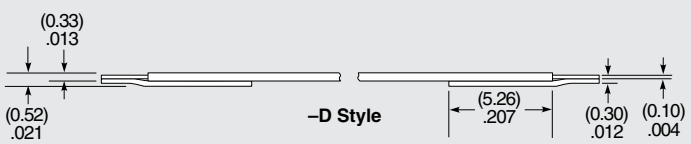
Conductor:
Tin Plated Copper
Conductor Resistance:
300 Ω/km max
Insulation Resistance:
10 MΩ/km min
(conductor-to-conductor)
Dielectric Test:
400 VAC during 1 minute
(conductor-to-conductor)
Temperature Rating:
-30 °C to +80 °C
Voltage Rating:
300 VAC
RoHS Compliant:
Yes

Mates with:
FC1, ZF1



FJ	NO. OF POSITIONS	STYLE	OVERALL LENGTH	STRIP LENGTH
	–05, –10, –15, –20, –25, –30	–D = Double End –R = Reversed End	–"XX.XX" = Specify OVERALL LENGTH in inches (±1/8 inch) (–D = (50.80 mm) 2.00" minimum)	–2 = (2.00 mm) .079" –4 = (4.00 mm) .157" (Required for mating with FC1 & ZF1)





STRIP LENGTH	C
–2	(2.00) .079
–4	(4.00) .157



–R Style

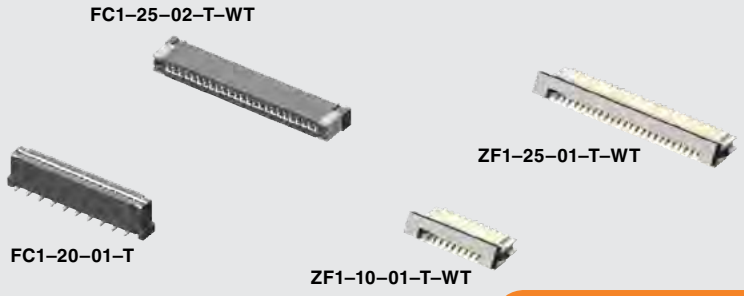
Note: Stiffener color will be blue or black at Samtec's discretion.

Note: Some sizes, styles and options are non-standard, non-returnable.

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(1.00 mm) .0394"

ZF1, FC1 SERIES

FLAT FLEXIBLE CABLE (FFC) SOCKET

Mates with:
FJ

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?ZF1

Insulator Material: Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Plating: Sn over 40 µ" (1.02 µm) Ni
Weld Tab: Phosphor Bronze
Operating Temp Range: -55 °C to +105 °C
RoHS Compliant: Yes

PROCESSING

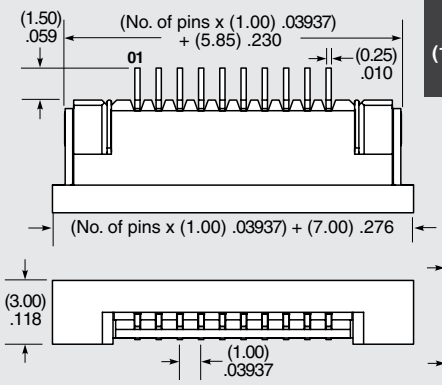
Lead-Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max

RECOGNITIONS

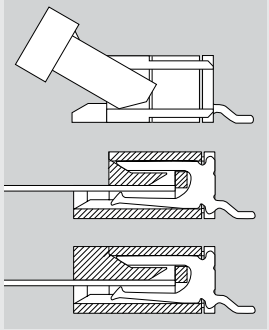
For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ZF1 –	NO. OF POSITIONS –	LEAD STYLE –	PLATING OPTION –	WT –	OPTION
	–05, –10, –15, –16, –20, –25, –30	–01 = Contact Bottom –02 = Contact Top (10 positions only)	–T = Matte Tin	–WT = Weld Tab	–TR = Tape & Reel Packaging



APPLICATION



ALSO AVAILABLE (MOQ Required)

- Other positions

Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with:
FJ

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?FC1

Insulator Material: Liquid Crystal Polymer
Contact Material: Phosphor Bronze
Plating: Sn over 50 µ" (1.27 µm) Ni
Operating Temp Range: -55 °C to +105 °C
Max Cycles: 25 with FJ
RoHS Compliant: Yes

PROCESSING

Lead-Free Solderable: Yes
SMT Lead Coplanarity: (0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

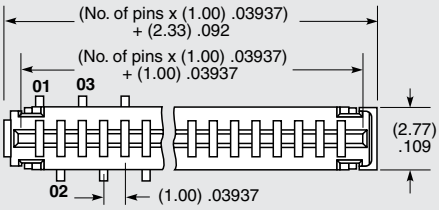
FILE NO. E111594

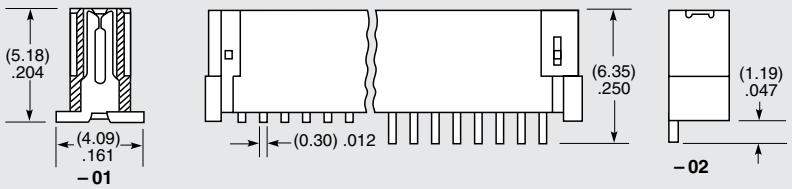
FC1 –	NO. OF POSITIONS –	LEAD STYLE –	PLATING OPTION –	OPTIONS
	–05, –10, –15, –20 & –25	–01 = Vertical –02 = Horizontal	–T = Tin	–LC = Locking Clip (Manual placement required) (–01 only) –WT = Weld Tab (–02 only) –K = (4.00 mm) .158" DIA Polyimide film Pick & Place Pad (–01 only) –TR = Tape & Reel Packaging

ALSO AVAILABLE (MOQ Required)

- Low insertion force contacts available

Contact Samtec.



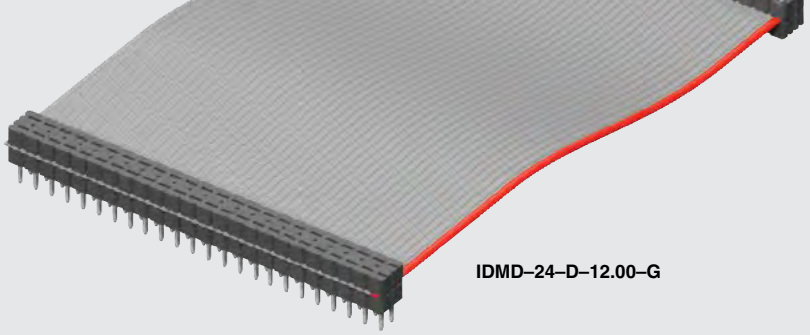


Note: Some lengths, styles and options are non-standard, non-returnable.

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IDMD–24–D–12.00–G

(2.54 mm) .100"

SLIM BODY FLAT RIBBON IDC CABLES

SPECIFICATIONS

For complete specifications see www.samtec.com?IDSS, www.samtec.com?IDSD, www.samtec.com?IDMS or www.samtec.com?IDMD

Insulator Material:
Black Glass Filled Polyester
Plating:
Au over 50 µ" (1.27 µm) Ni or Sn over 100 µ" (2.54 µm) Cu or 50 µ" (1.27 µm) Ni
Wire:
28 AWG 7/36 stranded Tinned Copper
Temperature Range:
-20 °C to +105 °C (Rainbow Cable)
-40 °C to +105 °C (Gray Cable)
Contact (IDSS/IDSD):
BeCu
Terminal (IDMS/IDMD):
Phosphor Bronze
Current Rating (IDSD/TST):
3.4 A per pin (2 pins powered)
Current Rating (IDMD):
3 A per pin (2 pins powered)
Lead Size Range:
(0.56 mm) .022" SQ to (0.71 mm) .028" SQ
Lead Insertion Depth:
(5.59 mm) .220" to (6.22 mm) .245"
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

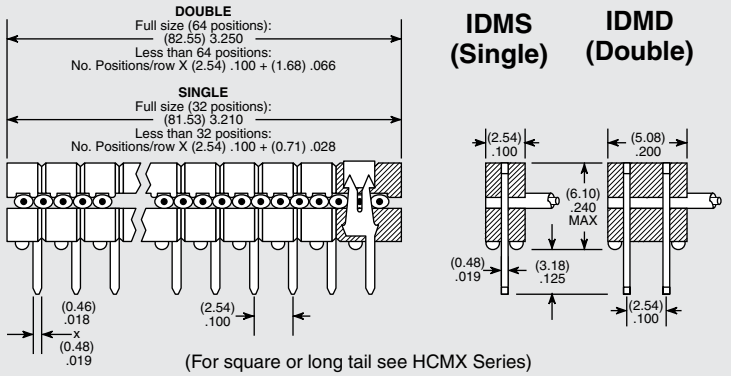
Note:
This Series is non-standard, non-returnable.

Mates with:
TSW, MTSW, TSM, EJH, PHT, HMTSW, HTSW, HW, DW, EW, ZW, MTLW

IDSD Mates with:
TST, HTST, ZST, BST, EJH

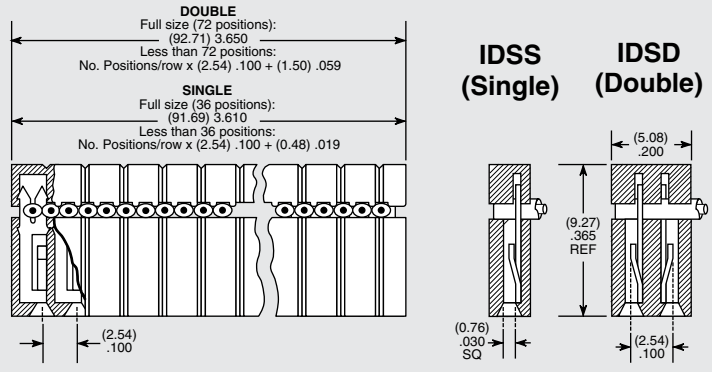
TYPE STRIP	ROW OPTION	NO. PINS PER ROW	END ASSEMBLY
IDM = Standard Tail Male Plug IDS = Socket	S = Single D = Double (Color coded cable N/A for 31 thru 36 pins/row. See –G option.)	–02 thru –32 –02 thru –36	–S = Single End –D = Double End –T = Transfer End

–02 thru –32

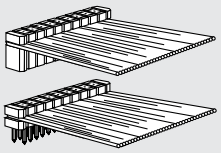


(For square or long tail see HCMX Series)

–02 thru –36

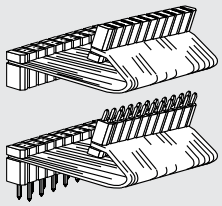


–S = Single End



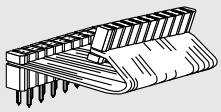
Socket or Male Plug on one end

–D = Double End



Socket or Male Plug on each end

–T = Transfer End



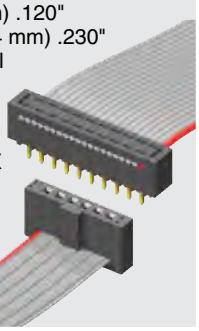
Male Plug on one end with socket on other. **Begin part number with IDM.**

OTHER SOLUTIONS

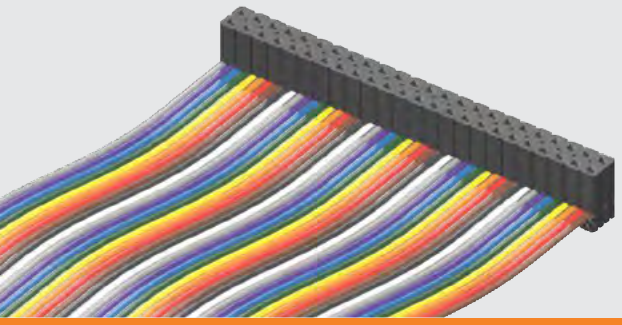
Molded-To-Position IDC Assemblies

- Low profile
- Skinny side locks
- Dual beam contacts
- Single and double row
- (3.05 mm) .120" and (5.84 mm) .230" length tail available

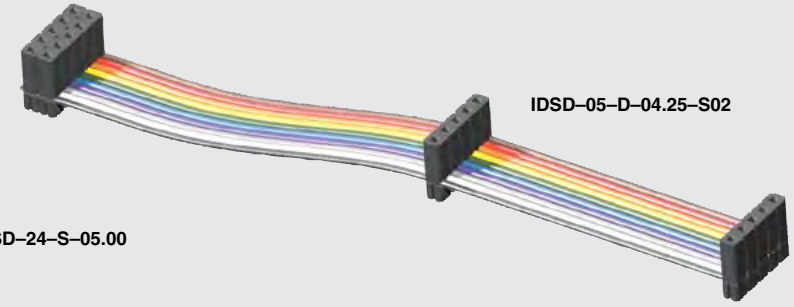
Call Samtec for HCXX Series.



All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.



IDSD–24–S–05.00

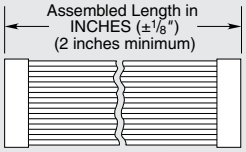


IDSD–05–D–04.25–S02

IDSS, IDSD, IDMS, IDMD SERIES

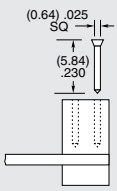
ASSEMBLED LENGTH

– "XX.XX"
= Assembled Length



OPTION

POLARIZING KEY



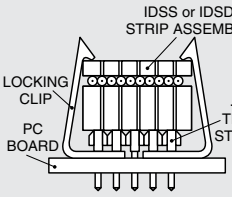
Optional polarizing key for use with IDSS & IDSD Series. Also polarizes SSW, SSQ, ESW & ESQ Series. Black High Temperature Thermoplastic

Order: Part Number PK-01-06
(Available in wheels of six each)

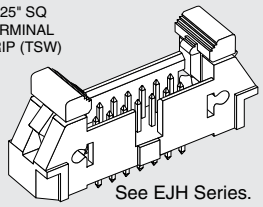
EJECTOR HEADERS & LOCKING CLIPS

RUGGEDIZED BY SAMTEC

- Ejector headers
- Locking clips



See TSW Series.



See EJH Series.

–T = Tin Plating (Both ends)

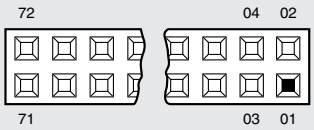
–C = Tin IDM 10 µ" (0.25 µm) Gold IDS (-T End Assembly Required)

–A = 10 µ" (0.25 µm) Gold IDM Tin IDS (-T End Assembly Required)

Standard plating is selective gold over BeCu contact for IDS; Selective gold over phosphor bronze for IDM.

1

–P "XX"
=Polarized



Specify "XX" as position. For Double the same position will be polarized on both ends. (Not available on IDM unless transfer, then only the socket is polarized.)

2

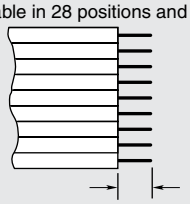
–G
= Gray Cable

Specify –G for Gray cable. Gray cable has one red edge. IDSS and IDMS uses .100" centerline cable. IDSD and IDMD uses .050" centerline cable. Cable is 28 AWG 7/36 copper wire. Standard cable is same as above except color coded.

3

–ST "X"
= Stripped & Tinned

Specify Suffix from table.
All dimensions are ± 1/16".
Not available in 28 positions and higher.

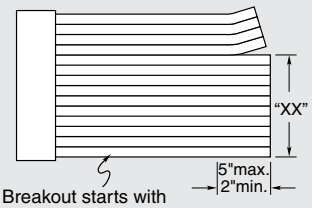


–ST8	1/8" (3.18)
–ST4	1/4" (6.35)
–ST2	1/2" (12.70)
–ST3	3/8" (9.53)

4

–B "XX"
= Breakout

Specify "XX" as number of conductors to be broken out.



Breakout starts with Number 1 lead indicated by brown wire or red stripe. Shown on top side.

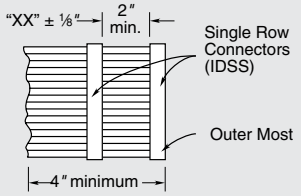
5

–RW
= Reversed Wiring

#1 wire opposite position #1.

6

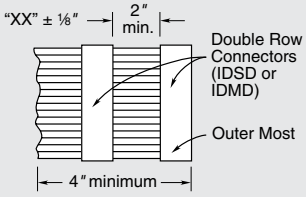
–S "XX"
= Daisy Chain Single



When mating double row connector with two single row connectors, the outer most single will be connected to Conductor #1 and the inside single to Conductor #2.

7

–D "XX"
= Daisy Chain, Double



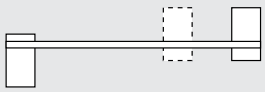
7

–W "XX"
= Wiring Reversed Daisy Chain, Single

Same as –S "XX" except outer strip connected to Conductor #2 and inside strip connected to Conductor #1.

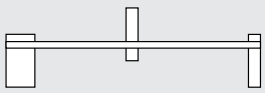
7

–R
= Reversed



8

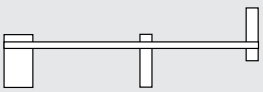
–M
= Middle Reversed



Requires –SXX, –WXX or –DXX

8

–O
= Outside Reversed



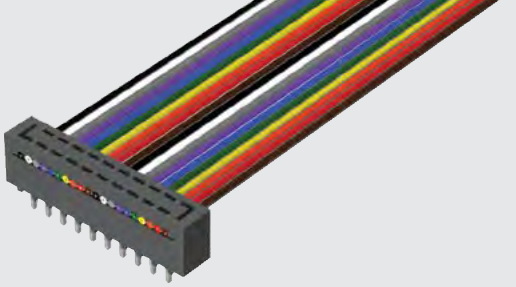
Requires –SXX, –WXX or –DXX

8

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HCMD–10–S–03.00–01

(2.54 mm) .100"

IDC SOCKET & TERMINAL CABLE

Mates with:
TSW, MTSW, TST, EW, BST, ZST, MTLW, TSM, EJH-02 (HCSD only)

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HCSD or www.samtec.com?HCSS

HCSD, HCSS

Insulator Material:
Black Liquid Crystal Polymer
Flammability Rating:
UL 94V-O
Insulation Resistance:
5000 MΩ
Temperature Range:
-20 °C to +105 °C
(Rainbow Cable)
-40 °C to +105 °C (Gray Cable)
Withstanding Voltage:
1000 VRMS @ 60 Hz
Contact: Phosphor Bronze
Plating: 10 µ" (0.25 µm) Au on contact area, 150 µ" (3.81 µm) Sn on balance over 50 µ" (1.27 µm) Ni.
Lead Size Range:
.024" (0.61 mm) SQ to .026" (0.66 mm) SQ
Lead Insertion Depth:
.185" (4.70 mm) to .250" (6.35 mm)
Wire:
28 AWG 7/36 stranded Tinned Copper
RoHS Compliant:
Yes

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?HCMD or www.samtec.com?HCMS

HCMD, HCMS

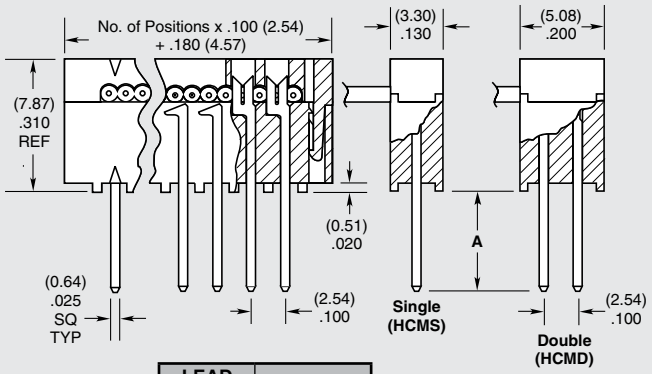
Insulator Material:
Black Liquid Crystal Polymer
Flammability Rating:
UL 94V-O
Insulation Resistance:
5000 MΩ
Temperature Range:
-20 °C to +105 °C
(Rainbow Cable)
-40 °C to +105 °C (Gray Cable)
Withstanding Voltage:
1000 VRMS @ 60 Hz
Terminal:
Phosphor Bronze
Plating:
Sn over 50 µ" (1.27 µm) Ni
Wire:
28 AWG 7/36 stranded Tinned Copper
RoHS Compliant:
Yes

Note:
IDC assemblies are non-standard, non-returnable.

TYPE STRIP	ROW OPTION	NO. PINS PER ROW	END ASSEMBLY	ASSEMBLED LENGTH
	S = Single **D** = Double (Color coded cable N/A for 36 pins/row. See –G option.)	–05, –08, –10, –12, –13, –15, –17, –20, –25, –36		**–"XX.XX"** = Assembled Length

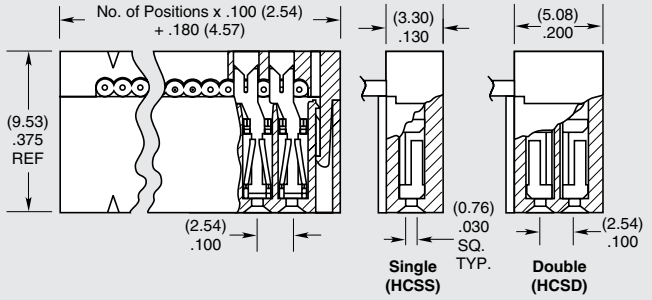
Assembled Length in INCHES (±1/8") 2 inches minimum

HCM
= Male Strip

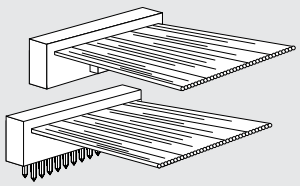


LEAD STYLE	A
–01	(3.05) .120
–02	(5.84) .230

HCS
= Socket Strip

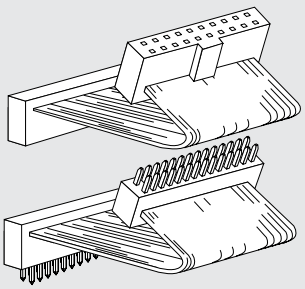


–S = Single End



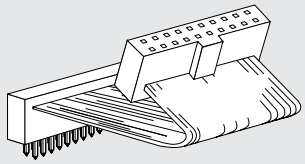
Socket or Male Plug on one end

–D = Double End

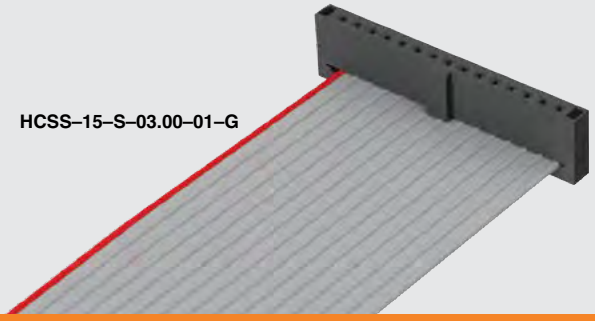


Socket or Male Plug on each end

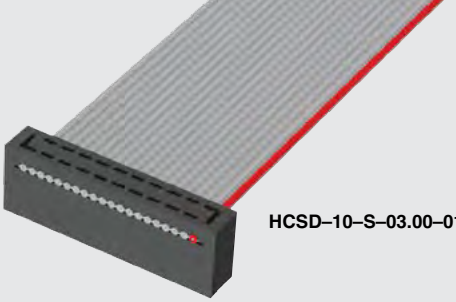
–T = Transfer End



Male Plug on one end with socket on other.
Begin part number with HCM.



HCSS–15–S–03.00–01–G



HCSD–10–S–03.00–01–T–G

HCMD, HCMS, HCSD, HCSS SERIES

LEAD STYLE

–01
= HCSS/HCSD or (3.05 mm) .120" tail for HCMS/HCMD

–02
= (5.84 mm) .230" tail HCMS/HCMD only

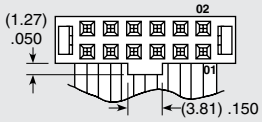
PLATING OPTION

–S
= 10 µ" (0.25 µm) Gold on contact area or tail, Tin on balance (Standard on HCSS & HCSD. Leave blank)

–T
= Tin (Standard on HCMS & HCMD. Leave blank)

NOTCH POLARIZATION

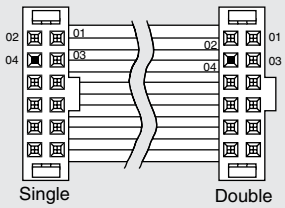
–N = Notch Polarization



Required for HCSS and HCSD. (Not available on HCMS or HCMD, unless Transfer, then only the socket is polarized.)

OTHER OPTIONS

–P "XX"
= Position Polarization



Specify "XX" as position. For Double the same position will be polarized on both ends. (Not available on HCM, unless Transfer, then only the socket is polarized)

1

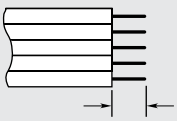
–G
= Gray Cable

Standard cable is color coded. Specify –G for Gray cable with one red edge.

2

–ST "X"
= Stripped & Tinned

Specify Suffix from table. All dimensions are ± 1/16" (1.59 mm). Not available in 28 positions and higher.

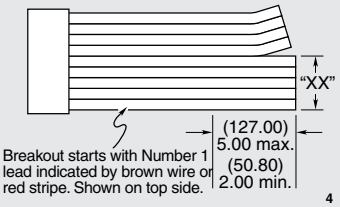


–ST8	1/8" (3.18)
–ST4	1/4" (6.35)
–ST2	1/2" (12.70)
–ST3	3/8" (9.53)

3

–B "XX"
= Breakout

Specify "XX" as number of conductors to be broken out.



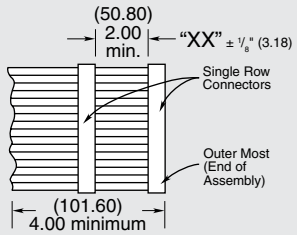
4

–RW
= Reversed Wiring

#1 wire opposite position #1

5

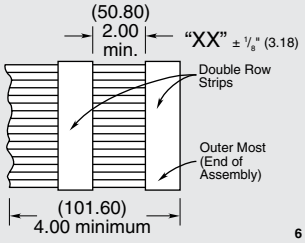
–S "XX"
= Daisy Chain Single



When mating double row connector with two single row connectors, the outer most single will be connected to Conductor #1 and the inside single to Conductor #2.

6

–D "XX"
= Daisy Chain, Double



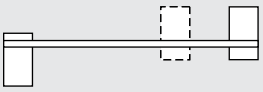
6

–W "XX"
= Wiring Reversed Daisy Chain, Single

Same as –S "XX" except outer strip connected to conductor #2 and inside strip connected to conductor #1.

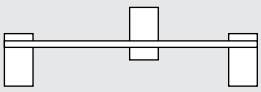
6

–R
= Reversed



7

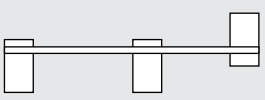
–M
= Middle Reversed



Requires –SXX, –WXX or –DXX

7

–O
= Outside Reversed



Requires –SXX, –WXX or –DXX

7

Due to technical progress, all designs, specifications and components are subject to change without notice.

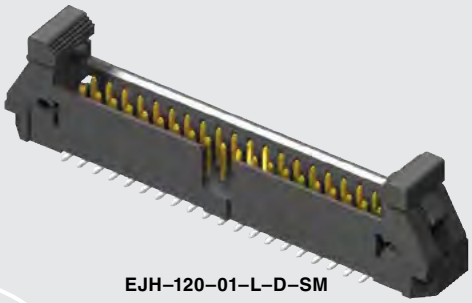
WWW.SAMTEC.COM

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

samtec

EJH–107–01–F–D–TH





EJH–120–01–L–D–SM

(2.54 mm) .100"

EJH SERIES

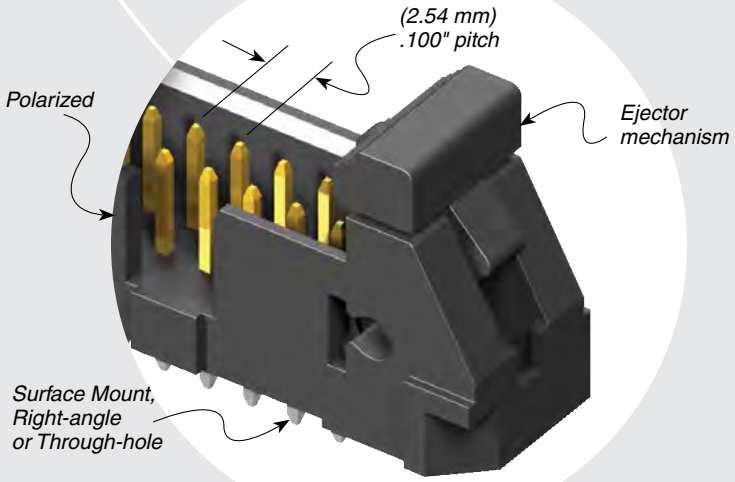
SHROUDED IDC EJECTOR HEADERS

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?EJH

Insulator Material:
-01: Black LCP
-02: Natural LCP
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

Mates with:
IDSD (EJH-01 Required),
HCSD (EJH-02 Required)



PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings

Contact Samtec.

EJH	–	1	NO. PINS PER ROW	–	LEAD STYLE	–	PLATING OPTION	–	D	–	TAIL OPTION	–	OTHER OPTION

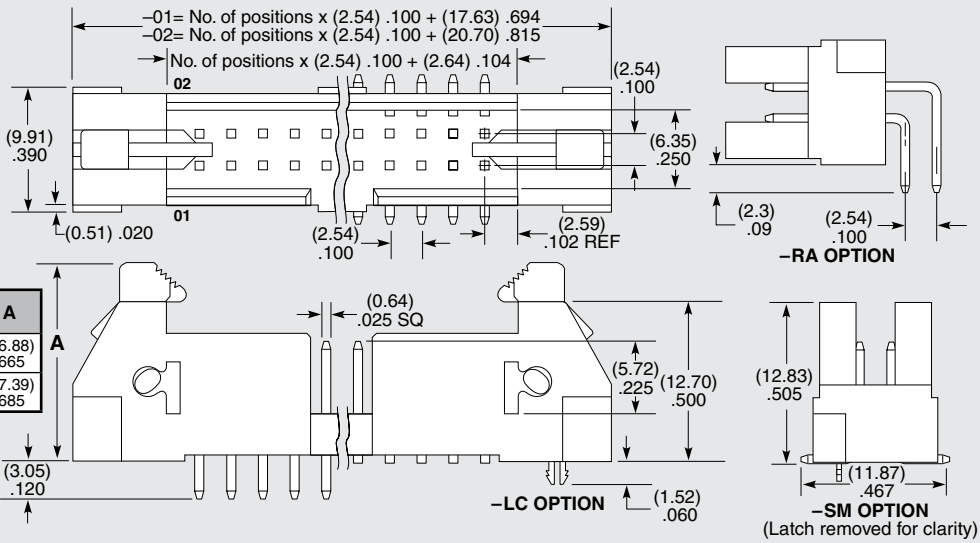
NO. PINS PER ROW: 05, 07, 08, 10, 13, 15, 17, 20, 25 (Standard sizes)

LEAD STYLE:
–01 = Standard (Mates to IDSD)
–02 = Extended (Mates to HCSD)

PLATING OPTION:
–F = Gold flash on post, Matte Tin on tail
–L = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

TAIL OPTION:
–SM = Surface Mount
–TH = Through-hole
–RA = Right-angle

OTHER OPTION:
–"XX" = Polarized Position
–LC = Locking Clip (-SM only) (Manual placement required)
–K = .475" (12.00 mm) DIA Polyimide Film Pick & Place Pad (-SM only)
–P = Pick & Place Pad (-SM only)
–TR = Tape & Reel Packaging (-SM only) (25 position not available)



LEAD STYLE	A
–01	(16.88) .665
–02	(17.39) .685

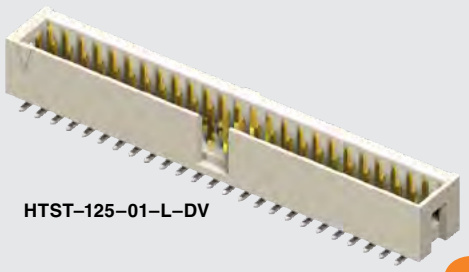
Note: Some lengths, styles and options are non-standard, non-returnable.

Due to technical progress, all designs, specifications and components are subject to change without notice.

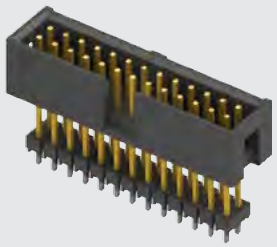
All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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FLEX STACK



ZST–113–03–F–D–0735



(2.54 mm) .100"

TST, HTST, ZST SERIES

SHROUDED .025" SQ POST IDC HEADERS

Mates with:
IDSD, SMSD

SPECIFICATIONS

For complete specifications
www.samtec.com?TST,
www.samtec.com?HTST or
www.samtec.com?ZST

Insulator Material:
TST, ZST: Black Glass Filled Polyester
HTST: Natural LCP
Insulation Resistance:
5000 MΩ min
Terminal Material:
Phosphor Bronze
Plating: Au or Sn over 50 µ" (1.27 µm) Ni
Current Rating (IDSD/TST):
3.4 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C with Gold
-55 °C to +105 °C with Tin
Flammability Rating: UL 94V-O
Withstanding Voltage:
1000 VRMS
RoHS Compliant: Yes

PROCESSING

Lead–Free Solderable:
HTST: Yes
TST, ZST: Wave Only
SMT Lead Coplanarity:
(0.10 mm) .004" max (05-15)
(0.15 mm) .006" max (17-36)

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

OTHER SOLUTIONS

- Shrouded board-to-board headers and stackers to mate with SSW, SSQ, ESW, ESQ, SSM and BCS Series. See TSS, HTSS and ZSS Series.

ALSO AVAILABLE (MOQ Required)

- Other platings & sizes
- Alignment Pins
- Single Row
- Locking Leads
- Polarized

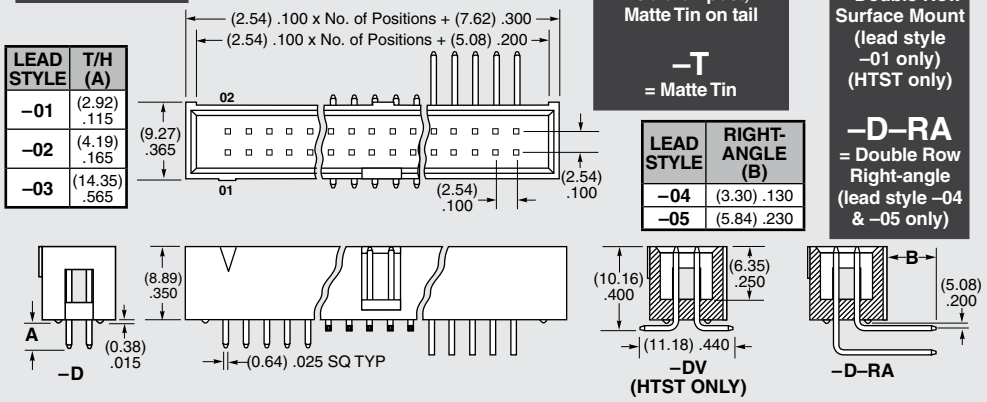
Contact Samtec.

Note: Some lengths, styles and options are non-standard, non-returnable. ZST is non-standard, non-returnable.

TYPE STRIP	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OTHER OPTION
TST = Cable Strip **HTST** = High Temp Cable Strip		05, 07, 08, 10, 12, 13, 15, 17, 20, 25, 32, 36 (Standard sizes)	Specify LEAD STYLE from chart.	**–F** = Gold flash on post, Matte Tin on tail (Not available on –DV) **–L** = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail **–T** = Matte Tin	**–D** = Double Row Through-hole (lead style –01, –02 & –03 only) **–DV** = Double Row Surface Mount (lead style –01 only) (HTST only) **–D–RA** = Double Row Right-angle (lead style –04 & –05 only)	Surface Mount (lead style –01 only) (HTST only) **–P** = Pick & Place Pad **–TR** = Tape & Reel Packaging

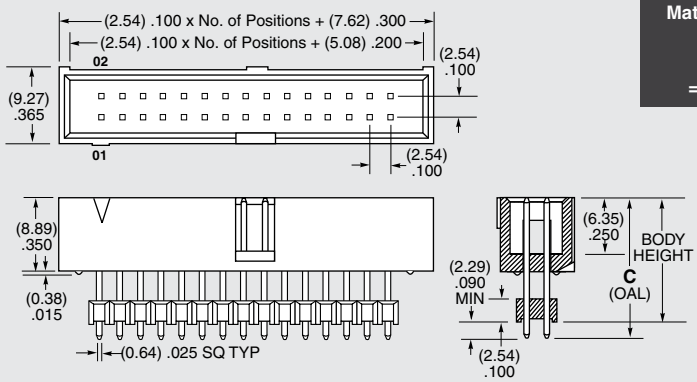
LEAD STYLE	T/H (A)
–01	(2.92) .115
–02	(4.19) .165
–03	(14.35) .565

LEAD STYLE	RIGHT-ANGLE (B)
–04	(3.30) .130
–05	(5.84) .230



ZST	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	D	BODY HEIGHT
		05, 07, 08, 10, 12, 13, 15, 17, 20, 25, 32, 36 (Standard sizes)	Specify LEAD STYLE from chart.	**–F** = Gold flash on post, Matte Tin on tail **–L** = 10 µ" (0.25 µm) Gold on post, Matte Tin on tail **–T** = Matte Tin		**–"XXXX"** = Body Height

LEAD STYLE	C (OAL)	MAX BODY HEIGHT
–01	(16.00) .630	(13.72) .540
–02	(18.54) .730	(16.26) .640
–03	(21.08) .830	(18.80) .740
–04	(23.62) .930	(21.34) .840
–05	(26.16) 1.030	(23.88) .940
–06	(28.70) 1.130	(26.42) 1.040
–07	(31.24) 1.230	(28.96) 1.140
–08	(33.78) 1.330	(31.50) 1.240
–09	(36.32) 1.430	(34.04) 1.340



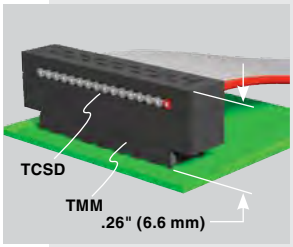
Note: For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

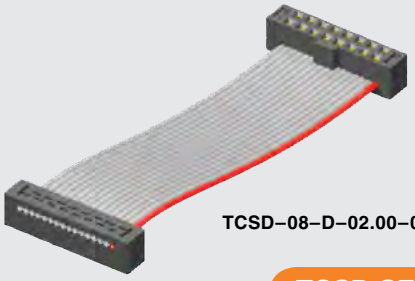
Due to technical progress, all designs, specifications and components are subject to change without notice.

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TIGER™ EYE IDC





TCSD–08–D–02.00–01–N–R

(2.00 mm) .0787"

TCSD SERIES

TIGER EYE™ IDC SOCKET CABLE

Mates with:
TMM, TMMH, STMM, MMT, TW, MTMM, EHT, ETMM (-SR), ZSTMM

SPECIFICATIONS

For complete specifications see www.samtec.com?TCSD

Insulator Material:
Black Glass Filled Polyester
Contact:
BeCu
Plating:
Au or Sn over 50 µ" (1.27 µm) Ni
Wire:
28 AWG 7/36 Stranded, Tinned, Copper with Gray PVC Insulator
Current Rating (TCSD/STMM):
2.8 A per pin (2 pins powered)
Operating Temp Range:
-40 °C to +105 °C
Lead Size Accepted:
(0.48 mm) .019" to (0.53 mm) .021"
Insertion Depth:
(2.87 mm) .113" to (3.17 mm) .125"
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings

Contact Samtec.

POLARIZING KEY

Specify PK-01-07 for polarizing key (Available in wheels of six each). Also polarizes SMM Series socket strips.

Note:
TCSD Seriesassemblies are non-standard, non-returnable.

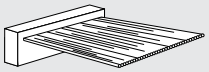
TYPE STRIP – NO. PINS PER ROW – END OPTION – LENGTH – 01 – PLATING OPTION – N – OTHER OPTION

NO. PINS PER ROW

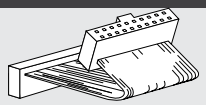
–04, –05, –06, –07, –08, –10, –12, –13, –15, –17, –20, –22, –25
(Standard sizes)

END OPTION

–S = Single End

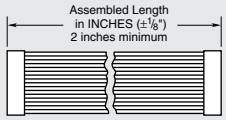


–D = Double End



LENGTH

–"XX.XX" = Assembled Length



PLATING OPTION

–F = Gold flash on contact

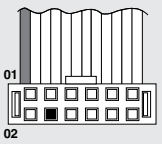
Leave blank for standard plating: 30 µ" (0.76 µm) Gold on contact area

N

–N = Notch Polarization

OTHER OPTION

–P "XX" = Position Polarization

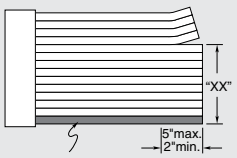


Specify "XX" as position number. Same position will be polarized on both ends.

1

–B "XX" = Breakout

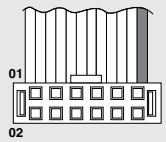
Specify "XX" as number of conductors to be broken out.



Breakout starts with Number 1 lead indicated by brown wire or red stripe. Shown on top side.

2

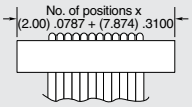
–RW = Reverse Wiring



Blue or black wire opposite position #1.

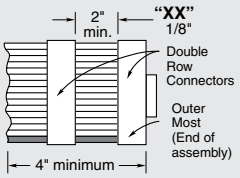
3

–SR = Strain Relief



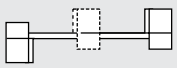
Not available with –O, –M, –R, –DXX or –BXX

–D "XX" = Daisy Chain



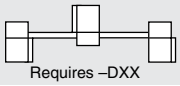
4

–R = Reversed



5

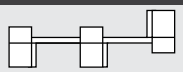
–M = Middle Reverse



Requires –DXX

5

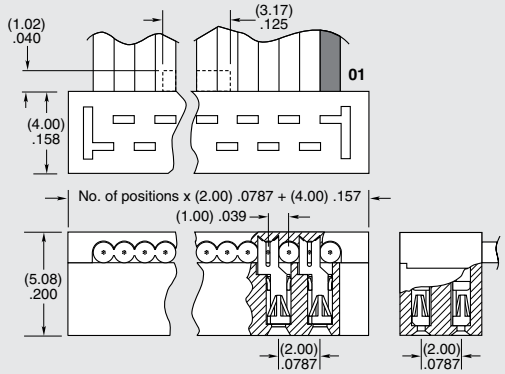
–O = Outside Reverse



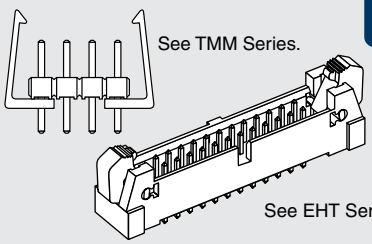
Requires –DXX

5

TCSD = Socket Strip



EJECTOR HEADERS & LOCKING CLIPS



RUGGEDIZED BY SAMTEC

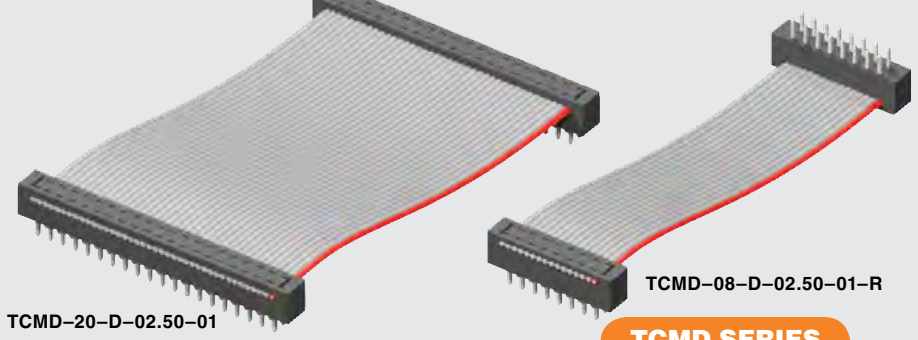
- Ejector headers
- Locking clips
- Strain relief option

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Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

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TIGER™ EYE IDC

(2.00 mm) .0787"



TCMD SERIES

HIGH-RELIABILITY IDC HEADER CABLE

Mates with:
SMM*, MMS*, ESQT, PTF, SQT, SQW, TLE

SPECIFICATIONS

For complete specifications see www.samtec.com?TCMD

Insulator Material:
Black Glass Filled Polyester
Terminal:
Phosphor Bronze
Plating:
Au or Sn over
50 µ" (1.27 µm) Ni
Wire:
28 AWG 7/36 Stranded, Tinned, Copper with Gray PVC Insulator
Current Rating:
2.6 A per pin
(2 pins powered)
Operating Temp Range:
-40 °C to +105 °C
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other sizes

Contact Samtec.

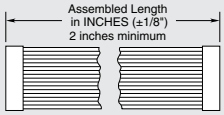
***Note:**
Standard TCMD callout will not mate with SMM, MMS. Must use gold plated callouts. (See drawing on web.)
When mated with a socket, Wire 1 mates with Pin 2; Wire 2 mates with Pin 1, etc.

Note:
TCMD Series assemblies are non-standard, non-returnable.

TYPE STRIP – NO. PINS PER ROW – END OPTION – OVERALL LENGTH – 01 – TRANSFER OPTION – OTHER OPTION

–04, –05, –06, –07, –08, –10, –12, –13, –15, –17, –20, –22, –25
(Standard sizes)

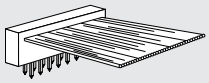
–"XX.XX"
= Assembled Length



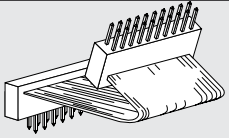
Leave blank for –S and –D End Options. For –T End Option Specify "–N" (Socket has notch polarization)

RUGGEDIZED BY SAMTEC
• Strain relief option

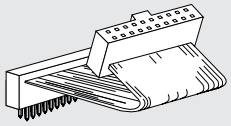
–S = Single End



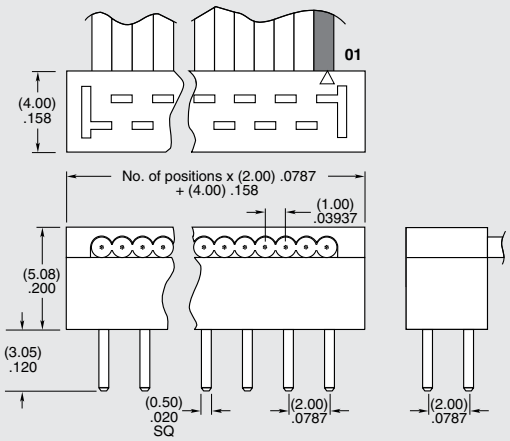
–D = Double End



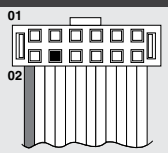
–T =Transfer End



TCMD =Terminal Strip



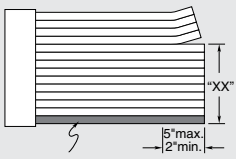
–P "XX"
= Position Polarization



Specify "XX" as position number. Requires Transfer End. Only Socket is polarized. 1

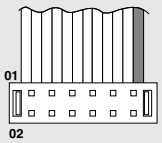
–B "XX"
= Breakout

Specify "XX" as number of conductors to be broken out.



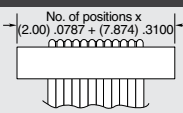
Breakout starts with Number 1 lead indicated by brown wire or red stripe. Shown on top side. 2

–RW
= Reverse Wiring



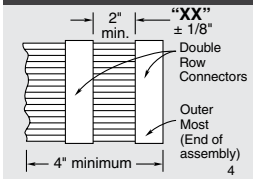
Blue or black wire opposite position #1. 3

–SR
= Strain Relief



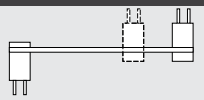
Not available with –O, –M, –R, –DXX or –BXX

–D "XX"
= Daisy Chain



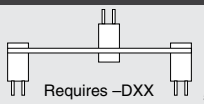
4

–R
= Reversed



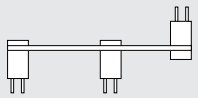
5

–M
= Middle Reverse



Requires –DXX 5

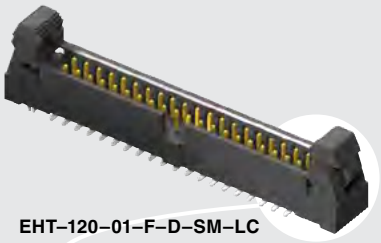
–O
= Outside Reverse



Requires –DXX 5

samtec





(2.00 mm) .0787"

EHT, EC2 SERIES

SHROUDED IDC EJECTOR HEADER

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?EHT

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

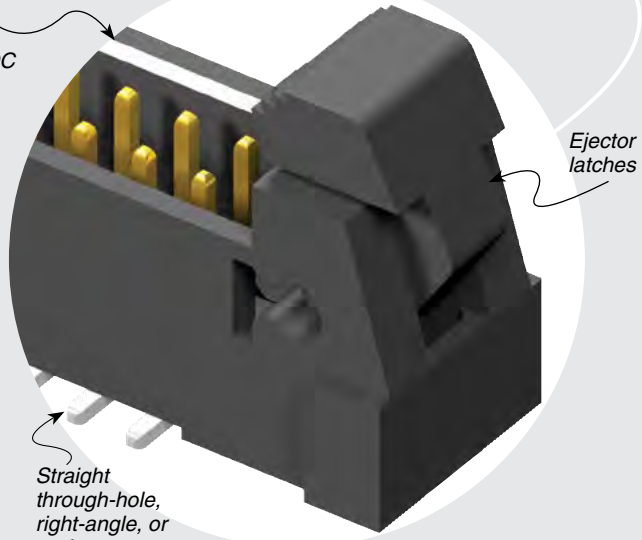
ALSO AVAILABLE
(MOQ Required)

- Other platings
  Contact Samtec.

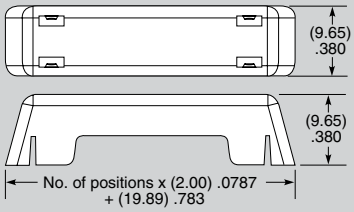
Note: Some lengths, styles and options are non-standard, non-returnable.

Mates with:
TCSD

Ten standard sizes mate with common 2 mm IDC cable assemblies



EJECTOR HEADER CAP
(Locks TCSD cable to EHT header)



EC2 – NO. PINS PER ROW

05, 08, 10, 12, 13, 15, 17, 20, 22, 25

EHT – 1 – NO. PINS PER ROW – 01 – PLATING OPTION – D – TAIL OPTION – OTHER OPTION

05, 08, 10, 12, 13, 15, 17, 20, 22, 25

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

Leave blank for Through-hole

–RA
= Right-angle

–SM
= Surface Mount

–"XX"
= Polarized Position

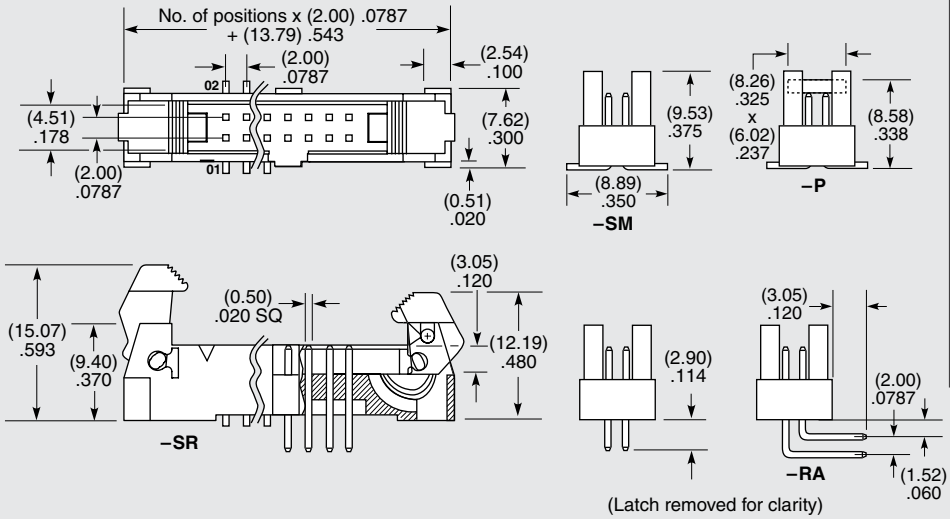
–SR
= Strain Relief (Leave Blank for no strain relief)

–LC
= Locking Clip (–SM only) (Manual placement required)

–K
= (6.50 mm) .256" DIA Polyimide Film Pick & Place Pad (–SM only)

–P
= Pick & Place Pad (–SM only)

–TR
= Tape & Reel (–SM only)



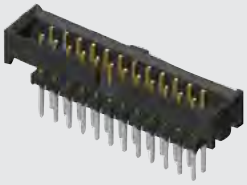
samtec

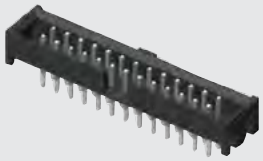
FLEX STACK



STMM–110–02–F–D–RA

ZSTMM–112–75–L–D–285





STMM–113–02–T–D

(2.00 mm) .0787"

STMM, ZSTMM SERIES

SHROUDED IDC HEADER & STACKER

Mates with:
TCSD (except –SR)

SPECIFICATIONS

For complete specifications and recommended PCB layouts see www.samtec.com?STMM or www.samtec.com?ZSTMM

Insulator Material:
High Temperature Nylon
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +105 °C with Tin;
-55 °C to +125 °C with Gold
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other sizes
- Other platings

Contact Samtec.

OTHER SOLUTIONS

- Shrouded board-to-board headers and stackers to mate with SQT, SQW, ESQ and SMM Series. See LTMM and ZLTMM Series.

Note: For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact ipg@samtec.com for more information.

Note: This Series is non-standard, non-returnable.

STMM – 1 – NO. PINS PER ROW – 02 – PLATING OPTION – D – TAIL OPTION – OTHER OPTION

04, 05, 06, 07, 08, 10, 12, 13, 14, 15, 17, 20, 22, 25
(Standard sizes)

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

Leave blank for Through-hole

–RA
= Right-angle

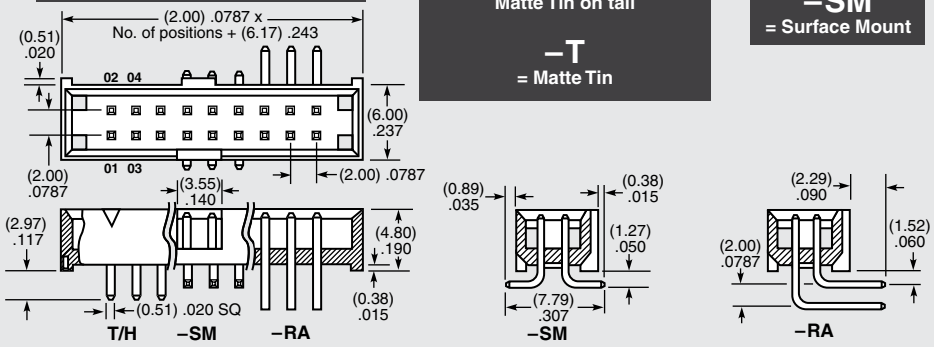
–SM
= Surface Mount

–"XX"
= Polarized Position

–LC
= Locking Clip (-SM only) (Manual placement required)

–K
= (7.50 mm) .295" DIA Film Pick & Place Pad (-SM only)

–TR
= Tape & Reel (–SM only)



ZSTMM – 1 – NO. PINS PER ROW – LEAD STYLE – PLATING OPTION – D – BODY HEIGHT – OTHER OPTION

04, 05, 06, 07, 08, 10, 12, 13, 14, 15, 17, 20, 22, 25
(Standard sizes)

Specify LEAD STYLE from chart.

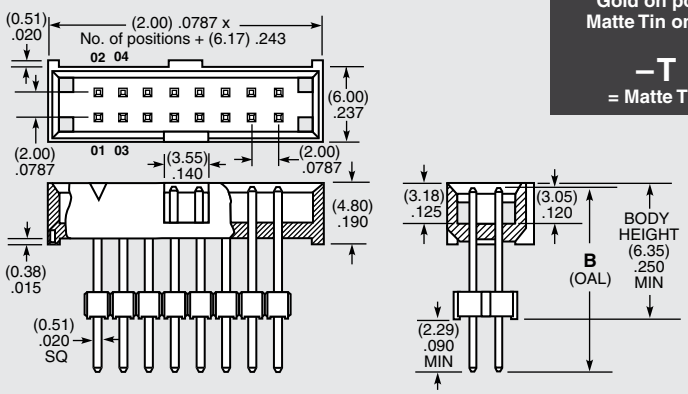
–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–T
= Matte Tin

–"XXX"
= Body Height

–"XX"
= Polarized Position

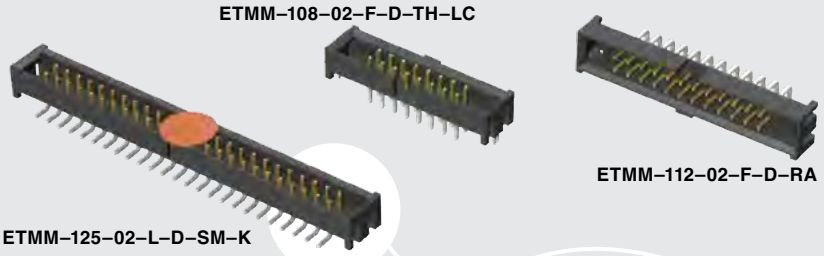


LEAD STYLE	B (OAL)	MAX BODY HEIGHT
–75	(9.58) 0.377	(7.42) 0.292
–62	(10.08) 0.397	(7.92) 0.312
–65	(10.49) 0.413	(8.33) 0.328
–73	(12.09) 0.476	(9.93) 0.391
–63	(14.10) 0.555	(11.94) 0.470
–66	(15.09) 0.594	(12.93) 0.509
–69	(15.60) 0.614	(13.44) 0.529
–74	(17.09) 0.673	(14.94) 0.588
–70	(17.60) 0.693	(15.44) 0.608
–71	(21.08) 0.830	(18.92) 0.745
–72	(21.62) 0.851	(19.46) 0.766

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(2.00 mm) .0787"

ETMM SERIES

SHROUDED STRAIN RELIEF IDC HEADER

SPECIFICATIONS

Mates with:
TCSD, TCMD

For complete specifications see www.samtec.com?ETMM

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

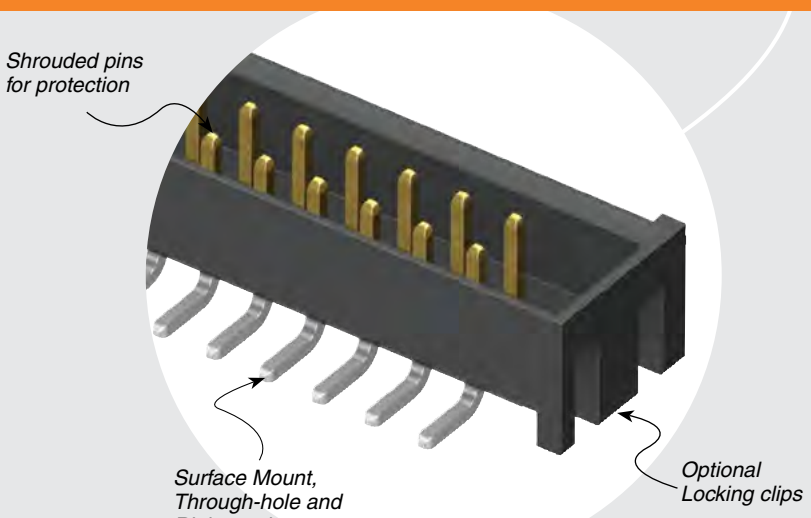
PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.13 mm) .005" max
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594



TYPE STRIP	–	1	NO. OF POSITIONS	–	02	PLATING OPTION	–	D	TAIL OPTION	–	OTHER OPTION

ETMM
= Mates with TCSD and TCMD with Strain Relief

05, 08, 10, 12, 13, 15, 17, 20, 22, 25
(Standard sizes)

–F
= Gold Flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–TH
=Through-hole

–RA
= Right -angle

–SM
= Surface Mount

–"XX"
= Polarized Position

–LC
= Locking Clip (Not available for –RA) (Manual placement required)

–TR
= Tape & Reel Packaging (–SM only)

–K
= (7.50 mm) .295" DIA Polyimide Film Pick & Place Pad (–SM only)

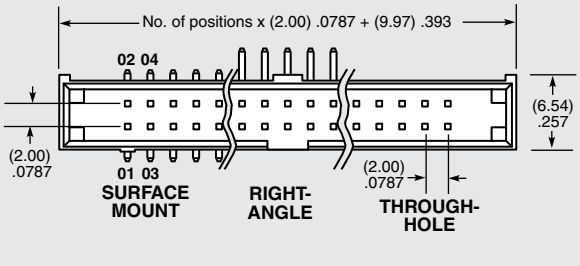
OTHER SOLUTIONS

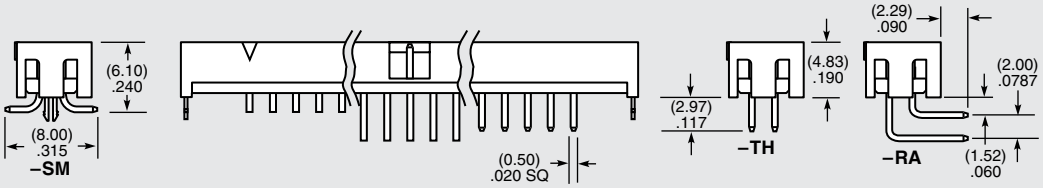
- TCSD mates without Strain Relief. See STMM Series
- Shrouded header for mating with Connector Strips. See LTMM Series

ALSO AVAILABLE (MOQ Required)

- Other sizes

Contact Samtec.





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(1.27 mm) .050"

SHF, ESHF, EHF, ECF SERIES

SHROUDED & EJECTOR IDC HEADER

SHF, ESHF Mates with:
FFSD, FFTP (SHF)

EHF Mates with:
FFSD*, FFTP

SPECIFICATIONS

For complete specifications see www.samtec.com?SHF, www.samtec.com?ESHF or www.samtec.com?EHF

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 µ" (1.27 µm) Ni
Operating Temp Range:
-55 °C to +125 °C
RoHS Compliant:
Yes

PROCESSING

Lead–Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

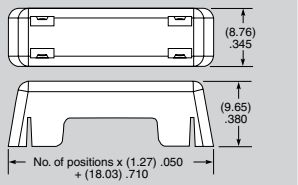
FILE NO. E111594

ALSO AVAILABLE
(MOQ Required)

- Other sizes

Contact Samtec.

EJECTOR HEADER CAP
(Locks FFSD cable to EHF header)



ECF – NO. PINS PER ROW

05, 08, 10, 13, 17, 20, 25

***Important Note:**
EHF will not mate to FFSD with strain relief (-SR option), see ESHF series.

Note: Some lengths, styles and options are non-standard, non-returnable.

TYPE STRIP – 1 | NO. PINS PER ROW – 01 | PLATING OPTION – D | TAIL STYLE | OTHER OPTION

SHF
= Mates with FFSD without Strain Relief

ESHF
= Mates with FFSD with Strain Relief

04, 05, 06, 08, 10, 11, 12, 13, 15, 17, 20, 25
(Standard sizes)

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

–TH
= Through-hole

–RA
= Right-angle

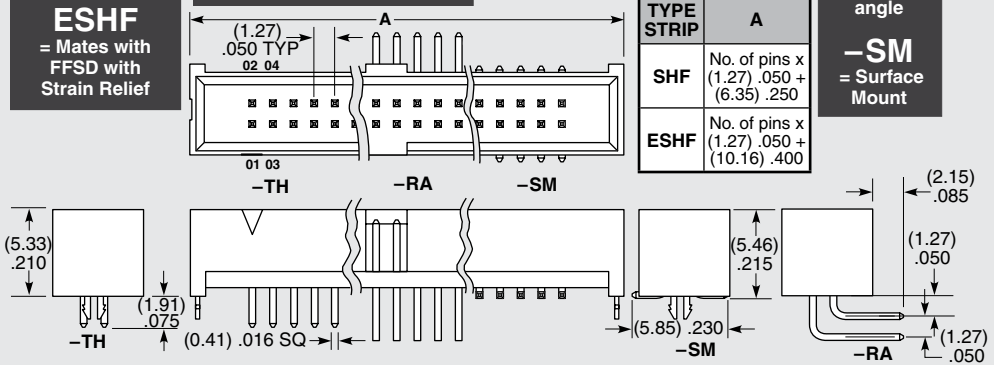
–SM
= Surface Mount

–LC
= Locking Clip (Not available with –RA) (Manual placement required)

–TR
= Tape & Reel Packaging

–K
= (6.50 mm) .256" DIA Polyimide Film Pick & Place Pad (–SM only)

TYPE STRIP	A
SHF	No. of pins x (1.27) .050 + (6.35) .250
ESHF	No. of pins x (1.27) .050 + (10.16) .400



EHF – 1 | NO. PINS PER ROW – 01 | PLATING OPTION – D | TAIL OPTION | OTHER OPTION

04, 05, 08, 10, 13, 17, 20, 25
(Standard sizes)

–F
= Gold flash on post, Matte Tin on tail

–L
= 10 µ" (0.25 µm) Gold on post, Matte Tin on tail

Leave blank for Through-Hole version

–SM
= Surface Mount

–RA
= Right-angle

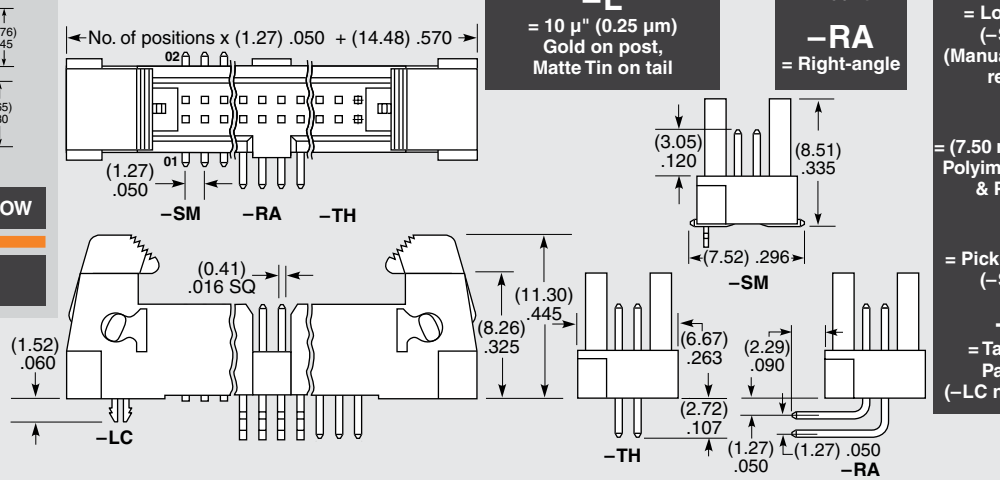
–"XX"
= Polarized Position (–RA not available)

–LC
= Locking Clip (–SM only) (Manual placement required)

–K
= (7.50 mm) .295" DIA Polyimide Film Pick & Place Pad

–P
= Pick & Place Pad (–SM only)

–TR
= Tape & Reel Packaging (–LC not available)

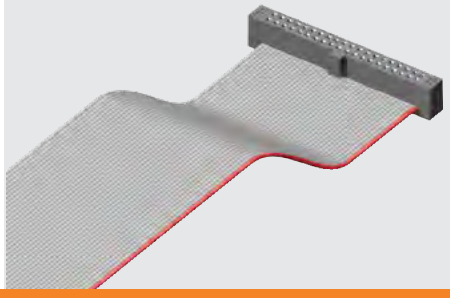


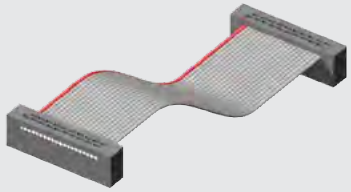
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TIGER™ EYE IDC

(1.27 mm) .050"

FFSD–20–S–10.00–01–N





FFSD–10–D–02.00–01–N

FFSD SERIES

TIGER EYE™ FLAT IDC WIRE CABLES

Mates with:
FTS, FTSH, EHF, SHF, ESHF

SPECIFICATIONS

For complete specifications see www.samtec.com?FFSD

Insulator Material:
PBT
Contact:
BeCu
Plating:
10 µ" (0.25 µm) Au over 50 µ" (1.27 µm) Ni on contact area; Sn over 50 µ" (1.27 µm) Ni on balance
Wire:
30 AWG
Current Rating (FFSD/FTSH):
2.3 A per pin
(2 pins powered)
Operating Temp Range:
-40 °C to +105 °C
Lead Size Accepted:
(0.41 mm) .016" SQ
Insertion Depth:
(2.64 mm) .104" to
(3.17 mm) .125"
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other sizes

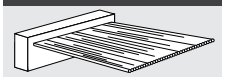
Contact Samtec.

Note: This Series is non-standard, non-returnable.

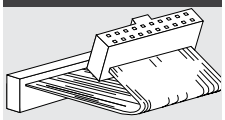
TYPE STRIP – NO. PINS PER ROW – END OPTION – OVERALL LENGTH – 01 – N – OTHER OPTION

–04, –05, –06, –08, –10, –11, –12, –13, –15, –17, –20, –25
(Standard sizes)

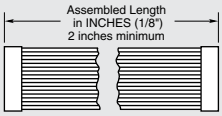
–S
= Single End



–D
= Double End

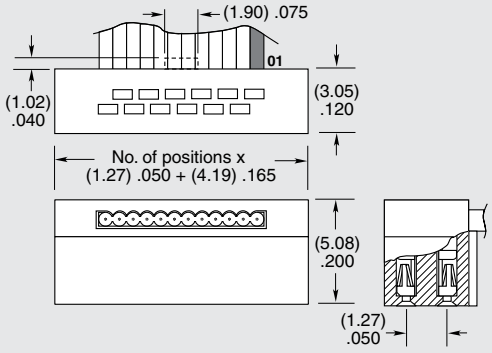


–"XX.XX"
= Assembled Length

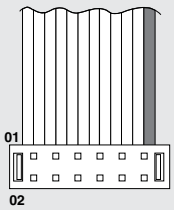


–N
= Notch Polarization Notch option (Not available with -04 position)

FFSD
= Socket Strip



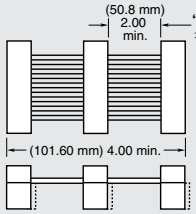
–RW = Reverse Wiring



Red wire opposite position #1.

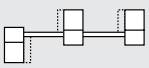
1

–D "XX" = Daisy Chain



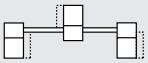
2

–R = Reverse



3

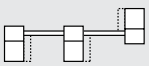
–M = Middle Reverse



Requires –DXX

3

–O = Outside Reverse



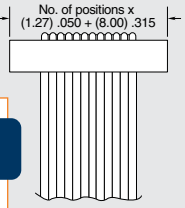
Requires –DXX 3

RUGGEDIZED BY SAMTEC

• Strain relief option

–SR = Strain Relief

(Mates only with ESHF Series)



Not available with –O, –M, –R or –DXX

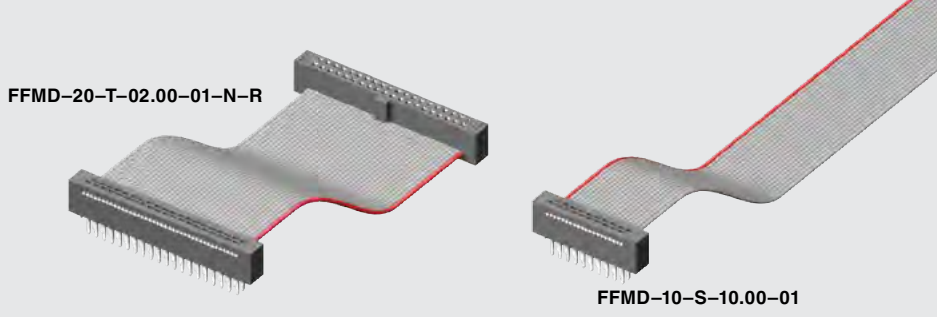
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TIGER™ EYE IDC

(1.27 mm) .050"



FFMD SERIES

TIGER EYE™ FLAT IDC WIRE CABLES

Mates with:
FLE*, SFMC*,

Transfer End Option
Mates with: FTS, FTSH, EHF, SHF, ESHF

SPECIFICATIONS

For complete specifications see www.samtec.com?FFMD

Insulator Material:
Black Glass Filled Polyester
Terminal:
Phosphor Bronze
Contact:
BeCu (-T)
Plating:
Sn over 50 µ" (1.27 µm) Ni
Wire:
30 AWG
Current Rating:
2.5 A per pin
(2 pins powered)
Operating Temp Range:
-40 °C to +105 °C
Voltage Rating:
215 VAC
304 VDC
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

- Other sizes

Contact Samtec.

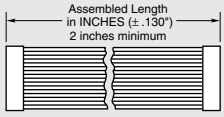
***Note:** Standard FFMD callout will not mate with FLE, SFMC. Must use gold plated callouts. (See drawing on web.) When mated with a socket, Wire 1 mates with Pin 2; Wire 2 mates with Pin 1, etc.

Note: This Series is non-standard, non-returnable.

TYPE STRIP – NO. PINS PER ROW – END OPTION – OVERALL LENGTH – 01 – TRANSFER OPTION – OTHER OPTION

–04, –05, –08, –10, –13, –17, –20, –25
(Standard sizes)

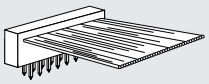
–"XX.XX"
= Assembled Length



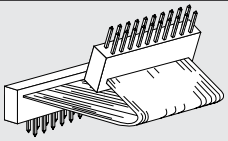
Leave blank for –S and –D End Options.

–N
= Notch Polarization on socket (-T end only) (Not available with -04 position)

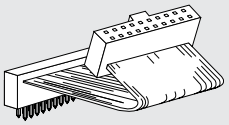
–S = Single End



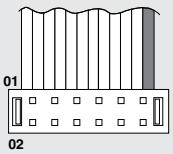
–D = Double End



–T = Transfer End



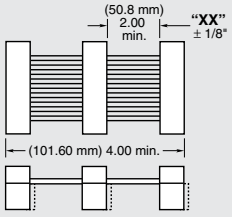
–RW = Reverse Wiring



Red wire opposite position #1.

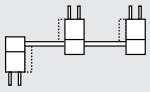
1

–D "XX" = Daisy Chain



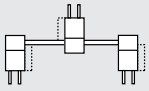
2

–R = Reverse



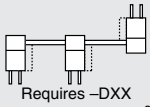
3

–M = Middle Reverse



Requires –DXX 3

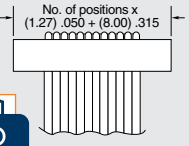
–O = Outside Reverse



Requires –DXX 3

–SR = Strain Relief

(Mates only with ESHF Series)

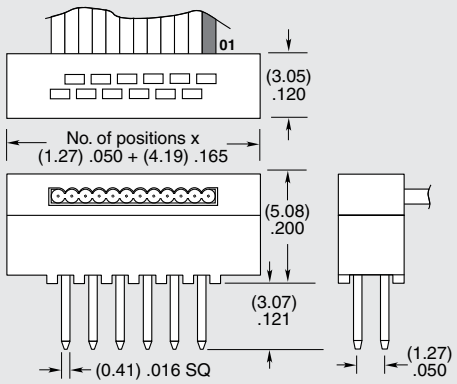


Not available with –O, –M, –R or –DXX

RUGGEDIZED BY SAMTEC

• Strain relief option

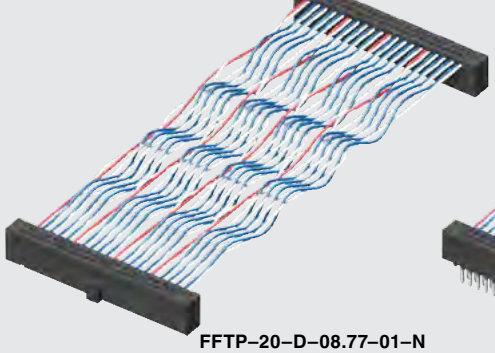
FFMD = Terminal Strip

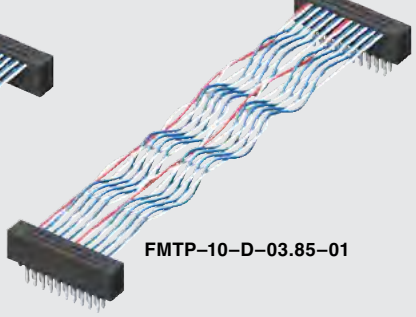


samtec

TIGER™ EYE IDC

(1.27 mm) .050"





FFTP, FMTP SERIES

TIGER EYE™ TWISTED PAIR IDC CABLES

FFTP Mates with:
FTS, FTSH, EHF, SHF

FMTP Mates with:
FLE*, SFMC*

SPECIFICATIONS

For complete specifications see www.samtec.com?FFTP or www.samtec.com?FMTP

Insulator Material:
PBT
Contact (FFTP):
BeCu
Terminal (FMTP):
Phosphor Bronze
Plating (FFTP):
10 µ" (0.25 µm) Au over 50 µ" (1.27 µm) Ni on contact area; Sn over 50 µ" (1.27 µm) Ni on balance
Plating (FMTP):
Sn over 50 µ" (1.27 µm) Ni
Wire:
30 AWG 7/38, Tinned, Twisted Pair with PVC insulator
Operating Temp Range:
-40 °C to +105 °C
Lead Size Accepted:
(0.41 mm) .016" SQ
Insertion Depth (FFTP):
(2.64 mm) .104" to (3.17 mm) .125"
RoHS Compliant:
Yes

RECOGNITIONS

For complete scope of recognitions see www.samtec.com/quality

FILE NO. E111594

ALSO AVAILABLE (MOQ Required)

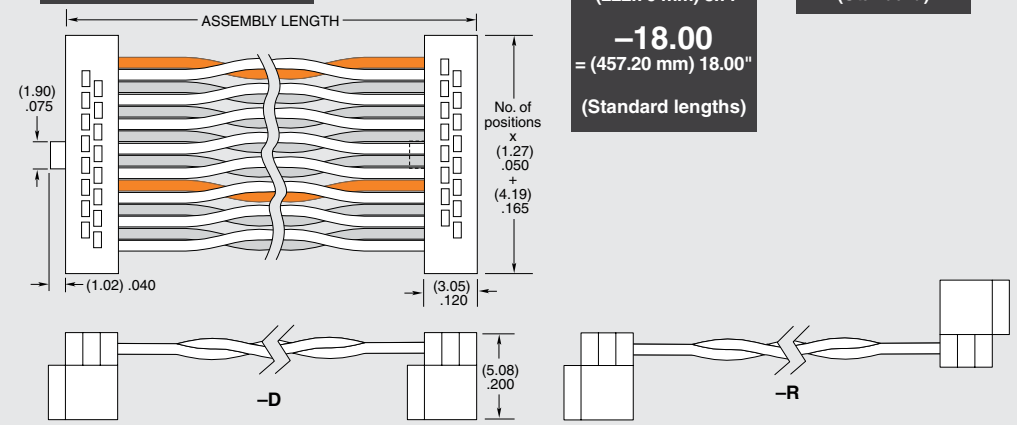
- Other sizes
- Other cable lengths

Contact Samtec.

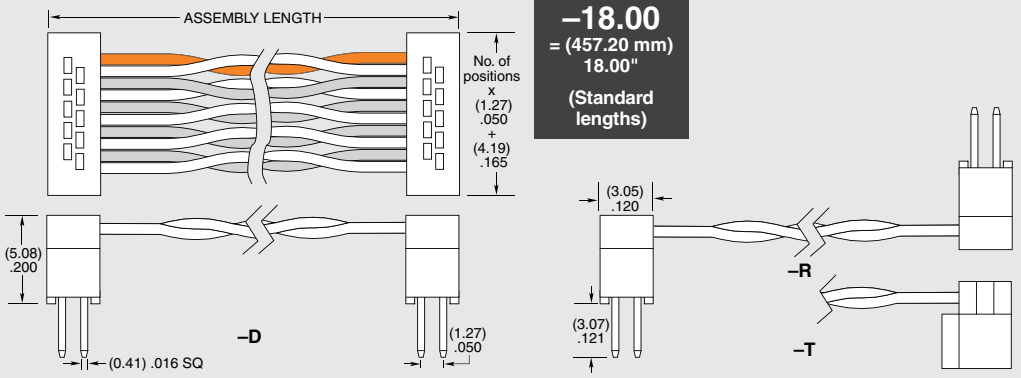
***Note:** Standard FMTP callout will not mate with FLE, SFMC. Must use gold plated callouts. (See drawing on web.) When mated with a socket, Wire 1 mates with Pin 2; Wire 2 mates with Pin 1, etc.

Note: This Series is non-standard, non-returnable.

FFTP	PINS PER ROW	END ASSEMBLY	ASSEMBLY LENGTH	01	N	OPTION
	–05, –08, –10, –13, –17, –20, –25 (Standard sizes)	–D = Double End	–03.85 = (97.79 mm) 3.85" –08.77 = (222.76 mm) 8.77" –18.00 = (457.20 mm) 18.00" (Standard lengths)	–N = Notch Polarization (Standard)		–R = Reverse Connector



FMTP	PINS PER ROW	END ASSEMBLY	ASSEMBLY LENGTH	01	TRANSFER OPTION	OPTION
	–05, –08, –10, –13, –17, –20, –25 (Standard sizes)	–D = Double End –T = Transfer End	–03.85 = (97.79 mm) 3.85" –08.77 = (222.76 mm) 8.77" –18.00 = (457.20 mm) 18.00" (Standard lengths)		Leave blank for –D End Assembly. For –T End Assembly Specify "–N" (Socket has notch polarization)	–R = Reverse Connector



Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

HIGH-SPEED CHANNEL PERFORMANCE

Speed Testing That Accounts For The Entire System

Samtec uses a channel-based approach to estimate connector performance in a system. The result is a realistic one number designation for all of Samtec's high-speed interconnects, called Channel Performance Metric (CPM).

This one number designation allows for a side-by-side comparison of Samtec components. Noise contributions from, and interactions with, other parts of a pre-defined channel are considered. An example of a pre-defined channel is shown below.

Samtec's CPM reports connector capability that is more representative of actual performance in a system, replacing the connector only data of the past.

This real-world approach factors in all impairments, such as the crosstalk and reflections, inherent in a complete channel. Through Samtec's use of a common set of channel assumptions, relative comparison can then be made across the entire Samtec offering which is practical and realizable. Because Samtec's CPM is a function of necessary channel assumptions made, it is important to note that Samtec's CPM can and will vary from a customer specific application.

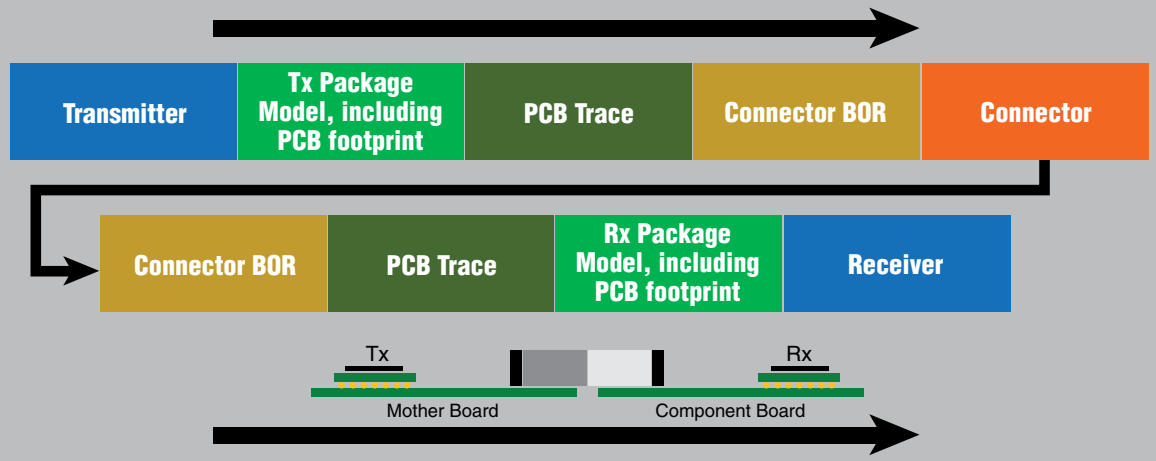
Throughout the high-speed sections of this catalog, look for charts indicating Samtec's CPM one number rating for specific product series, which resemble:



For more information on Samtec's CPM or complete SI performance data, visit **samtec.com** or contact **SIG@samtec.com**.

Pre-Defined Channel

Board-to-Board



*Moderate levels of equalization are applied.

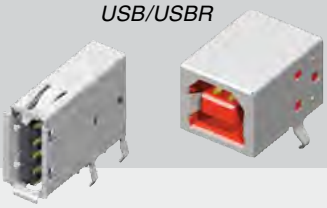
INDUSTRY STANDARDS











V42 XMC
- Rugged mezzanine system designed for use in high-performance VPX card cages
- 3.125 Gbps performance rating
- 10 mm & 12 mm stack heights
- 96 total pins (6 x 16 configuration)
- Drop-in ready JSOM ejector jackscrews available

V57.1 FMC
- Leading VPX mezzanine system, allowing advanced FPGA integration
- FPGA Industry Standard connector for development applications
- 10 Gbps performance
- HPC & LPC versions (400 & 160 selectively loaded pins)
- 8.5 mm & 10 mm stack heights
- Many high-speed cable & loopback card options available
- Optional JSOM ejector jackscrews available

V57.4 FMC+
- Advances FMC to the state-of-the-art in FPGA mezzanine integration
- HSPC Main Connector has 560 pins (14 x 40 configuration), 24 multi-gigabit interfaces, up to 28 Gbps
- HSPCe Extension Connector has 80 pins (4 x 20 configuration) adding 8 multi-gigabit interfaces, 32 in total
- 8.5 mm & 10 mm stack heights
- User friendly JSOM ejector jackscrews available

V74 VNX
- Small Form Factor, NanoATR™ module technology
- Rugged, high-performance, scalable, low power consumption embedded controllers
- 200 & 400 pin connector choices (Right-angle SEARAY™)
- 12.5 mm & 19 mm module height

PCI/104-Express™ and PCIe/104™ OneBank
- Rugged, stackable, scalable embedded computers
- Q2™ connectors with ground planes
- 3-banks have 156 signal pins, OneBank has 52 pins
- 2.5 Gbps performance
- 15.24 mm & 22 mm stack heights

NEXUS
- Rugged test, debug, and programming Standard
- High-speed Edge Rate® contact technology
- 20-80 pin ERM8/ERF8 connectors
- Board-to-board & cable solutions
- Positive retention latching

QSFP
- Compact, hot-pluggable transceiver I/O connector
- Flyover solution for optimized signal integrity
- Cage and 38-pin connector
- 30 AWG 100 ohm twinax cable
- 4 high-speed Tx pairs, 4 high-speed Rx pairs
- 28+ Gbps performance

USB/USBR
- Type A, Type B, and Mini
- High retention and sealed versions
- IP68 sealed circular and rectangular cable systems

Standard	Product	Series	Page
VITA 42 XMC	SamArray®	YFS/YFT, JSOM	Contact Samtec.
VITA 57.1 FMC	SEARAY™	SEAM/SEAF, JSOM	56-59, 107
VITA 57.4 FMC+	SEARAY™	SEAM/SEAF, JSOM	56-59, 107
VITA 74 VNX	SEARAY™	SEAM/SEAF, JSOM	56-59, 107
PCI/104-Express™ & PCI/104-Express™ OneBank	Q2™	QMS/QFS	90-97
NEXUS	Edge Rate®	ERM8/ERF8	102-105
QSFP	QFSP	FQSFP/QSFP8/QSFPC/QSFPK	158
USB/USBR	USB/AcciMate™	USB/USBR/MUSB/MUSBS/SPM, RCU/SCRU/SCPU/RPCU/RPBU/SCRUS	184-186, 277, 279

For more industry standards and products that meet them visit samtec.com/fmc or samtec.com/standards

Due to technical progress, all designs, specifications and components are subject to change without notice.

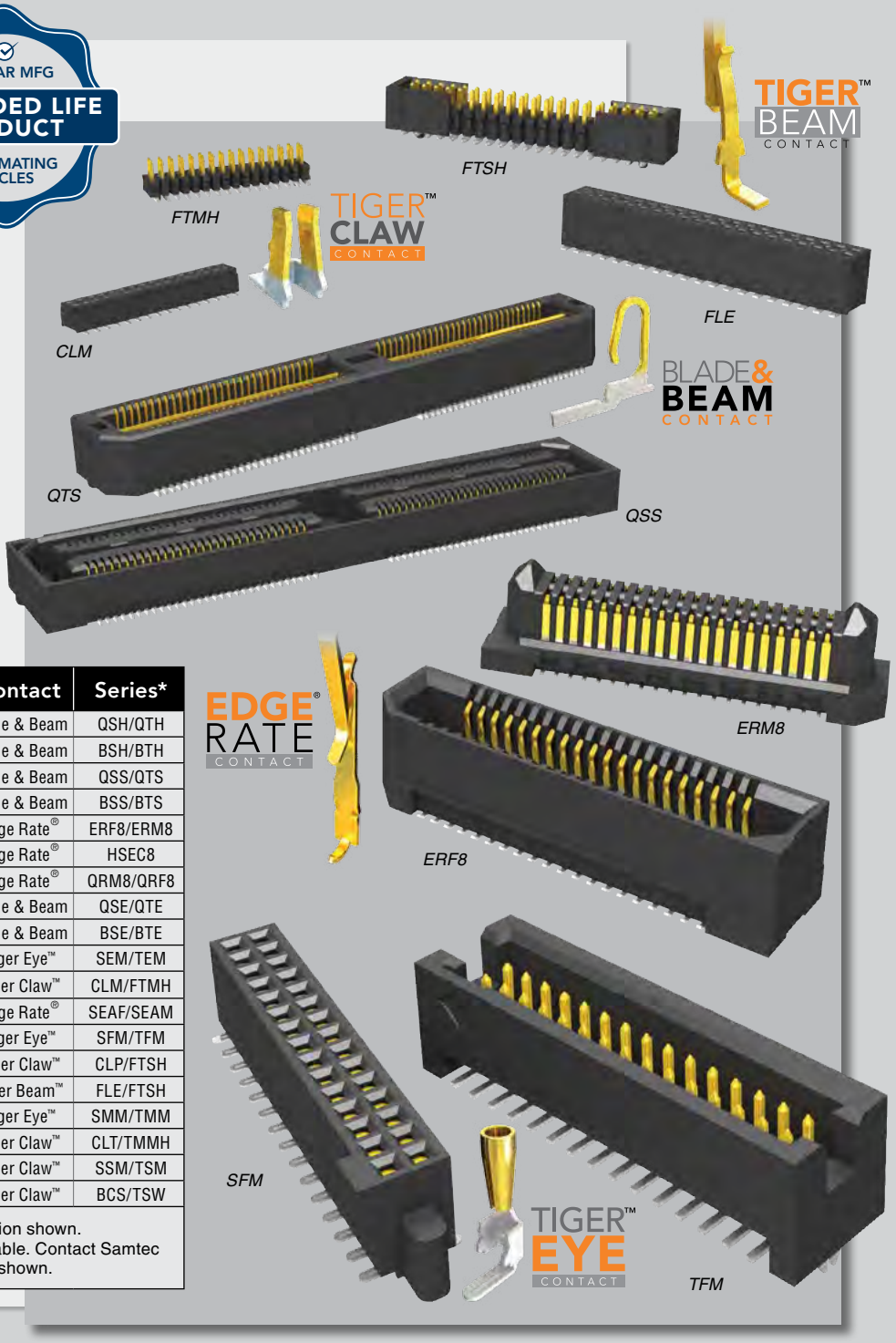
All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

EXTENDED LIFE PRODUCT™ SOLUTIONS

10 YEAR MFG
EXTENDED LIFE PRODUCT
HIGH MATING CYCLES

E.L.P.™ Products are tested to rigorous standards which evaluate contact resistance in simulated storage and field conditions.

- 10 year Mixed Flowing Gas (MFG)
- High Mating Cycles (250 to 2,500)
- Certain plating and/or contact options will apply
- For complete details on Samtec's E.L.P.™ program and test results for Extended Life Product, please visit **www.samtec.com/ELP** or email the Customer Engineering Support Group at **CES@samtec.com**



Pitch	Type	Contact	Series*
0.50 mm	Q Series® Strip	Blade & Beam	QSH/QTH
	Basic Strip	Blade & Beam	BSH/BTH
0.635 mm	Q Series® Strip	Blade & Beam	QSS/QTS
	Basic Strip	Blade & Beam	BSS/BTS
0.80 mm	Edge Rate® Strip	Edge Rate®	ERF8/ERM8
	Edge Card	Edge Rate®	HSEC8
	Q Rate® Strip	Edge Rate®	QRM8/QRF8
	Q Series® Strip	Blade & Beam	QSE/QTE
	Basic Strip	Blade & Beam	BSE/BTE
	Strip	Tiger Eye™	SEM/TEM
1.00 mm	Strip	Tiger Claw™	CLM/FTMH
1.27 mm	SEARAY™ Array	Edge Rate®	SEAF/SEAM
	Strip	Tiger Eye™	SFM/TFM
	Strip	Tiger Claw™	CLP/FTSH
	Strip	Tiger Beam™	FLE/FTSH
2.00 mm	Strip	Tiger Eye™	SMM/TMM
	Strip	Tiger Claw™	CLT/TMMH
2.54 mm	Strip	Tiger Claw™	SSM/TSM
	Strip	Tiger Claw™	BCS/TSW

* Tested socket/terminal combination shown. Other mating headers also available. Contact Samtec if header design you need is not shown.

SPECIFICATIONS & TESTING

SPECIFICATIONS AND STANDARD TEST PROCEDURES

Samtec products are subject to the following general specifications and standard test procedures.*

Quality Assurance

Quality Program Certifications	IATF 16949 and/or ISO-9001
UL File Number	Go to http://www.samtec.com/quality
CSA File Number	
Sampling procedures	ANSI/ASQ Z1.4
Calibration system requirements	Per IATF 16949

Insulator

Specifications	
Molding plastics. Thermoplastic polyesters	MIL-M-24519 Rev E
UL Temperature index	UL 746B
Applied tests	
Dielectric Breakdown Voltage	ASTM D 149-97a
AC Loss Characteristics	ASTM D 150-98
Impact Resistance of Plastics	ASTM D 256-06ae1
DC Resistance	ASTM D 257-07
High-Voltage, Low-Current Arc Resistance	ASTM D 495-99
Water Absorption of Plastics	ASTM D 570-98
Test for Tensile Properties of Plastics	ASTM D 638-08
Deflection Temperature of Plastics	ASTM D 648-07
Compressive Properties of Plastics	ASTM D 695-08
Coefficient of Linear Thermal Expansion	ASTM D 696-08
Shear Strength of Plastics	ASTM D 732-02
Rockwell Hardness of Plastics	ASTM D 785-08
Flexural Properties of Plastics	ASTM D 790-07e1
Specific Gravity and Density of Plastics	ASTM D 792-08

Plating

Specifications	
Gold	ASTM-B488
Tin	ASTM-B545**
Under plating specifications	
Nickel	QQ-N-290**
Copper	AMS 2418
Palladium Nickel	ASTM B679
Applied tests	
Coating thickness (X-ray Fluorescence)	ASTM-A-754-79

Contact & Terminal

Specifications	
Brass	ASTM B16-85
Phosphor Bronze	ASTM B 139
Beryllium Copper	ASTM B 194
General specification for contacts	SAE-AS39029
General specification for sockets	MIL-DTL-83505

Assembly

Testing specifications	
Test methods for electrical connectors	EIA-364
Test methods for electronic/electrical components	EIA-364
Connections, electrical, solderless, wrapped	EIA-364
Environmental Test Methods	EIA-364
Sockets (lead, electronic components), general	EIA-364
Sockets, plug-in electronic components, general	EIA-364
Packaging specifications	
Tape and Reel Packaging of Connectors	EIA-481-D
Tray Packaging of Connectors	EIA/ECA-960
Packaging Materials for ESD Sensitive Items	ANSI/ESD S541
Package Testing Procedures	ISTA-3A

Other Specifications

Insulation Resistance	5000 MΩ min
Flammability Rating	UL 94V-0 (Typically)

Product Environmental Compliance

The majority of Samtec's products are compliant with the EU WEEE (2012/19/EU) and RoHS/ RoHS2 (2011/65/EU) Directives as they are currently written. In addition, we confirm that the intentional composition of Samtec products are in compliance with the European Union REACH Regulation (EC 1907/2006) as currently written.

Samtec has offered both lead-bearing and lead-free products for many years and will continue to support customers requiring products not compliant with the EU Directives, such as those specified for military, aerospace and specialty applications.

Proposition 65 statement: These products could expose you to chemicals which are known to the State of California to cause birth defects or other reproductive harm. For more information go to **www.P65Warnings.ca.gov**

For more information on Product Environmental Compliance see: **www.samtec.com/Quality** or email the Product Environmental Compliance Group: **PEC@samtec.com**

Lead Free Processing Guidelines

Lead-Free Wave Solderable	This product is compatible with wave solder pot temperatures between 260 °C and 270 °C with maximum exposure of the termination pins to the solder wave for 4 seconds.
Lead-Free Reflow Solderable	This product can withstand a maximum peak temperature of 260 °C; 255 °C for up to 30 seconds, and the longer dwell times required for lead-free reflow processing.

Automotive Certification (ACD Series)

Samtec offers design and manufacture of electronic connectors, marketed as "ACD Series" (Automotive Certified Designs) for printed circuit boards. Samtec shall only comport with ISO/IATF 16949 on products it certifies as Automotive Custom Design ("ACD") or those designated with "A-" in the Samtec part number preface of the Automotive Solutions Catalog. Download the Automotive Solutions catalog at **www.samtec.com/catalog**, or contact **AutomotiveSolutions@samtec.com** for qualifying products and alternative automotive application solutions.

***Note:** Products with specifications other than those listed above are noted on the individual product pages.

****Note:** With the exception of thickness.

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** Product available in RF catalog or website. Go to www.samtec.com/catalog to order or view the RF Interconnect Catalog.

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Due to technical progress, all designs, specifications and components are subject to change without notice.

All parts within this catalog are built to Samtec's specifications.
Customer specific requirements must be approved by Samtec and identified in a Samtec customer-specific drawing to apply.

Microelectronics

High-Speed Board-to-Board

High-Speed Cables

Optics

Micro/Rugged

Flexible Stacking

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