



AUTOMOTIVE SOLUTIONS CATALOG

RUGGED, HIGH-PERFORMANCE INTERCONNECTS FOR AUTOMOTIVE APPLICATIONS



AUTOMOTIVE

INTERCONNECT & DESIGN CAPABILITIES

Samtec delivers Sudden Service® solutions for standard and customer-specific automotive designs by providing an array of options to meet the robust quality, production and compliance requirements of our customers. Our automotive interconnect systems are ideal for applications requiring high-performance, high-density, high-reliability / high mating cycles, optics and microelectronics solutions, with varying degrees of PPAP options.

STANDARD CATALOG PRODUCT

Certified ISO-9001

Built to
Samtec's drawing

Sudden Samples
for prototyping

Short lead times
for volume

A-SERIES FOR AUTOMOTIVE CATALOG

Certified to IATF 16949
to support Level 3
PPAP requirements

- Controlled IATF facility

- Registered International
Material Data System (IMDS)

Built to Samtec's
drawings & standards

Short lead times
for volume

ACD-SERIES FOR CUSTOMIZATION

Certified to IATF 16949
to support all agreed
upon customer specific
requirements

- Controlled IATF facility

- Registered International
Material Data System (IMDS)

Vendor Managed Inventory
options for volume

Please note: All PPAP Level 3 products can be found on pages 18-70. Not all products featured on pages 4-17 meet PPAP guidelines, but Samtec has a 3 to 5 year roadmap for expanding products available with PPAP compliance.

Please contact AutoSalesGroup@samtec.com for more information.

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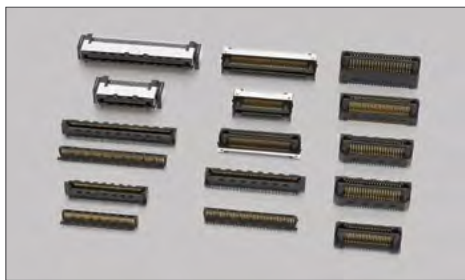
INFOTAINMENT



The accessibility of information and entertainment on the go is becoming standard in today's automobiles. From touch screen displays for multimedia to driver assist systems and smartphone pairing, the demand for bandwidth and connectivity is growing. As a result, in-vehicle technology is becoming more complex but the need for simplified designs to save space and keep costs low is still at the forefront.

PRODUCT GROUPS

Samtec offers a wide variety of rugged, high-speed solutions in small form factors for automotive applications.



ULTRA MICRO INTERCONNECTS



HIGH-SPEED DUAL ROW STRIPS



EDGE CARD SYSTEMS



RUGGED SIGNAL INTEGRITY



RUGGED CONTACT SYSTEM



HIGH-SPEED CABLE

ULTRA LOW PROFILE STRIPS

- Micro Blade & Beam ultra slim, ultra low profile
- Stack heights down to 2 mm
- Slim body designs for increased PCB space savings
- Ultra fine 0.40 mm and 0.50 mm pitch
- Compatible with mPOWER® for power/signal solutions
- See page 32-33 or visit samtec.com/micro for more micro pitch, low profile solutions



PAM4
56
Gbps

Q RATE® GROUND PLANE CONNECTOR STRIPS

- Slim 4.60 mm body width saves board space
- 0.80 mm pitch Edge Rate® contacts
- Increased 1.20 mm contact wipe for a reliable connection
- Integral power/ground plane rated for up to 8.5 A
- Compatible with mPOWER® for signal/power flexibility
- See page 29 or visit samtec.com/mezzanine for more high-speed board-to-board solutions



Q RATE®

NRZ
28
Gbps

RUGGED HERMAPHRODITIC CONNECTORS

- 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
- Self-mating connectors reduce inventory costs and can be interchanged for varying stack heights
- Ten stack height options from 5 mm to 12 mm
- See page 31 or visit samtec.com/razorbeam for more rugged, self mating solutions



**RAZOR
BEAM**
SYSTEM

14
Gbps

APPLICATION: ADVANCED DISPLAYS

Automotive displays are the hub, connecting a driver to an increasingly wide range of functions, systems and networks both inside and outside of the vehicle with just a touch of the screen. Samtec offers high-speed and high-cycle solutions to support the growing volume of personalized data and features:

GENERATE™ 0.80 mm PITCH HIGH-SPEED EDGE CARD CONNECTORS

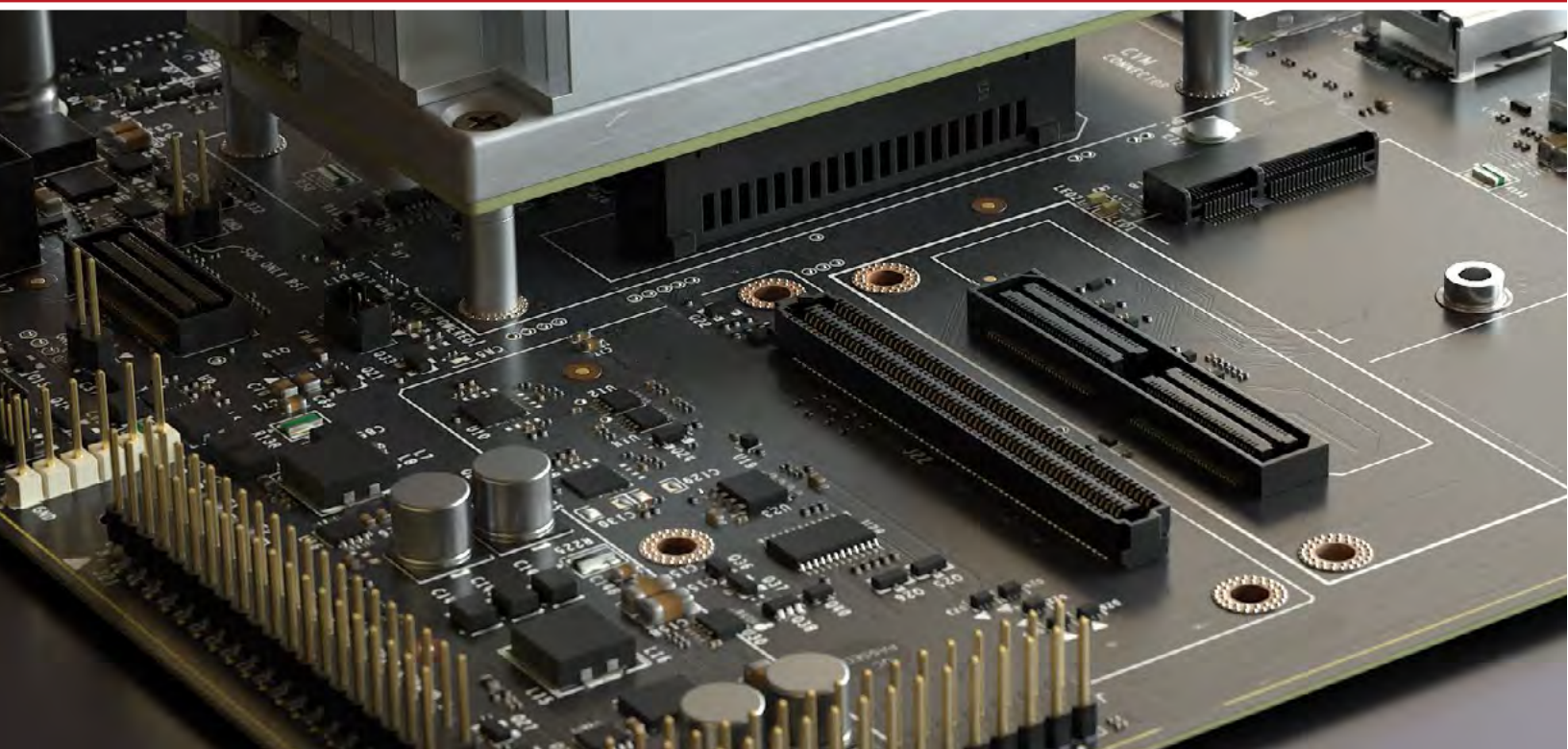
- 28 Gbps NRZ performance
- PCI Express® 3.0 and 4.0 capable
- Vertical, right-angle and edge mount
- Rugged signal/power combination available
- See pages 24-25 for more information about HSEC8, or visit samtec.com/edgecard for additional edge card solutions



GENERATE™



EMBEDDED COMPUTE MODULES



As autonomous vehicle technology grows, AI and machine learning innovations increase the reliability of human and machine interaction. SoMs and CoMs programmed for deep learning offer reduced network load and lower latencies while collecting data to accurately identify and respond to people and the environment, both inside and outside of the cabin. Samtec offers high-performance solutions to help capture real-time data, for increased vehicle safety and comfort.

PRODUCT GROUPS

Samtec's variety of high-speed, high-density interconnects support SoMs/CoMs in automotive systems.



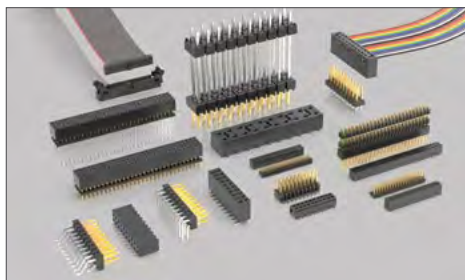
HIGH-DENSITY ARRAYS



EDGE CARD SYSTEMS



RUGGED SIGNAL INTEGRITY



FLEXIBLE STACKING



FLEXIBLE POWER



HIGH-SPEED CABLE

HIGH-DENSITY ARRAYS

- Open-pin-field arrays for maximum routing and grounding flexibility
- SEARAY™ 1.27 mm pitch with up to 560 Edge Rate® contacts
- SEARAY™ 0.80 mm pitch with up to 720 contacts for 2x the density
- LP Array™ low profile arrays with 4 mm, 4.5 mm and 5 mm stack heights
- Compatible with mPOWER® for power/signal solutions
- See pages 18-21 or visit samtec.com/arrays for more high-performance and high-density solutions

SEARAY™

PAM4
56
Gbps

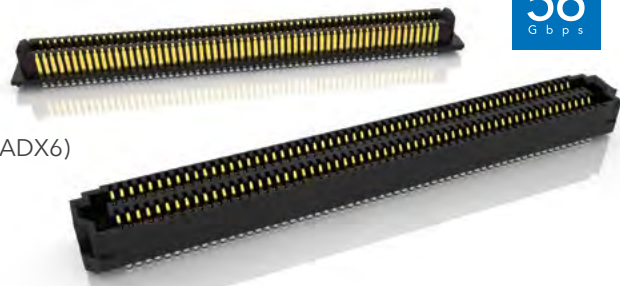


HIGH-PERFORMANCE ARRAYS

- AcceleRate® HP high-performance to 112 Gbps PAM4
- AcceleRate® HD high-density arrays to 56 Gbps PAM4
- Up to 400 I/Os in a 4-row design; roadmap to 1,000+ pins (APX6)
- Low profile 5 mm stack height; up to 10 mm (APX6) and slim 5 mm width (ADX6)
- Data rate capable with PCIe® 5.0, and 100 GbE (APX6)
- Visit samtec.com/arrays for more high-speed, small form factor solutions

ACCELERATE® HD

PAM4
56
Gbps

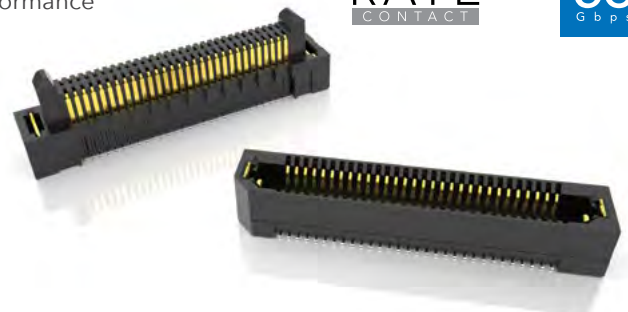


EDGE RATE® RUGGED SIGNAL INTEGRITY SYSTEMS

- 0.80 mm pitch Edge Rate® contacts optimized for signal integrity performance and less prone to damage when “zippered” to unmate
- 56 Gbps PAM4 performance
- 1.50 mm contact wipe for a reliable connection
- Stack heights from 7 mm to 18 mm
- Compatible with mPOWER® for signal/power flexibility
- See pages 22-23 or visit samtec.com/mezzanine for more high-speed board-to-board solutions

EDGE
RATE
CONTACT

PAM4
56
Gbps



APPLICATION: AI SERVER INFRASTRUCTURE

Artificial intelligence is the path to self-driving vehicles. In order to get there, supercomputers are being used to continuously process a vast amount of image and video data to become proficient at that skill. Samtec offers a variety of interconnect solutions to meet the high-performance and signal integrity requirements of deep learning for autonomous vehicles:



ACCELERATE® SLIM DIRECT ATTACH CABLE ASSEMBLY

- 56 Gbps PAM4 performance
- Slim 7.6 mm width and up to 24 differential pairs
- 34 AWG, 100 Ω Eye Speed® ultra-low skew twinax cable
- Flyover® technology simplifies board layout and extends signal reach
- Visit samtec.com/hdr for more high-speed micro coax and ultra low skew twinax cable assemblies

ACCELERATE®



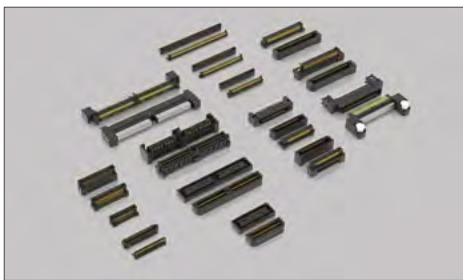
CHARGING INFRASTRUCTURE



The demand for increased charging power continues to grow as more electric vehicles hit the roadways. Whether for one car or a large fleet of vehicles, a reliable and accessible charging infrastructure is needed to support long range mileage with fast and efficient, on-demand charging solutions. Samtec offers rugged and high-power solutions for reliable connectivity to support power conversion, thermal management and current or future needs of the electric vehicle.

PRODUCT GROUPS

A wide variety of Samtec interconnect solutions are available to support charging infrastructure related needs.



HIGH-SPEED DUAL ROW STRIPS



RUGGED SIGNAL INTEGRITY



DISCRETE WIRE



FLEXIBLE STACKING



RUGGED CONTACT SYSTEM



FLEXIBLE POWER

www.samtec.com/solution-blocks

mPOWER® ULTRA MICRO POWER INTERCONNECTS

- Micro 2.00 mm pitch with up to 18 A/blade
- Design flexibility for power-only or power/signal applications
- Use with Samtec's high-speed connector systems for a unique power/signal system
- Selectively loaded contacts for creepage and clearance requirements
- See pages 34-35 or visit samtec.com/power for more high-power and signal/power solutions

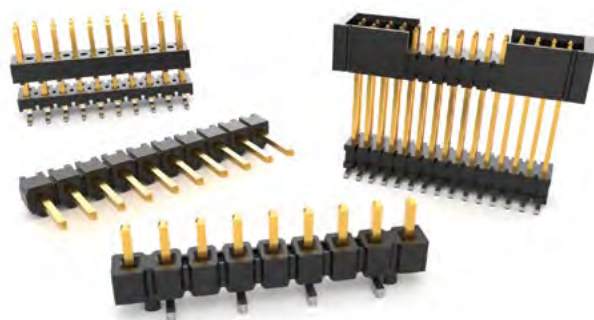
mPOWER®

MAX
18
Amps



FLEXIBLE STACKING

- 0.80 mm to 2.54 mm pitch systems
- Pass-through contacts to connect multiple boards
- Up to six rows and 300 total pins
- Low profile and skyscraper solutions
- See pages 45-67 or visit samtec.com/flexiblestacking for more board stacking and one-piece solutions



TIGER EYE™ RUGGED SYSTEMS

- High-reliability multi-finger, BeCu contact system for rugged and high cycle applications
- 1.27 mm pitch with surface mount or through-hole tails
- Optional ruggedizing features: alignment pins, weld tabs, screw downs
- Vertical and right-angle for parallel, perpendicular or coplanar applications
- See pages 36-44 or visit samtec.com/rugged for additional micro rugged solutions

TIGER
EYE
SYSTEM

MAX
3.2
Amps

8
Gbps

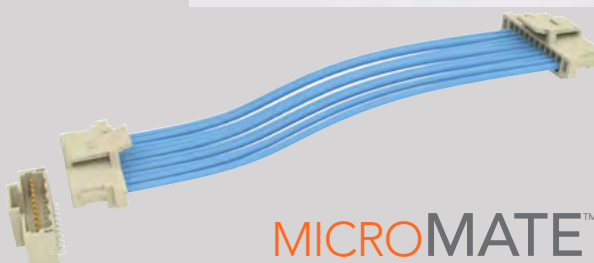


APPLICATION: POWER MANAGEMENT

On-board chargers convert AC to DC power for electric vehicles, but they also ensure a safe and efficient charge. By monitoring charging conditions and the type of charging system being used, the on-board charger provides flexibility while ensuring reliable functionality. Samtec's discrete wire solutions can help meet these needs for power management inside the vehicle:

MICRO MATE™ 1.00 mm PITCH DISCRETE WIRE SYSTEMS

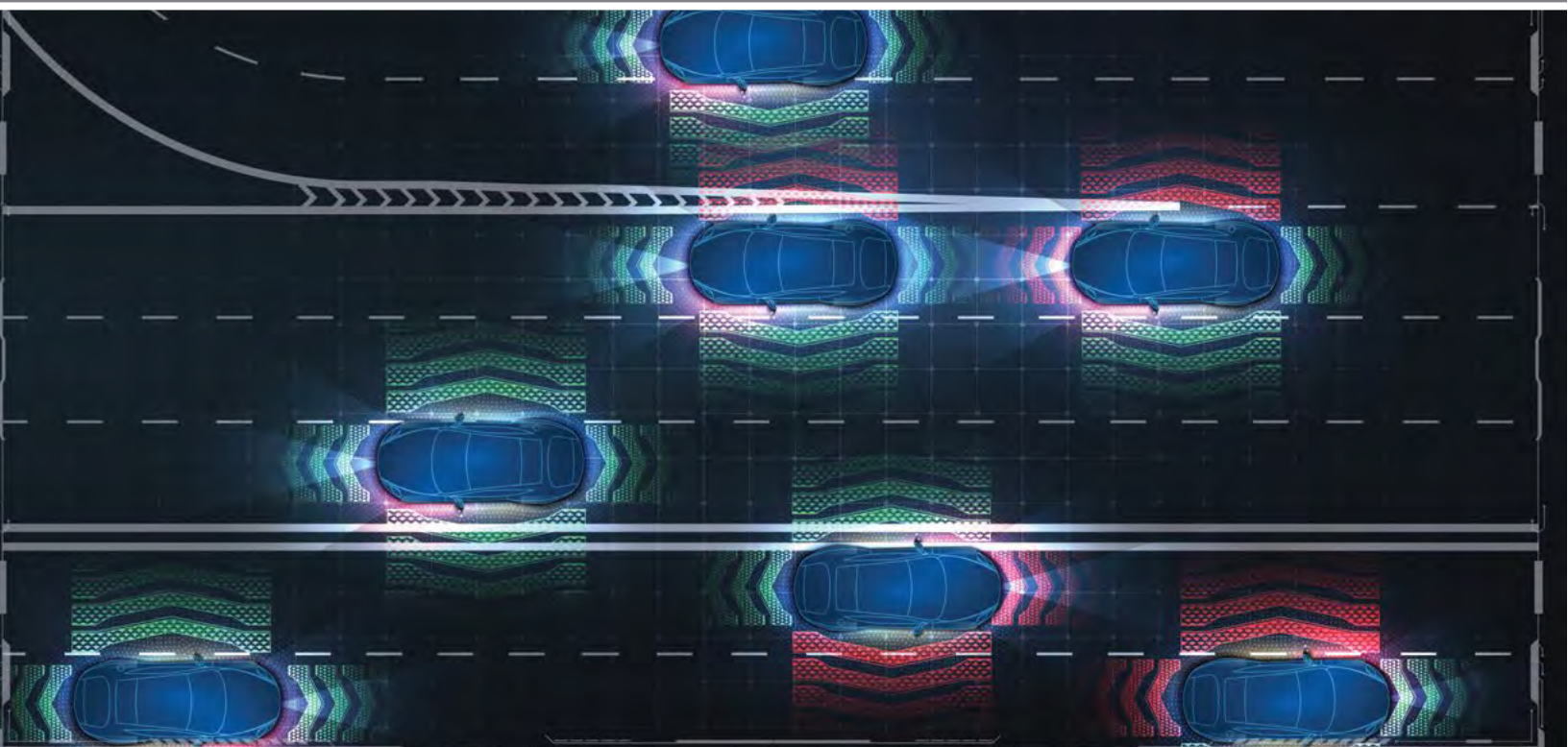
- Supports cable-to-board, cable-to-cable and panel-to-board
- Crimp-style dual leaf contact system for a reliable connection
- Rugged positive latching for increased retention
- 28 and 30 AWG wire options in PVC or Teflon®
- Visit samtec.com/discretewire for more discrete wire cable assemblies, components and tooling available.



MICROMATE™



VISION SYSTEMS



From ADAS to fully autonomous vehicles, the use of automotive vision systems to study the road and environment is growing. LiDAR, Radar, sensors and cameras require low latency and power consumption to gather large amounts of data in real-time for safe and reliable operation in all conditions. Samtec offers high-speed, space saving and flexible solutions to help connect vision systems to the computing system for fast, immediate reactions on the road.

PRODUCT GROUPS

Samtec offers a variety of flexible options for high-data rate and space saving solutions to support automotive vision systems.



HIGH-DENSITY ARRAYS



ULTRA MICRO INTERCONNECTS



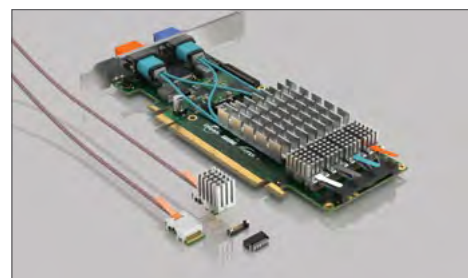
PRECISION RF



FLEXIBLE STACKING



EDGE CARD SYSTEMS



OPTICS

GENERATE™ HIGH-SPEED EDGE CARD SYSTEMS

- 0.80 mm pitch with up to 200 total pins
- Vertical, right-angle and edge mount
- Rugged edge card/power combination
- Latches and weld tabs available
- See pages 24-25 or visit samtec.com/edgecard for additional edge card solutions



GENERATE™

NRZ
28
Gbps

ULTRA LOW PROFILE STRIPS

- Micro Blade & Beam ultra slim, ultra low profile
- Stack heights down to 2 mm
- Slim body designs for increased PCB space savings
- Ultra fine 0.40 mm and 0.50 mm pitch
- Compatible with mPOWER® for power/signal solutions
- See pages 32-33 or visit samtec.com/micro for more micro pitch, low profile solutions



28
Gbps

MICRO PITCH SYSTEM

- 0.50 mm pitch with up to 60 contacts
- Mitigates misalignment in X and Y directions
- Choice of body height
- Ideal for multiple connectors on a board
- See page 68 or visit samtec.com/rugged for additional micro rugged solutions



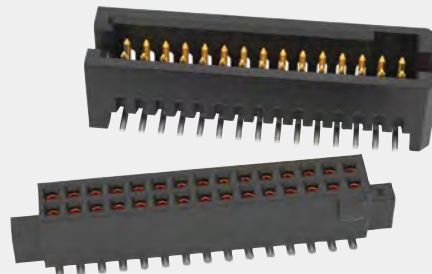
APPLICATION: 3D MAPPING

3D mapping profiles the roadway to build a digital map that can be automated for real-time accuracy with an understanding of traffic rules and the ability to compensate for unlikely conditions. Samtec's micro rugged interconnects meet the demands of scalability and flexibility needed for machine vision and learning in ADAS and autonomous driving systems:



TIGER EYE™ MICRO RUGGED SYSTEMS

- 1.27 mm and 2.00 mm pitch
- Three-finger BeCu contact system for high-reliability and high cycles
- Ruggedizing features: locking, screw downs, alignment pins, weld tabs
- Up to 3.8 A/pin and 8 Gbps performance
- SET (Severe Environment Testing) Qualified Product
- See pages 36-44 for more information about Tiger Eye™, or visit samtec.com/rugged for additional micro rugged solutions



TIGER
EYE
SYSTEM

C-V2X TECHNOLOGY



C-V2X (Cellular Vehicle-to-Everything) technologies go beyond line-of-sight systems to enable vehicle intelligence, improve traffic flow and increase safety by leveraging next gen 5G networks and cloud services. This interconnected ecosystem requires a reliable communications infrastructure for high-speed and high-frequency data exchange. Samtec's expanding automotive interconnect portfolio helps route data from radios to sensors throughout the vehicle.

PRODUCT GROUPS

A wide variety of Samtec interconnects are available to support C-V2X applications.



PRECISION RF



HIGH-DENSITY ARRAYS



EDGE CARD SYSTEMS



HIGH-SPEED CABLE



FLEXIBLE STACKING



HIGH-SPEED DUAL ROW STRIPS

PRECISION RF CABLES & CONNECTORS

- Supports frequency range from 18 GHz to 110 GHz
- Microwave/millimeter wave cable assemblies, cable and board connectors
- Variety of solutions: 1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, 3.50 mm, SMP, SMPM, SMA, SSMA
- Bulls Eye® high-performance test assemblies to 70 GHz
- Visit samtec.com/rf for a full line of RF solutions



HIGH-SPEED ARRAYS

- Open-pin-field arrays for maximum routing and grounding flexibility
- SEARAY™ 1.27 mm and 0.80 mm pitch with up to 720 Edge Rate® contacts
- LP Array™ low profile arrays with 4 mm, 4.5 mm and 5 mm stack heights
- AcceleRate® HP and AcceleRate® HD arrays with up to 400 I/Os in a 4-row design; roadmap to 1,000+ pins (APX6)
- Compatible with mPOWER® for power/signal solutions
- See pages 18-21 or visit samtec.com/arrays for more high-speed, high-density solutions



HIGH-SPEED EDGE CARD SYSTEMS

- 0.50 mm to 2.00 mm pitch with up to 200 total pins
- Vertical, right-angle and edge mount
- Rugged edge card/power combination
- Latches and weld tabs available
- See pages 24 -27 or visit samtec.com/edgecard for additional high-speed edge card solutions

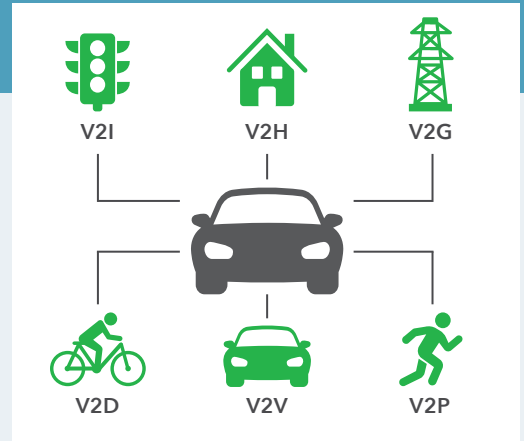
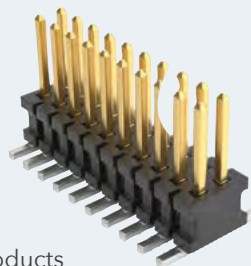


APPLICATION: CONNECTED VEHICLES

V2X technology requires embedded systems to connect vehicles and the surrounding environment for greater predictability and safety on the road. Low-cost, reliable debugging and configuring of these systems will be key to ensure constant connection. Samtec offers a variety of solutions to meet these needs, such as JTAG standard and compliant interconnects:

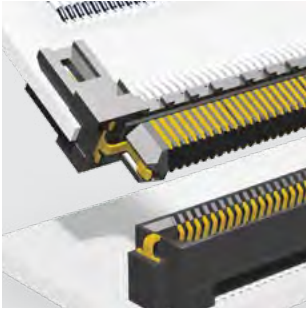
JTAG FLEXIBLE STACKING CONNECTORS

- .050" and .100" pitch terminal strips
- Shrouded and high-temp versions
- Low profile and elevated options
- Visit samtec.com/jtag for a list of JTAG compliant products



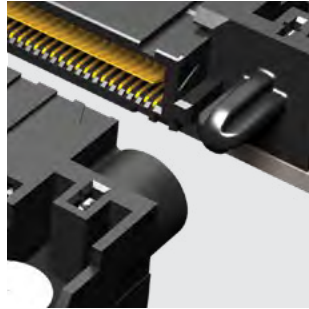
RUGGED FEATURES & CUSTOM SOLUTIONS

RUGGEDIZING OPTIONS



FRICITION LOCKS

Metal or plastic friction locks increase retention/withdrawal force



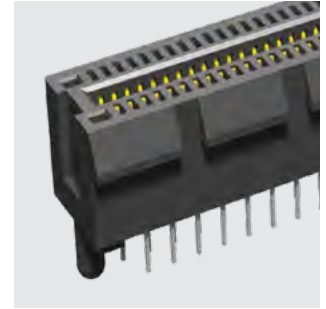
GUIDE POSTS

Easy and secure mating



SCREW DOWNS

Secure mechanical attachment to the board



ALIGNMENT PINS

Easy and secure mating

CONTACT FLEXIBILITY



TIGER CLAW™

Dual wipe contact pass-through applications
Ultra-low profile



TIGER EYE™

High-reliability
High mating cycles
Multi-finger contact



TIGER BUY™

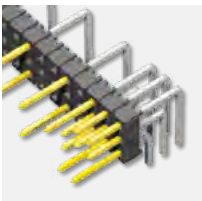
High-retention
Cost effective
Tuning fork contact



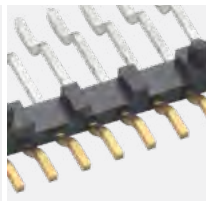
POWER EYE

High current
High-reliability
Three-finger contact

CUSTOM SOLUTIONS



Pin Modifications



Body Modifications



Custom Connectors



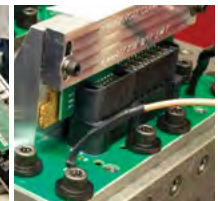
Prototyping



Special Platings



Testing



Qualification Testing

CERTIFICATIONS

Samtec is IATF 16949, ISO 14001 and ISO 9001 certified, and is fully integrated with in-house tooling, plating and automated manufacturing capabilities that provide for advanced development, low-cost, quick turn and high volume production. In addition, Samtec is compliant with International Traffic and Arms Regulations (ITAR) and with EU WEEE and RoHS directives. Please visit samtec.com/quality for additional certification information.



PPAP PRODUCTION PART APPROVAL PROCESS

Samtec uses proven processes that meet our IATF 16949 certification. Samtec designates these products with an A-Series part number. For each A-Series product, a customer will receive a Level 3 Product Part Approval Process (PPAP) package. Contents shown below are the supporting documents required to meet Level 3 PPAP.

1. INDEX PAGE
2. SERIES DESIGN RECORD – SAMTEC RELEASED PRINT
3. CHANGE HISTORY
4. SERIES DESIGN FMEA
5. PROCESS FLOW DIAGRAM
6. PROCESS FMEA
7. CONTROL PLAN – PRE-LAUNCH
8. CONTROL PLAN – SERIAL PRODUCTION
9. MEASUREMENT SYSTEM STUDIES (GAGE R&R)
 - a. Total Gage R&R < 10% is acceptable
 - b. Total Gage R&R > 10% , < 30% is acceptable for non-critical characteristics
10. ASSEMBLY DIMENSIONAL RESULTS (100% FAI & BALLOONED PRINT)
 - a. Tabular Summary Format (according to AIAG manual)
 - 100% layout for 5 parts for each cavity (1 cavity)
 - 100% layout for 3 parts for each cavity (2 cavities)
 - 100% layout for 2 parts for each cavity (3 or 4 cavities)
 - 100% layout for 1 part for each cavity (6 or more cavities)
 - b. Drawing numbered to correlate with submitted dimensional results and drawing notes



11. INITIAL PROCESS STUDY (SPC)
Cpk > 1.67 or 100% in process inspection
12. COMPONENT PPAP
13. MATERIAL CERTIFICATION
14. QUALIFIED LABORATORY DOCUMENTATION
15. CAPACITY & RUN AT RATE DATA FORM – DATA FROM PRODUCTION TRIAL RUN
Data must come from a minimum run of 300 parts
16. RUN @ RATE CHECKLIST
17. EVIDENCE OF IMDS SUBMISSION
Proof of submission into the International Material Data System
18. PART SUBMISSION WARRANT (PSW)
19. FACILITY IATF CERTIFICATION

GREEN: SUBMITTED, WHITE: RETAINED

ULTRA RUGGED TESTING



Samtec's automotive products undergo testing that is comparable to USCAR2-6 specifications for performance reliability: Severe Environment Testing, Extended Life Product™, and Design Qualification. Proven processes are also used that meet Samtec's IATF 16949 certification. These products are designated with an A-Series part number and supplied to customers with a Level 3 Product Part Approval Process (PPAP) package.

Contact AutoSalesGroup@samtec.com for more information or to discuss your specific automotive application.



SEVERE ENVIRONMENT TESTING

Severe Environment Testing (SET) is a Samtec initiative to test products beyond typical industry standards and specifications for performance confidence in rugged/harsh environment industries. These products undergo additional testing, inspired by military standards, to ensure they are more than suitable for automotive, military, space, industrial and other extreme applications.

Visit samtec.com/SET or contact SET@samtec.com for additional information, a full list of qualifying products and current available test results.



SET QUALIFIED A-SERIES PRODUCTS

A-SFM/A-TFM – Tiger Eye™ 1.27 mm Pitch Micro Rugged System

A-SEAF/A-SEAM – SEARAY™ High-Density Arrays

A-LSHM – Razor Beam™ Hermaphroditic Strips

A-SSM/A-TSM – .100" Pitch Square Post Header & Socket

A-CLP/A-FTSH – .050" Pitch Header & Socket

A-ERF8/A-ERM8 – Edge Rate® Rugged High-Speed Strips

A-S2M/A-T2M – Tiger Eye™ 2.00 mm Pitch Micro Rugged System

A-UMPS/A-UMPT – mPOWER® Ultra Micro Power Connectors

A-SEAF8/A-SEAM8 – SEARAY™ Ultra-High Density Arrays

SET TESTING INCLUDES

- Mating/Unmating/Durability
- Mechanical Shock/Random Vibration/LLCR & Nanosecond Event Detection
- Temperature Cycling
- Non-Operating Class Temperature
- DWV at Altitude
- Electrostatic Discharge (ESD)
- Outgassing

EXTENDED LIFE PRODUCT™

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 about Samtec's E.L.P.™ program, a full list of qualifying products and test results, please visit samtec.com/ELP or email the Customer Engineering Support Group at ASG@samtec.com



E.L.P.™ A-SERIES PRODUCTS

A-ERF8/A-ERM8 - Edge Rate® 0.80 mm Pitch Strips

A-HSEC8 - Generate™ High-Speed Edge Card Sockets

A-QRM8/A-QRF8 - Q Rate® Slim Ground Plane Connectors

A-QSE/A-QTE - Q Series® Low Profile Ground Plane Connectors

A-SEAF/A-SEAM - SEARAY™ High-Density Arrays

A-SFM/A-TFM - Tiger Eye™ 1.27 mm Pitch Micro Rugged System

A-CLP/A-FTSH - Tiger Claw™ .050" Pitch Header and Socket

A-SMM/A-TMM - Tiger Eye™ 2.00 mm Pitch Header and Socket

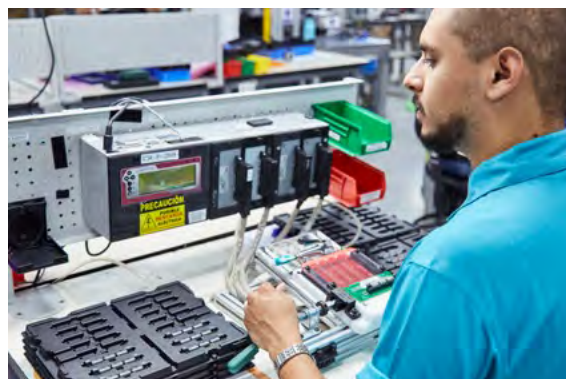
A-CLT/A-TMMH - Tiger Claw™ 2.00 mm Pitch Header and Socket

A-SSM/A-TSM - Tiger Claw™ .100" Pitch Header and Socket

DESIGN QUALIFICATION TESTING

All Samtec series undergo Design Qualification Testing (DQT), which includes:

- Gas Tight
- Normal Force
- Thermal Aging
- Mating/Unmating/Durability
- IR/DWV
- Current Carrying Capacity (CCC)
- Mechanical Shock/Random Vibration/LLCR
- Mechanical Shock/Random Vibration/Event Detection

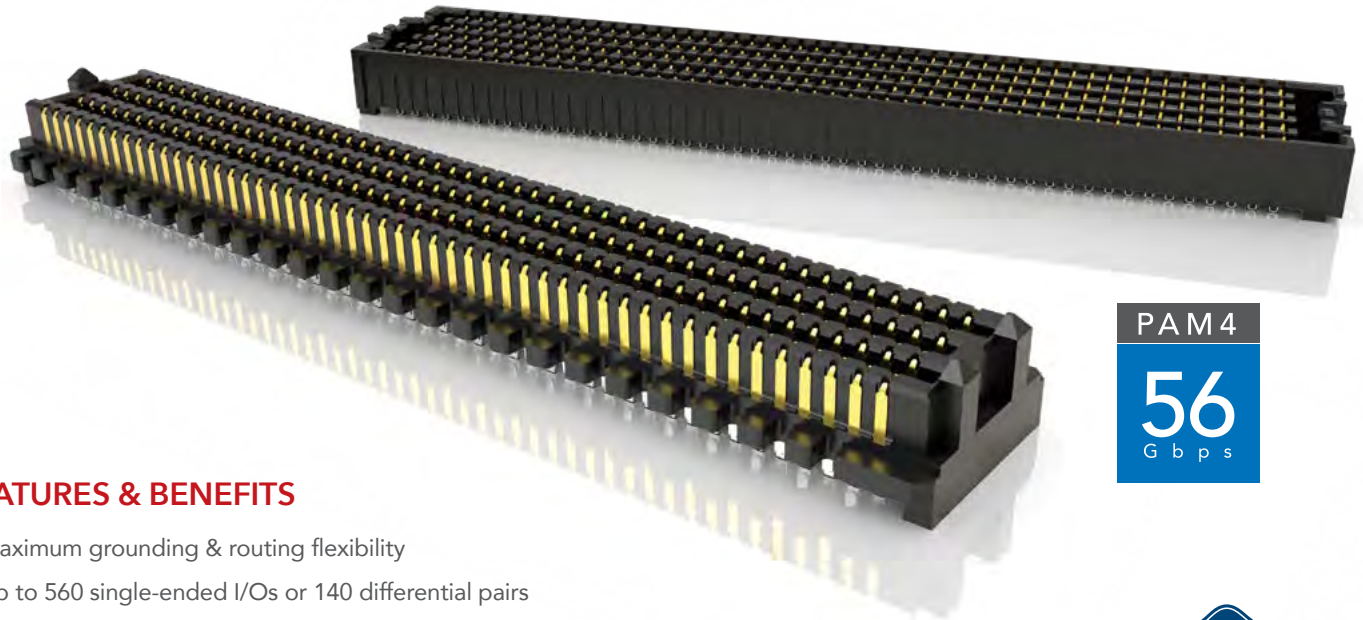


USCAR2-6 APPLICABLE SPECIFICATIONS	SAMTEC COMPARABLE SPECIFICATIONS - EIA STANDARD
5.1.4.1 Temperature Classification	T1, T2, T3 Available
5.1.4.2 Sealing Classification	S1 Available
5.1.4.3 Vibration Classification	V1 Available
5.1.7 Connector and/or Terminal Cycling	Initial Mating/Unmating (25 Cycles)
5.1.9 Circuit Continuity Monitoring	Continuity Event Detection (Min. 50 ns)
5.2.1 Terminal to Terminal Engage/Disengage Force	Mating/Unmating 100 Cycles (Up to 1000+ Cycles on E.L.P.™)
5.3.1 Dry Circuit Resistance	Contact Resistance (10.1 to 15.0 mΩ)
5.3.2 Voltage Drop	Voltage Drop (Reported at Rated Current)
5.3.3 Maximum Test Current Capability	Current Rating per Contact (30 °C Rise, 20% De-Rated at 105 °C)
5.3.4 Current Cycling	500 cycles (125% of Rated Current)
5.4.2 Connector-Connector Mating/Unmating/Retention/Lock Deflection Forces (non-assist)	Forces Reported for 25, 50, 75 and 100 Cycles
5.4.6 Vibration/Mechanical Shock	Shock/Vibe (100 G, 6 ms, Sawtooth Wave, 11.3 fps, 3 shocks/direction, 3 axis)
5.5.1 Insulation Resistance	IR (1,000 MΩ minimum at 500 VDC)
5.6.1 Thermal Shock	100 Cycles, 30 min Dwell, 85 °C to -55 °C, Immediate Transition
5.6.2 Temperature/Humidity Cycling	Test Temp 25 °C to 65 °C, 90-95% R.H. for 240 hrs (SET Available)



HIGH-DENSITY OPEN-PIN-FIELD ARRAYS

(1.27 mm) .050" PITCH

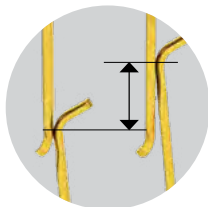


PAM4
56
Gbps

FEATURES & BENEFITS

- Maximum grounding & routing flexibility
- Up to 560 single-ended I/Os or 140 differential pairs
- Rugged Edge Rate® contacts
- Compatible with A-UMPT/A-UMPS for power/signal flexibility
- Standards: VITA 47, VITA 57.1 FMC, VITA 57.4 FMC+, VITA 74 VNX, PISMO™ 2
- Supports high-speed protocols such as Ethernet, PCI Express®, Fibre Channel & InfiniBand

**EDGE
RATE**
CONTACT



(1.12 mm) .044"
Nominal Wipe

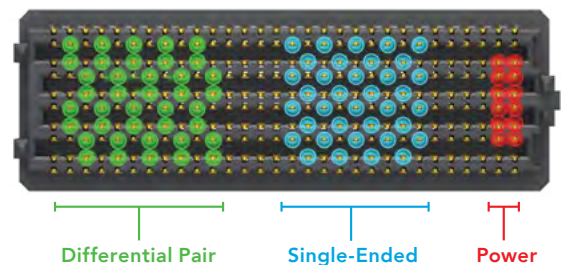


Solder Charges



Power / Signal
Applications

MAXIMUM GROUNDING & ROUTING FLEXIBILITY



KEY SPECIFICATIONS

PITCH	STACK HEIGHTS	TOTAL PINS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	WORKING VOLTAGE	LEAD-FREE SOLDERABLE
1.27 mm x 1.27 mm	7 mm - 18.5 mm	40 - 560	Black LCP	Copper Alloy	Au or Sn over 50 μ" (1.27 μm) Ni	-55 °C to +125 °C	2.7 A per pin (10 adjacent pins powered) 7 mm stack height	240 VAC	Yes

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

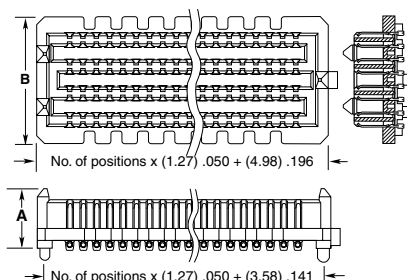
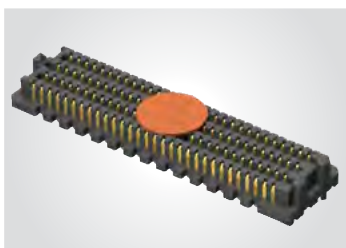
Due to technical progress, all designs, specifications and components are subject to change without notice.



(1.27 mm) .050" PITCH • A-SEAM/A-SEAF SERIES

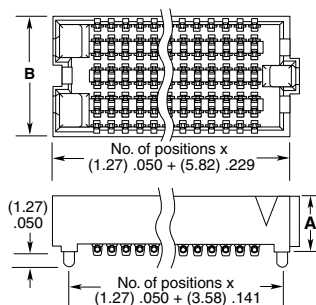
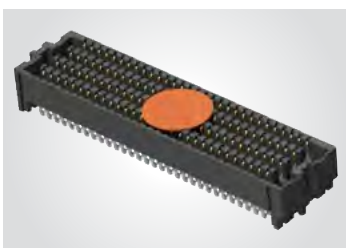
SERIES	POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	A	K	TR
A-SEAM Terminal	-10, -15, -20, -30, -40, -50	Specify LEAD STYLE from chart	-L = 10 μm (0.25 μm) Gold on contact area, Matte Tin on solder tail	-04 -05 -06 -08 -10	-2 = Lead-Free Solder Charge	-A = Alignment Pin	-K Polyimide Film Pick & Place Pad	-TR = Tape & Reel
A-SEAF Socket	A-SEAM & A-SEAF: -10 only available in -04 Row A-SEAM: -15 only available in -04 Row with -02.0 Lead Style, and -10 Row with any Lead Style; A-SEAF: -15 only available in -04 or -10 Row with -5.0 Lead Style		-S = 30 μm (0.76 μm) Gold on contact area, Matte Tin on solder tail	A-SEAM: -04, -05 & -06 (Rows not available with -06.5 Lead Style)				

A-SEAM Board Mates: A-SEAF



LEAD STYLE	A	NO. OF ROWS	B
-02.0	(5.61) .221	-04	(7.06) .278
-03.0	(6.60) .260	-05, -06	(9.60) .378
-03.5	(7.11) .280	-08	(12.14) .478
-06.5	(10.16) .400	-10	(14.68) .578
-07.0	(10.59) .417		
-09.0	(12.60) .496		
-11.0	(14.61) .575		

A-SEAF Board Mates: A-SEAM



LEAD STYLE	A	NO. OF ROWS	B
-05.0	(5.05) .199	-04	(5.66) .223
-06.0	(6.05) .238	-05, -06	(8.20) .323
-06.5	(6.55) .258	-08	(10.74) .423
-07.5	(7.54) .297	-10	(13.28) .523

MATED HEIGHTS

A-SEAM LEAD STYLE	A-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

STANDARDS

VITA 47
 VITA 57.1 FMC
 VITA 57.4 FMC+
 VITA 74 VNX
 PISMO™2
 Visit www.samtec.com/standards
 for more information.

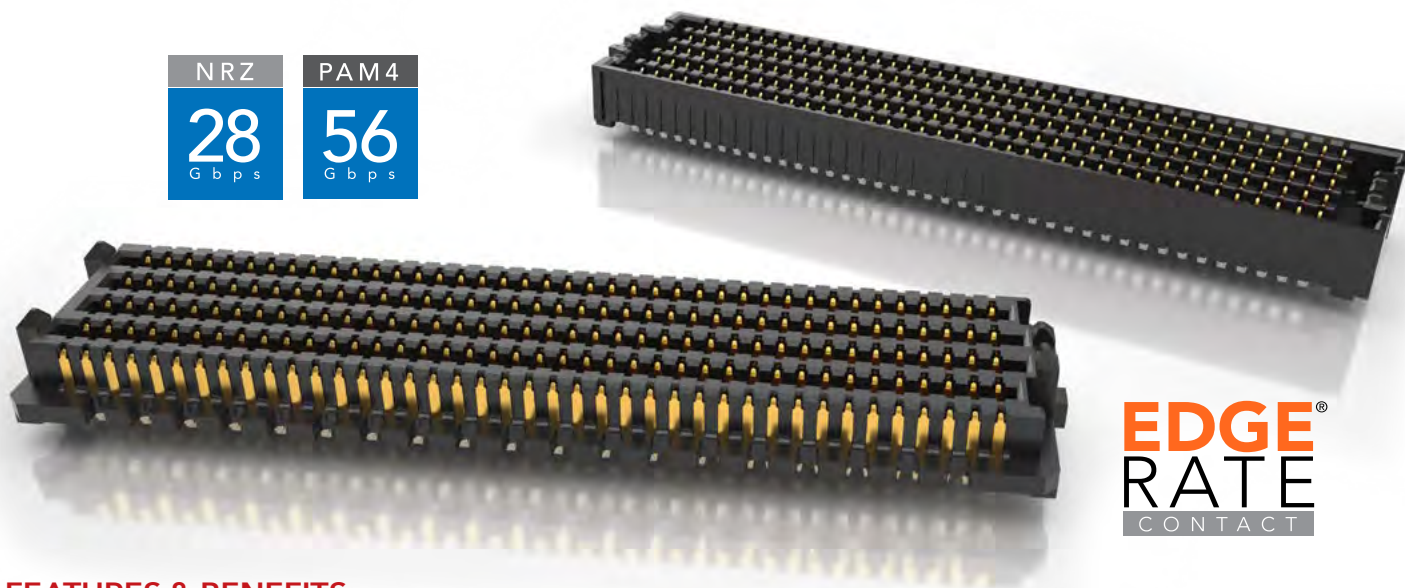
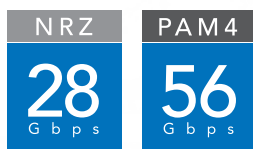
Notes:
 IPC-A-610F and
 IPC J-STD-001F Class 3 solder joint.

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

SEARAYTM.8mm

ULTRA HIGH-DENSITY, HIGH-SPEED OPEN-PIN-FIELD ARRAYS

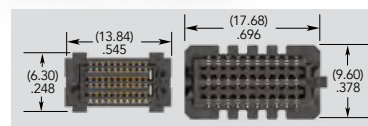
(0.80 mm) .0315" PITCH



**EDGE
RATE[®]**
CONTACT

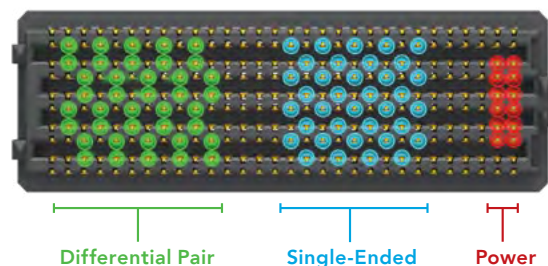
FEATURES & BENEFITS

- 0.80 mm (.0315") pitch grid
- 50% board space savings versus .050" (1.27 mm) pitch arrays
- Performance up to 28 Gbps NRZ/56 Gbps PAM4
- Rugged Edge Rate[®] contact system
- Up to 500 I/Os
- 7 mm and 10 mm stack heights
- Solder charge terminations for ease of processing
- Lower insertion/withdrawal forces



0.80 mm pitch vs. 1.27 mm pitch
(60 pins shown)

MAXIMUM GROUNDING & ROUTING FLEXIBILITY



KEY SPECIFICATIONS

PITCH	STACK HEIGHTS	TOTAL PINS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	CURRENT RATING	LEAD-FREE SOLDERABLE
0.80 mm	7 mm & 10 mm	up to 500 I/Os	Black LCP	Copper Alloy	Au or Sn over 50 μ " (1.27 μ m) Ni	1.3 A per pin (10 adjacent pins powered)	Yes

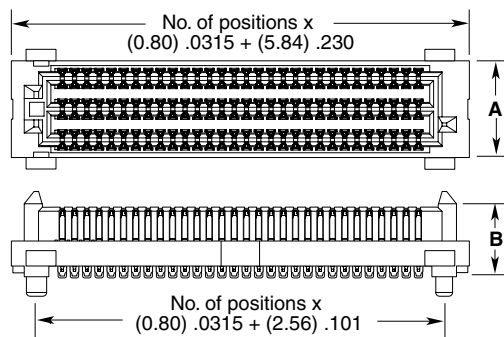
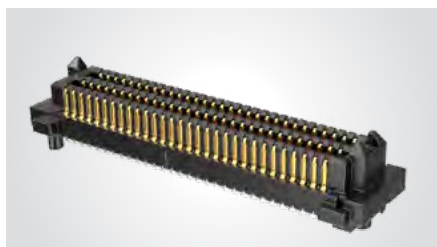
Due to technical progress, all designs, specifications and components are subject to change without notice.



(0.80 mm) .0315" PITCH • ULTRA HIGH-DENSITY ARRAYS

SERIES	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	NO. OF ROWS	SOLDER TYPE	OPTION	K
A-SEAM8 Terminal	-10, -20, -30, -40, -50	-S02.0 = 2 mm Body Height (A-SEAM8 only)	-S = 30 μ" (0.76 μm) Gold on contact area, Matte Tin on solder tail	-04 -06 -08	-2 = Lead-Free Solder Crimp	-GP = Guide Post (A-SEAM8 only)	-K = Polyimide film Pick & Place Pad
A-SEAF8 Socket		-S05.0 = 5 mm Body Height (A-SEAM8 only)					
		-05.0 = 5 mm Body Height (A-SEAF8 only)					

A-SEAM8 Board Mates: A-SEAF8



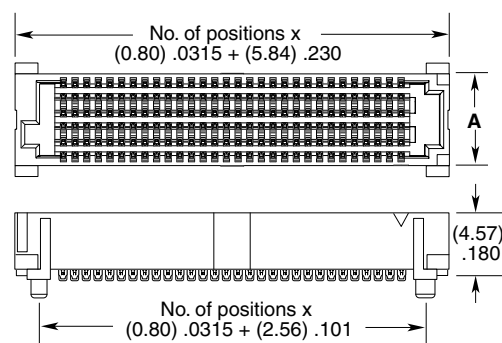
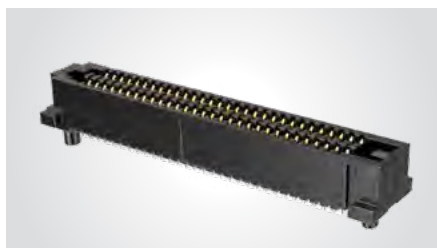
NO. OF ROWS	A
-04	(4.30) .169
-06	(6.30) .248
-08	(8.30) .327

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

MATED HEIGHTS*		
A-SEAF8 LEAD STYLE	A-SEAM8 LEAD STYLE	
	-S02.0	-S05.0
-05.0	(7.00) .276	(10.00) .394

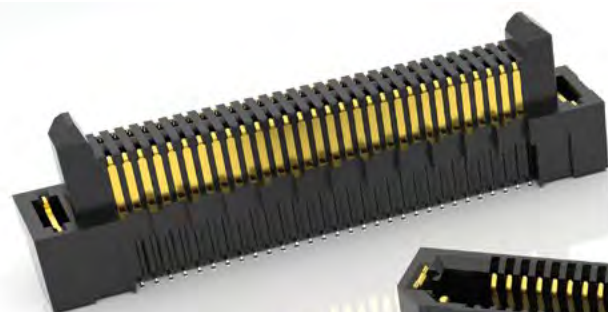
*Processing conditions will affect mated height.

A-SEAF8 Board Mates: A-SEAM8



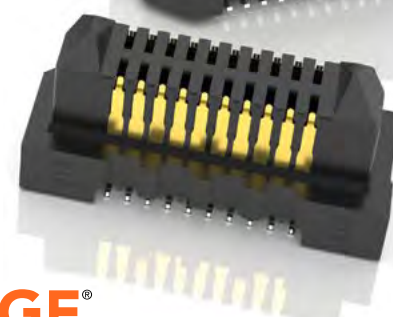
Due to technical progress, all designs, specifications and components are subject to change without notice.

RUGGED HIGH-SPEED STRIPS



NRZ
28
Gbps

PAM4
56
Gbps



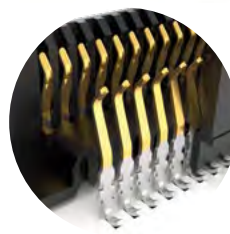
FEATURES & BENEFITS

Edge Rate® rugged high-speed connector strips are designed for high speed, high cycle applications, and enabled by Samtec's signal integrity-optimized Edge Rate® contact system.

- 0.80 mm pitch
- 56 Gbps PAM4 performance
- Rugged latching, locking and 360° shielding available
- Up to 1.5 mm contact wipe; robust when "zippered" during unmating
- Compatible with A-UMPT/A-UMPS for power/signal flexibility



EDGE
RATE
CONTACT



Contact Automotive group at autosalesgroup@samtec.com for information about Edge Rate® right-angle products.

Signal integrity-optimized Edge Rate® contact system reduces broadside coupling

KEY SPECIFICATIONS

SERIES	PITCH	STACK HEIGHTS	TOTAL PINS / PAIRS	INSULATOR MATERIAL	TERMINAL MATERIAL	PLATING	OPERATING TEMP RANGE	LEAD-FREE SOLDERABLE
A-ERM8 / A-ERF8	0.80 mm	7-18 mm	10-200	Black LCP	Phosphor Bronze or BeCu (A-ERM8), BeCu (A-ERF8)	Au or Sn over 50 μ" (1.27 μm) Ni	-55 °C to +125 °C	Yes

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

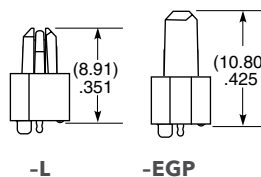
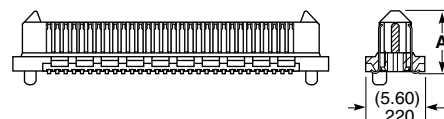
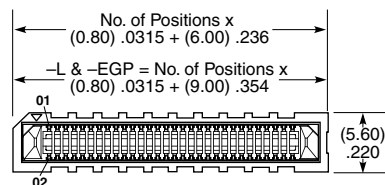
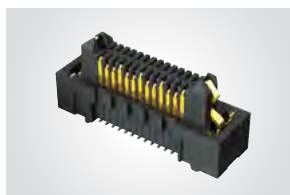


(0.80 mm) .0315" PITCH • RUGGED HIGH-SPEED HEADERS & SOCKETS

TYPE	POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	DV	OPTIONS	TR
A-ERM8 = Header	-005, -010, -011, -013, -020, -025, -030, -035, -040, -049, -050, -060, -070, -075, -100	Specify LEAD STYLE from Chart	-L = 10 μ " (0.25 μ m) Gold on contact, Matte Tin on tail		-DS = Differential Pair (A-ERM8 -05.0 Lead Style with -010, -013, -025, -049 Positions only)	-TR = Tape & Reel
A-ERF8 = Socket	(100 Position Only Available with A-ERM8-09.0 & A-ERF8-05.0 Lead Styles; -L or -EGP not available)		-S = 30 μ " (0.76 μ m) Gold on contact, Matte Tin on tail		-L = Latching (A-ERM8-05.0 and -09.0 Lead Styles only and -EGP Option not available) (A-ERF8-05.0 Lead Style only and -L to -EGP Option not available)	



A-ERM8
Board Mates:
A-ERF8



-EGP
= Extended Guide Post
(A-ERM8-05.0 and A-ERF8-07.0 Lead Style Only and -L Option not available)

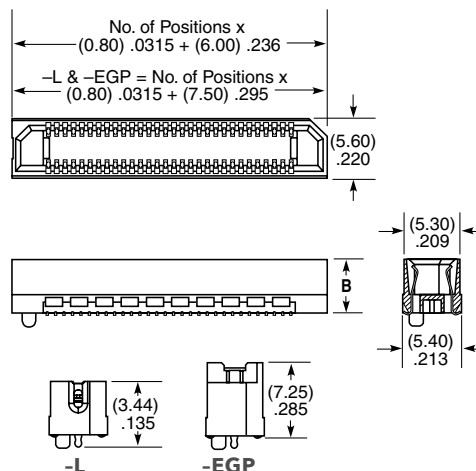
-DSP
= Differential Pair with Extended Guide Post
(A-ERM8 -05.0 Lead Style with -013 and -025 Positions only)

-K
= Polyimide Film Pick & Place Pad
(-02.0 Lead Style not available)

LEAD STYLE	A (A-ERM8)	B (A-ERF8)
-02.0	(5.97) .235	N/A
-05.0	(8.91) .351	(5.10) .200
-07.0	N/A	(7.00) .276
-08.0	(11.91) .469	N/A
-09.0	(12.91) .508	(9.00) .354



A-ERF8
Board Mates:
A-ERM8



A-ERM8 LEAD STYLE	MATED HEIGHT*		
	A-ERF8 LEAD STYLE		
	-05.0	-07.0	-09.0
-02.0	(7.00) .276	(9.00) .354	(11.00) .433
-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.

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.

samtec.com/Automotive

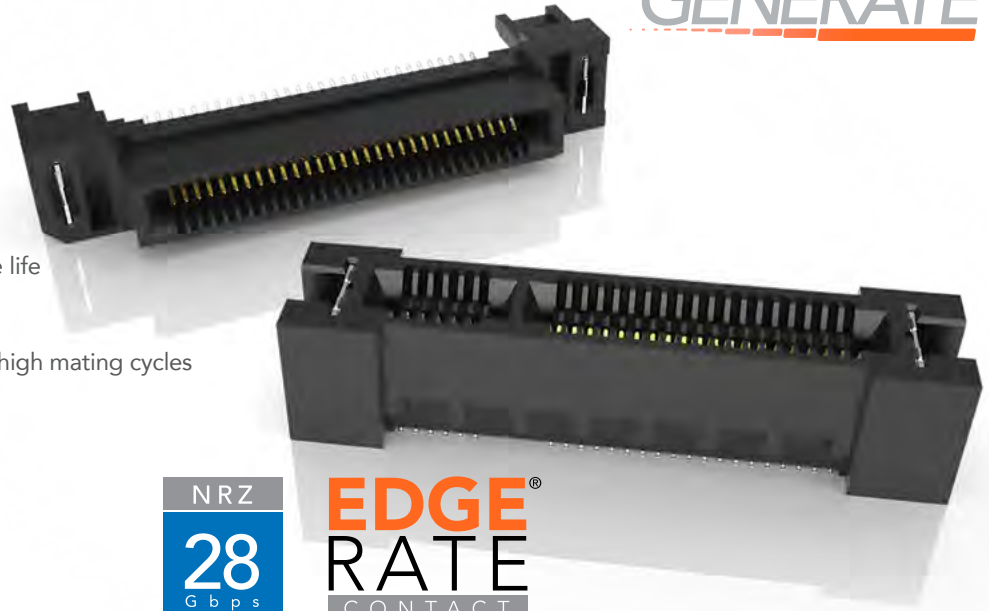
Samtec shall only comply with IATF-16949 on products it certifies as Automotive Custom Design "ACD" or on those designated with "A-" Samtec part # prefix. "A-" products are designed to Samtec's specifications not customers' specifications. Contact autosalesgroup@samtec.com with questions.

HIGH-SPEED EDGE CARD SYSTEMS

0.80 mm PITCH

FEATURES & BENEFITS

- 28 Gbps NRZ performance
- PCI Express® 3.0 & 4.0 Capable
- Edge Rate® contacts optimized for signal integrity performance and cycle life
- Up to 200 positions available
- Extended Life Product™ (E.L.P.™) for high mating cycles



GENERATE™

KEY SPECIFICATIONS

SERIES	PITCH	TOTAL POSITIONS	INSULATOR MATERIAL	CONTACT MATERIAL	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
A-HSEC8	0.80 mm	18-200	Black LCP	BeCu	-55 °C to +125 °C	2.8 A (2 pins)	240 VAC	Yes

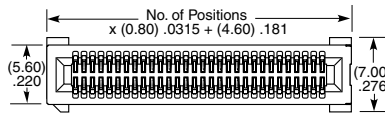
(0.80 mm) .0315" PITCH • VERTICAL EDGE CARD SOCKET

A-HSEC8-DV

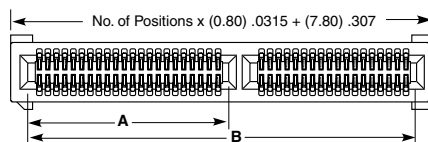
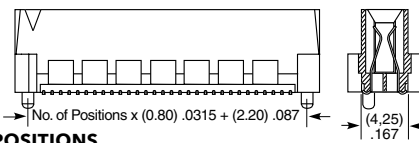
Card Mates:
(1.60 mm) .062" card
(2.36 mm) .093" card



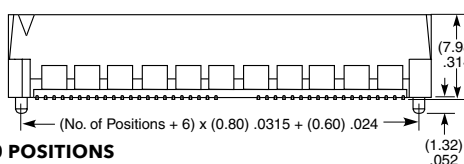
A-HSEC8	1	POSITIONS PER ROW	CARD THICKNESS	PLATING OPTION	DV	A	OTHER OPTIONS	TR
		10, 20, 30, 40, 50, 60, 70, 80, 100	-01 = (1.60 mm) .062" thick card -03 = (2.36 mm) .093" thick card	-L = 10 μ" (0.25 μm) Gold on contact area, Matte Tin on tail			-K = Polyimide Pick & Place Pad -BL = Board Locks (-01 card only) Weld tab standard	-TR = Tape & Reel (10 - 70 only)



10, 20 & 30 POSITIONS



40 THRU 100 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†	(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.

† Available with -01 Card Only

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.

(0.80 mm) .0315" PITCH • RIGHT-ANGLE & POWER COMBO SOCKET

A-HSEC8	1	POSITIONS PER ROW	CARD THICKNESS	PLATING OPTION	RA	OTHER OPTIONS	TR
---------	---	-------------------	----------------	----------------	----	---------------	----

EDGE RATE
CONTACT

09, 10,
13, 20,
25, 30, 40,
49, 50, 60

-01
= (1.60 mm) .062"
thick card

-L
= 10 μ " (0.25 μ m)
Gold on contact area,
Matte Tin on tail

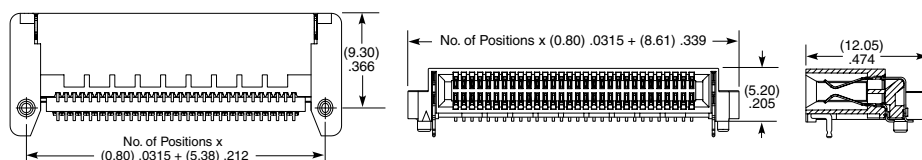
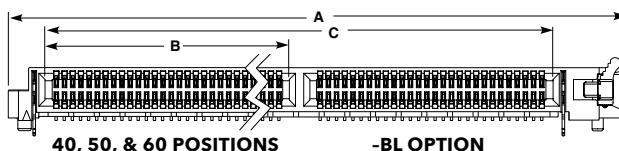
-BL
= Board Locks
(09, 13, 25, 49,
40, 50, 60 only)

-TR
= Tape & Reel

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

A-HSEC8-RA

Card Mates:
(1.60 mm)
.062" card



10, 20 & 30 POSITIONS

A-HSEC8	1	SIGNAL POSITIONS	CARD THICKNESS	PLATING OPTION	PV	POWER POSITIONS	POWER TAIL	OTHER OPTION
---------	---	------------------	----------------	----------------	----	-----------------	------------	--------------

20, 30, 40
(Signal positions
per row)

-01
= (1.60 mm) .062"
thick card

-L
= 10 μ " (0.25 μ m)
Gold on contact area,
Matte Tin on tail

-2, -4
(Total, 2 per
power bank)

-1
= Use with
(1.60 mm)
.062"
Thick PCB

-WT
= Weld Tab

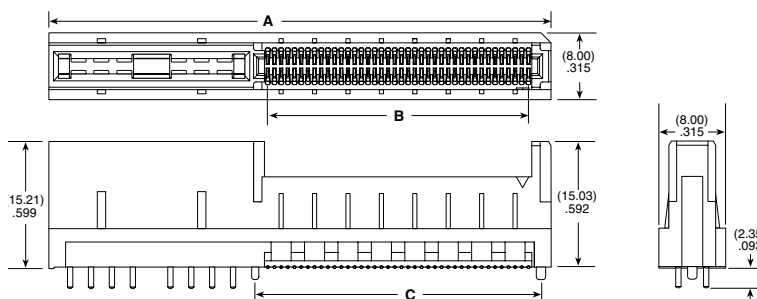
EDGE RATE
CONTACT

A-HSEC8-PV

Card Mates:
(1.60 mm)
.062" card



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

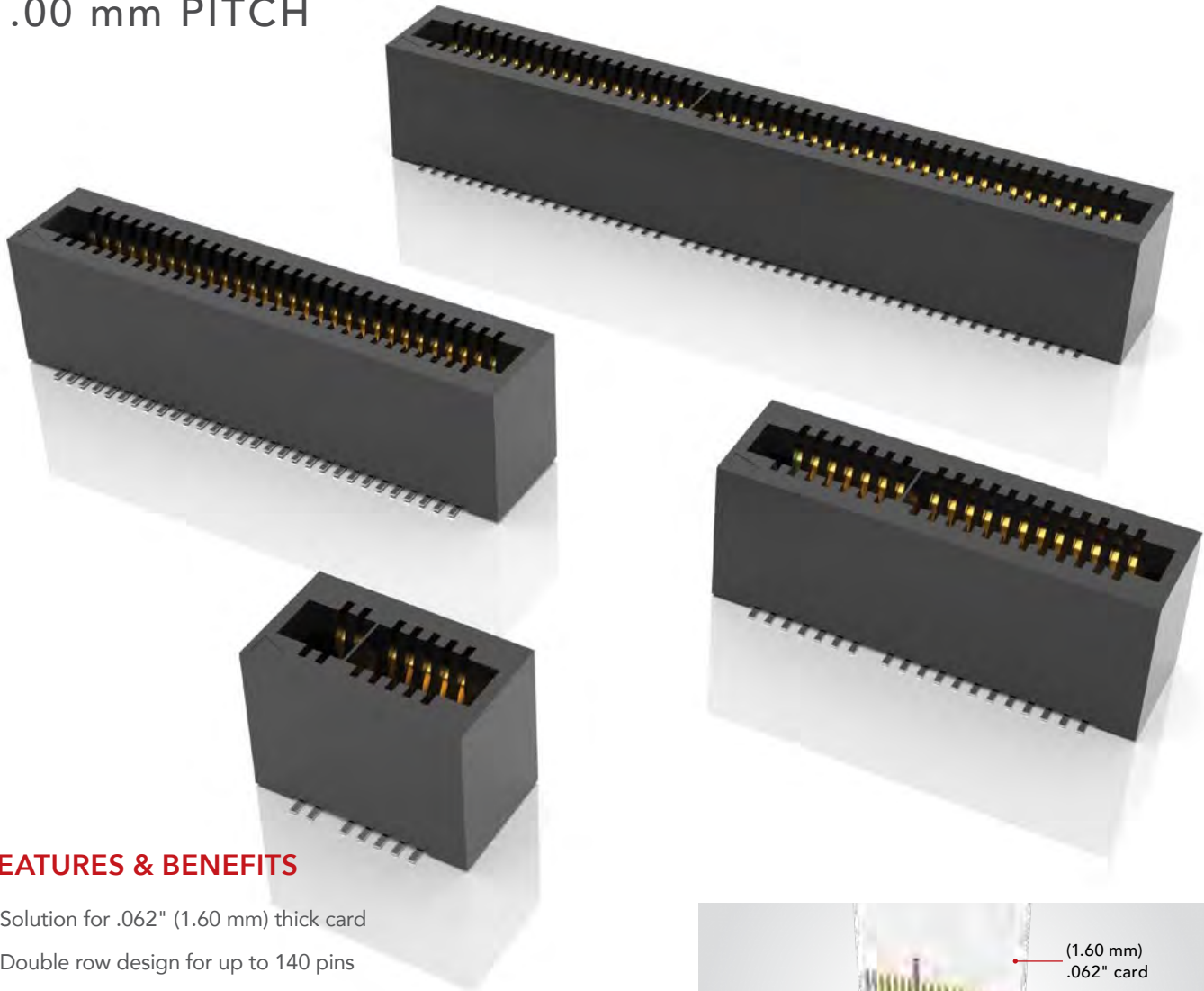


Note:
Some sizes, styles and
options are non-standard,
non-returnable.

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

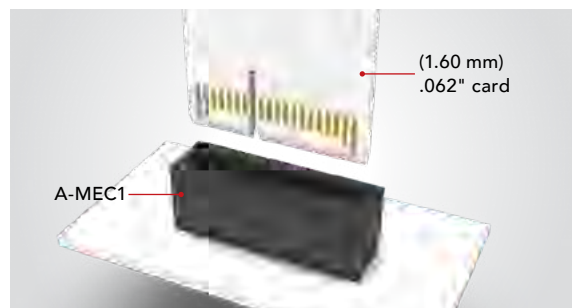
MICRO EDGE CARD SYSTEM

1.00 mm PITCH



FEATURES & BENEFITS

- Solution for .062" (1.60 mm) thick card
- Double row design for up to 140 pins
- 1.00 mm pitch
- Vertical through-hole orientation
- Non polarization option available
- Contact autosalesgroup@samtec.com, for information about right-angle or edge mount options.



(1.60 mm) .062" card mating into A-MEC1 (1.00 mm) .0394"

KEY SPECIFICATIONS

SERIES	PITCH	TOTAL POSITIONS	INSULATOR MATERIAL	CONTACT MATERIAL	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
A-MEC1	1.00 mm	10-140	Black LCP	BeCu	-55 °C to +125 °C	2.2 A (2 pins)	250 VAC	Yes

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



14
G b p s

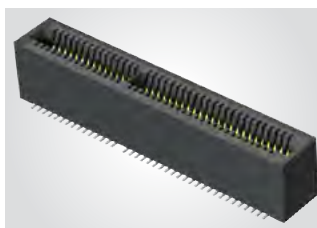


(1.00 mm) .0394" PITCH • MINI EDGE CARD SOCKET

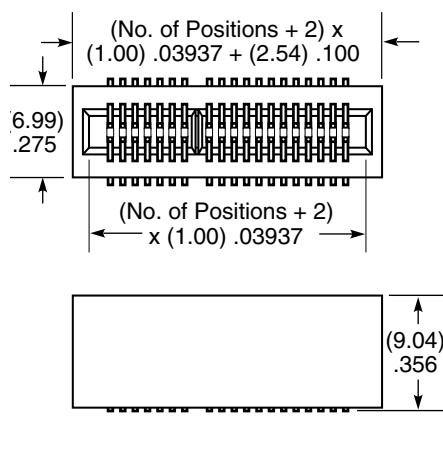
A-MEC1	1	POSITIONS PER ROW	02	PLATING OPTION	D	NP	OTHER OPTIONS	TR
		05, 08, 10, 20, 30, 40, 50, 60, 70		-F = Gold flash on contact, Matte Tin on tail -L = 10 μ" (0.25 μm) Gold on contact, Matte Tin on tail		Leave blank for polarization -NP =No Polarization (05, 08, 20 & 30 positions only)	-A = Alignment Pin plastic at Samtec discretion -K = (7.87 mm) .310" DIA Polyimide film Pick & Place Pad	-TR =Tape & Reel (05-60 only)

A-MEC1

Card Mates:
(1.60 mm) .062"
thick card



POSITIONS PER ROW	POLARIZED POSITIONS (No Contact)
05	3, 4
08	5, 6
10	13, 14
20	15, 16
30	21, 22
40	31, 32
50	41, 42
60	31, 32, 63, 64
70	53, 54, 115, 116

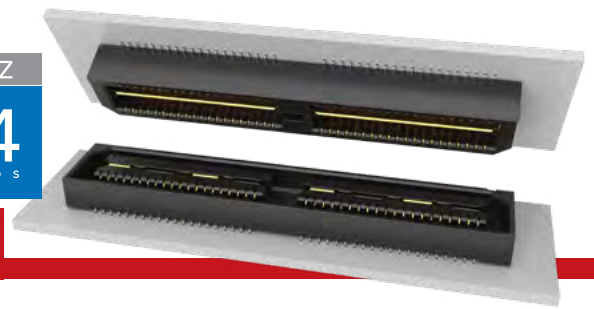


Note:
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options are non-standard,
non-returnable.

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samtec.com/Automotive

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(0.80 mm) .0315" PITCH • A-QTE/A-QSE SERIES

A-QTE
Board Mates:
A-QSE

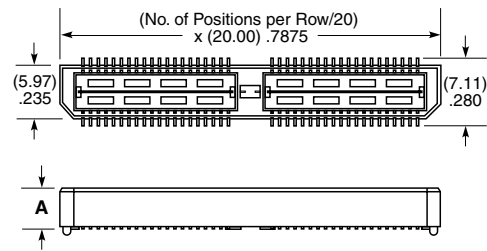
A-QSE
Board Mates:
A-QTE



SPECIFICATIONS

Insulator Material:
Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 μ " (1.27 μ m) 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 when mated
& 5 mm Stack Height
Max Cycles:
100

A-QTE LEAD STYLE	A	HEIGHT WITH A-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
-09	(13.26) .522	(14.00) .551
-10	(14.24) .561	(15.00) .590



-GP
= Guide Post
(-020 only)

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

-FL
= Friction Locks
(-01 & -02 Lead
Style only)
(Not available
with -GP)

-TR
= Tape & Reel
(Not available
with -05 thru -08
Lead Style)

PROCESSING

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



A-QSE	PINS PER ROW NO. OF PAIRS	01	PLATING OPTION	TYPE	A	OTHER OPTIONS
	-020, -040, -060 (40 total pins per bank)		-F = Gold flash on contact, Matte Tin on tail	-D = Single- Ended		-GP = Guide Post (-020 only)

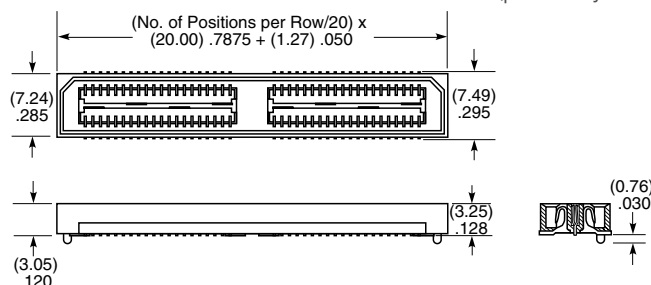
-L
= 10 μ " (0.25 μ m)
Gold on contact,
Matte Tin on tail

-C
= 50 μ " (1.27 mm)
Electro-Polished Selective
Gold on contact,
Matte Tin on tail
(passes 10 year MFG testing)

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

-FL
= Friction Locks
(Not available
with -GP)

-TR
= Tape & Reel



Note:
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options are non-standard,
non-returnable.

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



NRZ
28
Gbps



(0.80 mm) .0315" PITCH • A-QRM8/A-QRF8 SERIES

A-QRM8
Board Mates:
A-QRF8

A-QRF8
Board Mates:
A-QRM8



SPECIFICATIONS

Insulator Material:

Black LCP

A-QRM8 Terminal Material:

Phosphor Bronze

A-QRF8 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:

8.5 A per ground plane

(1 ground plane powered)

Operating Temp Range:

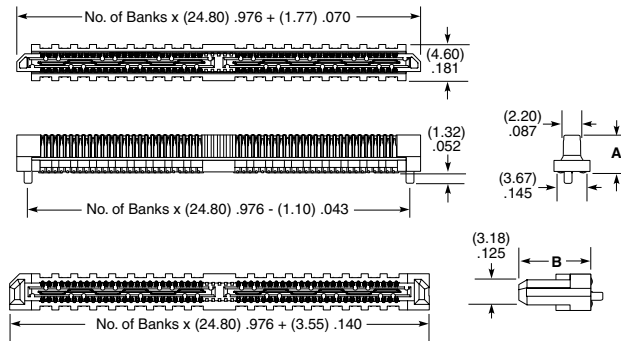
-55 °C to +125 °C

Voltage Rating:

215 VAC

Max Cycles:

100



-GP OPTION

LEAD STYLE	A	B
-02	(4.81) .189	(6.12) .241
-05	(7.81) .307	(9.12) .359
-07	(9.78) .385	(11.12) .438

PROCESSING

Lead-Free Solderable:

Yes

SMT Lead Coplanarity:

(0.10 mm) .004" max

(018-026)

0.15 mm) .006" max

(036-078)*

*(.004" stencil solution

may be available; contact

ipg@samtec.com)

Board Stacking:

For applications requiring

more than two connectors

contact ipg@samtec.com

A-QRF8	PINS PER ROW NO. OF PAIRS	LEAD STYLE	PLATING OPTION	TYPE	A	OTHER OPTIONS
--------	------------------------------	---------------	-------------------	------	---	------------------

-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

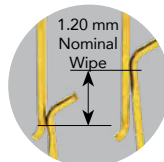
-D
= Single-Ended

-D-DP
= Differential Pair

-GP
= Guide Post

-K
= (5.00 mm) .197"
DIA Polyimide Film
Pick & Place Pad

-TR
= Tape & Reel
(-018, -026, -036,
-052 only)

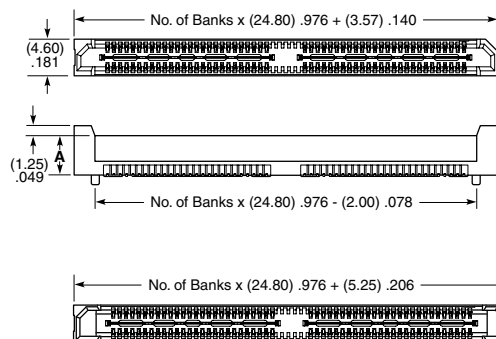


Note:

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

MATED HEIGHT*			
A-QRF8 LEAD STYLE	A-QRM8 LEAD STYLE		
	-02.0	-05.0	-07.0
-05	(7.00) .276	(10.00) .394	(12.00) .472
-07	(9.00) .354	(12.00) .472	(14.00) .551

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



-GP OPTION

LEAD STYLE	A
-05	(5.01) .197
-07	(7.01) .276

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FINE PITCH SELF MATING CONNECTORS

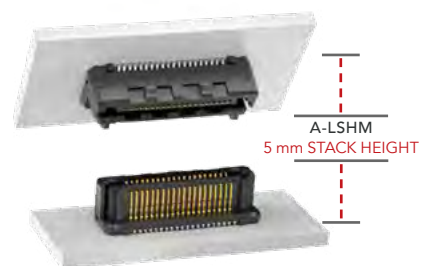
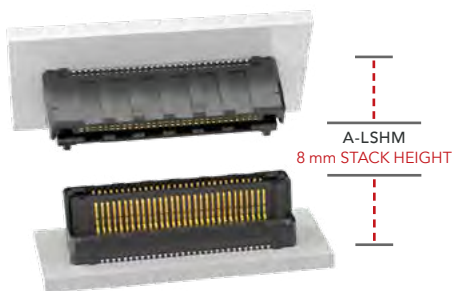
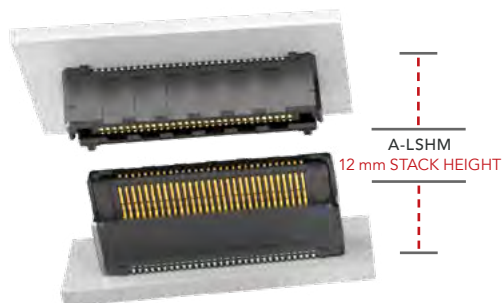
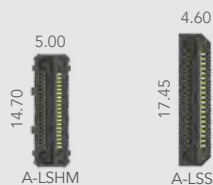
(0.50 mm) .0197" or (0.635 mm) .025" PITCHES

FEATURES & BENEFITS

- Ten stack height options from 5.00 mm to 12.00 mm
- 0.50 mm or 0.635 mm pitches
- Audible click when mated
- Mating and unmating forces approximately 4-6x greater than typical micro pitch connectors
- Self-mating system reduces inventory cost



SLIM BODY DESIGNS (40 total positions each)



KEY SPECIFICATIONS

INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	SMT COPLANARITY	LEAD-FREE SOLDERABLE
Black LCP	Phosphor Bronze	Au or Sn over 50 μ" (1.27 μm) Ni	-55 °C to +125 °C	A-LSHM: 2.0 A per pin A-LSS: 1.7 A per pin	(0.10 mm) .004" max	Yes

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

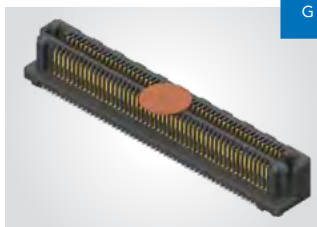


(0.50 mm) .0197" PITCH • RUGGED HERMAPHRODITIC CONNECTORS

A-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	-L =10 μ" (0.25 μm) Gold on contact, Matte Tin on tail	-DV = Vertical		-N = Without Shield	-K = (3.50 mm) .138" DIA Polyimide film Pick & Place Pad	-TR = Tape & Reel

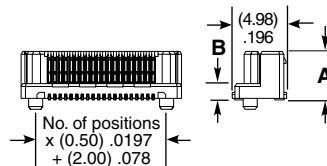
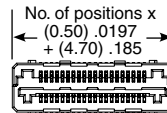
**RAZOR™
BEAM**
SYSTEM

A-LSHM
Board Mates:
A-LSHM



14
G b p s

LEAD STYLE (STANDARD)	A	B
-02.5	(3.95) .156	(1.00) .039
-03.0	(4.45) .175	(1.50) .059
-04.0	(5.45) .215	(2.50) .098
-06.0	(7.45) .293	(4.50) .177



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

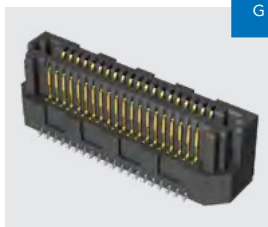
*Processing conditions will affect mated height.

(0.635 mm) .025" PITCH • RUGGED HERMAPHRODITIC CONNECTORS

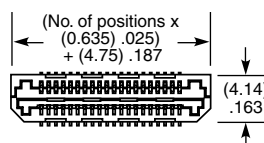
A-LSS	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	DV	A	K	TR
		10, 20, 30, 40, 50	Specify LEAD STYLE from chart	-L =10 μ" (0.25 μm) Gold on contact, Matte Tin on tail			-K = (3.50 mm) .138" DIA Polyimide film Pick & Place Pad	-TR = Tape & Reel

**RAZOR™
BEAM**
SYSTEM

A-LSS
Board Mates:
A-LSS



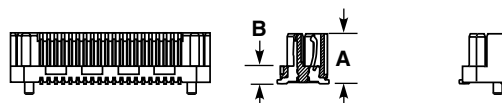
25
G b p s



LEAD STYLE	A	B
-01	(4.45) .1752	(1.59) .0628
-02	(7.45) .2933	(4.59) .1808
-03	(5.45) .2146	(2.59) .1021

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:
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options are non-standard,
non-returnable.

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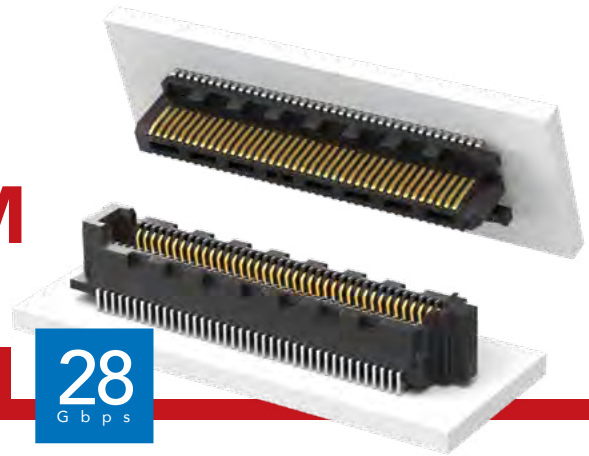
samtec.com/Automotive



MICRO BLADE & BEAM SOCKET & HEADER

(0.40 mm) .0158" PITCH • A-SS4/A-ST4 SERIES

28
Gbps



A-SS4

Mates:
A-ST4

A-ST4

Mates:
A-SS4

SPECIFICATIONS

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)

PROCESSING

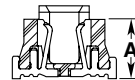
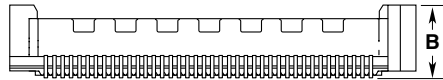
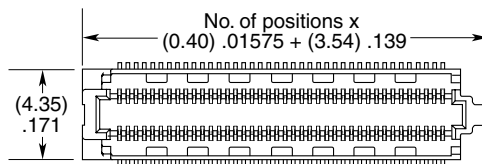
Lead-Free Solderable:

Yes

SMT Lead Coplanarity:

(0.10 mm) .004" max

A-SS4	POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	D	K	TR
	-10, -20, -30, -40, -50	-3.00 = 3.00 mm -3.50 = 3.50 mm	-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	(Required in callout) -TR = Tape & Reel



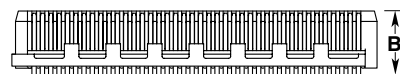
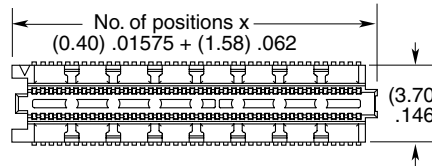
LEAD STYLE	A	B
-3.00	(2.85) .112	(3.50) .138
-3.50	(3.35) .132	(4.00) .157

A-ST4	POSITIONS PER ROW	LEAD STYLE	PLATING OPTION	D	P	TR
	-10, -20, -30, -40, -50	-1.00 = 1.00 mm -1.50 = 1.50 mm -2.50 = 2.50 mm	-L = 10 μ" (0.25 μm) Gold on contact, Matte Tin on tail		(Required in callout) -P = Pick & Place Pad	(Required in callout) -TR = Tape & Reel

MATED HEIGHT *

A-ST4 LEAD STYLE	A-SS4 LEAD STYLE	
	-3.00	-3.50
-1.00	(4.00 mm) .157"	(4.50 mm) .177"
-1.50	(4.50 mm) .177"	(5.00 mm) .197"
-2.50	(5.50 mm) .217"	(6.00 mm) .236"

*Processing conditions will affect mated height.



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

Note:

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MICRO BLADE & BEAM SOCKET & HEADER

(0.50 mm) .0197" PITCH • A-SS5/A-ST5 SERIES

PAM 4

56
G b p s

A-SS5

Mates:
A-ST5

A-ST5

Mates:
A-SS5

SPECIFICATIONS

Insulator Material:

Black LCP

Contact Material:

Phosphor Bronze

Plating:

Au or Sn over

50 μ " (1.27 μ m) Ni

Operating Temp Range:

-55 °C to +125 °C

Current Rating:

1.6 A per pin

(2 pins powered)

PROCESSING

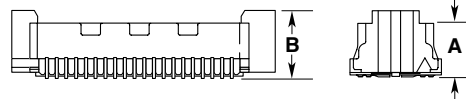
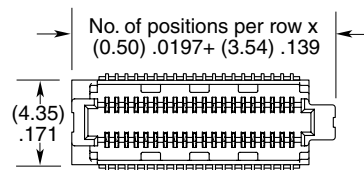
Lead-Free Solderable:

Yes

SMT Lead Coplanarity:

(0.10 mm) .004" max

A-SS5	NO. OF POSITIONS	LEAD STYLE	PLATING OPTION	D	K	TR
	-10, -15, -20, -30, -40, -50, -60, -70, -80 (Per Row)	-3.00 = 3.00 mm -3.50 = 3.50 mm	-L = 10 μ " (0.25 μ m) Gold on contact, Matte Tin on tail		(Required in callout) -K = (3.50 mm) .138" DIA Polyimide Film Pick & Place Pad	(Required in callout) -TR = Tape & Reel



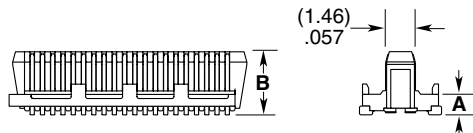
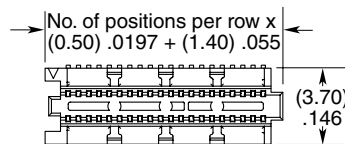
LEAD STYLE	A	B
-3.00	(2.85) .112	(3.50) .138
-3.50	(3.35) .132	(4.00) .157

MATED HEIGHT *

A-ST5 LEAD STYLE	A-SS5 LEAD STYLE	
	-3.00	-3.50
-1.00	(4.00 mm) .157"	(4.50 mm) .177"
-1.50	(4.50 mm) .177"	(5.00 mm) .197"

*Processing conditions will affect mated height.

A-ST5	NO. OF POSITIONS	LEAD STYLE	PLATING OPTION	D	P	TR
	-10, -15, -20, -30, -40, -50, -60, -70, -80 (Per Row)	-1.00 = 1.00 mm -1.50 = 1.50 mm	-L = 10 μ " (0.25 μ m) Gold on contact, Matte Tin on tail		(Required in callout) -P = Pick & Place Pad	(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

ALSO AVAILABLE

Other lead styles
(MOQ Required)

Note:

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ULTRA MICRO POWER SYSTEM

(2.00 mm) .0787" PITCH



FEATURES & BENEFITS

- Up to 18 A per blade (1 blade powered)
- Design flexibility as a power-only system or a two-piece system for power/signal applications
- Use with Samtec's high-speed connector systems for a unique power/signal system
- Choice of 2 to 10 positions
- 5 mm to 20 mm stack heights available
- Tin or 10 μ " Gold plated power blades; 30 μ " Gold plating available to meet specific regulations
- Right-angle and cable components available

KEY SPECIFICATIONS

PITCH	STACK HEIGHTS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	VOLTAGE RATING	LEAD-FREE SOLDERABLE
2.00 mm	5 to 20 mm	Black LCP	Copper Alloy	Sn or Au over 50 μ " (1.27 μ m) Ni	-55 °C to +105 °C with Tin -55 °C to +125 °C with Gold	460 VAC/ 650 VDC	Yes

A-UMPT/A-UMPS compared to another small form factor power solution

Terminals shown at 4 positions



— mPower®



— Traditional Power Solutions

CREEPAGE & CLEARANCE

A-UMPT/A-UMPS	
CREEPAGE	2.20 mm
CLEARANCE	1.65 mm

Selectively loading contacts achieves customer specific creepage and clearance requirements.

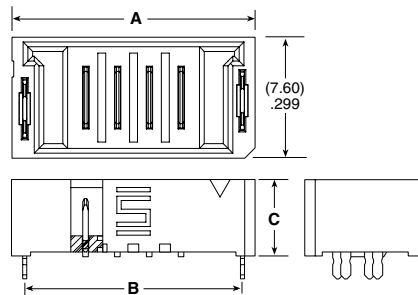


ULTRA MICRO POWER TERMINAL/SOCKET

A-UMPT	NO. OF POSITIONS	LEAD STYLE	PLATING OPTION	V	S	WELD TAB	TR
	-02, -03, -04, -05, -06, -07, -08, -09, -10	-01.5 = (01.5 mm) .059" -02.5 = (02.5 mm) .098" -06.5 = (06.5 mm) .256" -07.5 = (07.5 mm) .295" -12.5 = (12.5 mm) .492"	-L = 10 μ " (0.25 μ m) Gold on contact, Matte Tin on tail -T = Matte Tin			(Leave blank for no weld tab) -W = Weld Tab Through-hole	-TR = Tape & Reel

mPOWER®

**A-UMPT
Board Mates:**
A-UMPS



A-UMPT-04-01.5-X-V-S-W SHOWN

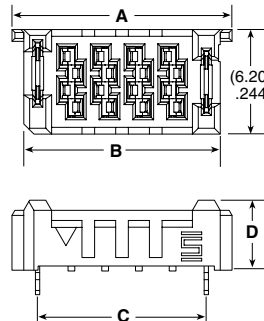
NO. OF POSITIONS	A	B	LEAD STYLE	C
-02	(11.30) .445	(9.70) .382	-01.5	(4.80) .189
-03	(13.30) .524	(11.70) .460	-02.5	(5.80) .228
-04	(15.30) .602	(13.70) .539	-06.5	(9.55) .376
-05	(17.30) .681	(15.70) .618	-07.5	(10.80) .425
-06	(19.30) .760	(17.70) .697	-12.5	(15.80) .622
-07	(21.30) .839	(19.70) .776		
-08	(23.30) .917	(21.70) .854		
-09	(25.30) .996	(23.70) .933		
-10	(27.30) 1.075	(25.70) 1.012		

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

A-UMPS	NO. OF POSITIONS	LEAD STYLE	PLATING OPTION	V	S	OPTION	TR
	-02, -03, -04, -05, -06, -07, -08, -09, -10	-03.5 = (03.5 mm) .138" -05.5 = (05.5 mm) .217" -07.5 = (07.5 mm) .295"	-L = 10 μ " (0.25 μ m) Gold on contact, Matte Tin on tail -T = Matte Tin			-W = Weld Tab Through-hole (Leave blank for no weld tab)	-TR = Tape & Reel

mPOWER®

**A-UMPS
Board Mates:**
A-UMPT



A-UMPS-04-03.5-X-V-S-W SHOWN

LEAD STYLE	D
-03.5	(4.15) .163
-05.5	(6.15) .242
-07.5	(8.15) .321

A-UMPT/A-UMPS CURRENT RATING (PER CONTACT)

PINS	-T	-L
1	18.3 A	16.2 A
2	14.5 A	14.6 A
3	14.2 A	12.6 A
4	12.9 A	12.3 A
5	12.9 A	N/A
10	N/A	9.4 A

Ratings are derated 20% with 30 °C rise to maximum
allowable temperature.

NO. OF POSITIONS	A	B	C
-02	(9.05) .356	(7.65) .301	(6.00) .236
-03	(11.05) .435	(9.65) .380	(8.00) .315
-04	(13.05) .514	(11.65) .459	(10.00) .394
-05	(15.05) .593	(13.65) .537	(12.00) .472
-06	(17.05) .671	(15.65) .616	(14.00) .551
-07	(19.05) .750	(17.65) .695	(16.00) .630
-08	(21.05) .829	(19.65) .774	(18.00) .709
-09	(23.05) .907	(21.65) .852	(20.00) .787
-10	(25.05) .986	(23.65) .931	(22.00) .866

Notes:
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options are non-standard,
non-returnable

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RUGGED TIGER EYE™ SYSTEMS

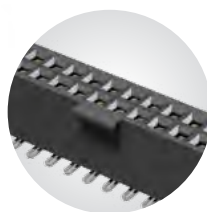
(1.27 mm) .050" PITCH

MAX
3.2
A m p s

8
G b p s



**TIGER™
EYE**
CONTACT



Locking for increased
unmating force
(A-SFML/A-TFML)



- High-Reliability
- High Mating Cycles
- Multi-finger Contact

FEATURES & BENEFITS

- High-Reliability Rugged Tiger Eye™ contact system
- Surface mount & through-hole tails
- Vertical & horizontal orientation
- Up to 8 Gbps of performance
- SET qualified product
- Extended Life Product™ (E.L.P.™) for high mating cycles to 2,500
- Discrete Wire assemblies available. Contact autosalesgroup@samtec.com for other solutions.

KEY SPECIFICATIONS (A-TFM/A-SFM)

PITCH	STACK HEIGHTS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	MAX CYCLES
1.27 mm	6 to 12 mm	Black LCP	BeCu (A-SFM) Phosphor Bronze (A-TFM)	Au or Sn over 50 μ" (1.27 μm) Ni	-55 °C to +125 °C	3.2 A per pin (2 pins powered)	250 VAC	10,000 with 30 μ" (0.76 μm) Au (Call Samtec for E.L.P.™ plating option)

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(1.27 mm) .050" PITCH • SMT/THROUGH-HOLE SOCKET

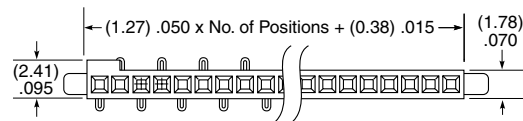
SERIES	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OPTION
A-SFM = Standard		03, 04, 06, 08 (A-SFM only)	-02 (Surface Mount) = Tiger Eye™ Contact (BeCu)	-L = 10 μ" (0.25 μm) Gold on contact, Matte Tin on tail (Call Samtec for E.L.P.™ plating option)	-S = Single Row (A-SFM only)	-A = Alignment Pin (Not available with -DH, -SH)
A-SFML = Locking		05, 07, 10, 15, 20, 25, 30, 35, 40, 45, 50 (Standard sizes)	-01, -03 (Through-hole) = Tiger Eye™ Contact (BeCu)		-D = Double Row	-K = Polyimide film Pick & Place Pad (Not available with -DH, -SH, -P) (Lead styles -02, only)
					-SH = Single Horizontal (05 thru 30 positions only) (A-SFM only) (Lead style -02 only)	-P = Plastic Pick & Place Pad (Not available with -DH, -SH, -K) (Lead styles -02, only)
					-DH = Double Horizontal (05 thru 30 positions only) (A-SFM only) (Lead style -02 only)	-TR = Tape & Reel Specify -TR last; Required for -DH & -SH. (Lead styles -02 only)



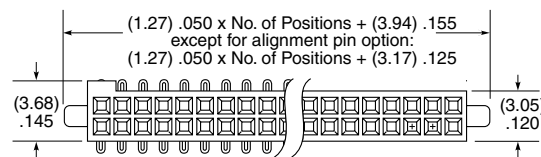
A-SFM

Board Mates:
A-TFM

A-SFML
Board Mates:
A-TFML

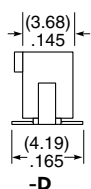


SINGLE ROW

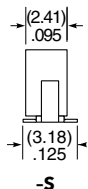


DOUBLE ROW

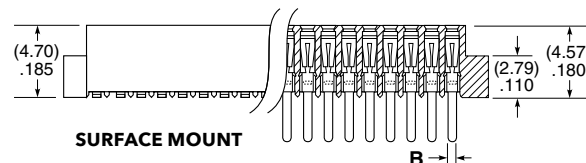
LEAD STYLE	A	B
-01	(3.05) .120	(0.51) .020
-03	(1.91) .075	(0.41) .016



-D

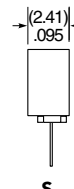


-S

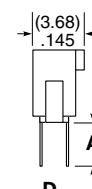


SURFACE MOUNT

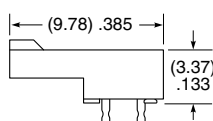
THROUGH-HOLE



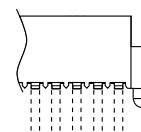
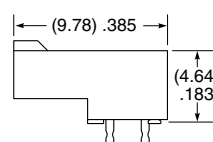
-S



-D



-DH



-A

Note:
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SMT & THROUGH-HOLE TIGER EYE™ HEADER

(1.27 mm) .050" • A-TFM/A-TFML SERIES

MAX
3.2
Amps

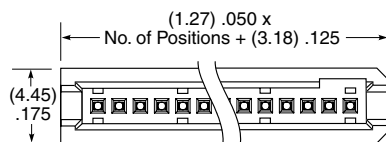
8
Gbps

SERIES	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OPTIONS		
A-TFM = Standard		03, 04, 06, 08 (A-TFM -01 & -02 only)	Specify LEAD STYLE from chart	-L = 15 μm (0.38 μm) Gold on post, Matte Tin on tail (Call Samtec for E.L.P.™ plating option)	-S = Single Row (A-TFM only) -D = Double Row	Specify only -RA -RA = Right-angle (Lead style -01 only)	Specify only -A, or -WT Not available with -RA, unless otherwise noted. -A = Alignment Pin -WT = Weld Tab (A-TFM lead styles -01 and -02 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 min.) (Not available with 5 position with -WT) Specify -TR last -TR = Tape & Reel

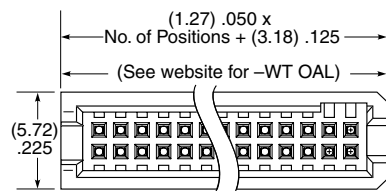
**TIGER
EYE**
SYSTEM

A-TFM
Board Mates:
A-SFM, A-SFMC

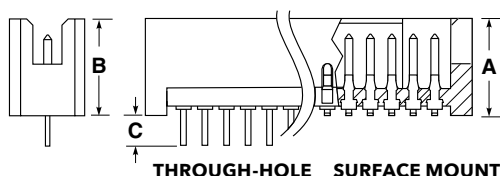
A-TFML
Board Mates:
A-SFML



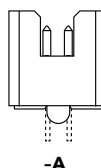
SINGLE ROW



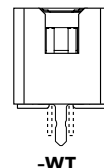
DOUBLE ROW



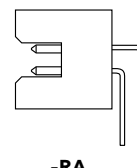
THROUGH-HOLE SURFACE MOUNT



-A



-WT



-RA

MATED HEIGHTS*			
LEAD STYLE (SMT)		MATED HEIGHT*	
A-TFM	A-SFM		
-02	-02		(6.35) .250
-12			(8.13) .320
-22			(9.91) .390
-32		(11.81) .465	
LEAD STYLE (T/H)		MATED HEIGHT*	
A-TFM	A-SFM		
-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.

LEAD STYLE (SMT)	A
-02	(5.72) .225
-12*	(7.49) .295
-22*	(9.27) .365
-32*	(11.18) .440

* N/A with 07, -S row 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

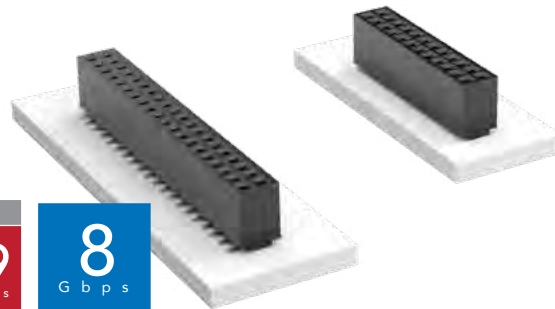
Note:
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are non-standard, non-returnable.

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FLEXIBLE PIN COUNT TIGER EYE™ SOCKET

(1.27 mm) .050" PITCH • A-SFMC SERIES



A-SFMC
Board Mates:
A-TFM

**TIGER
EYE**
SYSTEM

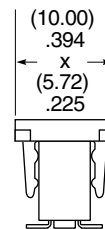
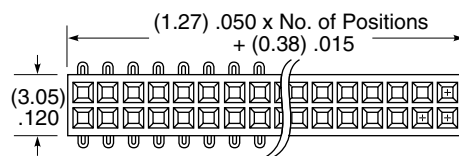
A-SFMC	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	D	OPTIONS
		02 thru 50	-01, -03 = Through-hole -02 = Surface Mount	-L = 10 μ" (0.25 μm) Gold on contact, Matte Tin on tail		-K = (4.00 mm) .157" DIA Polyimide film Pick & Place Pad (4 positions min.) -P = Plastic Pick & Place Pad (5 positions min.) -TR = Tape & Reel

SPECIFICATIONS

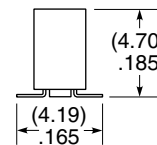
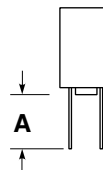
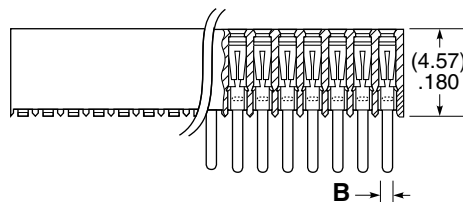
Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
BeCu
Plating:
Au or Sn over
50 μ" (1.27 μm) Ni
Current Rating:
2.9 A per pin
(2 pins powered)
Voltage Rating:
220 VAC/310 VDC
Operating Temp Range:
-55 °C to +125 °C
Insertion Depth:
(3.05 mm) .120" to
(4.06 mm) .160"
Normal Force:
Standard= 132 g (1.29 N) avg.
Max Cycles:
10,000 with 30 μ" (0.76 μm) Au

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-26)
(0.15 mm) .006" max (27-50)*
*(.004" stencil solution
may be available; contact
ipg@samtec.com)



-P OPTION



ALSO AVAILABLE

Other plating
(MOQ Required)

LEAD STYLE	A	B
-01	(3.05) .120	(0.51) .020
-03	(1.91) .075	(0.41) .016

Note:
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options are non-standard,
non-returnable.

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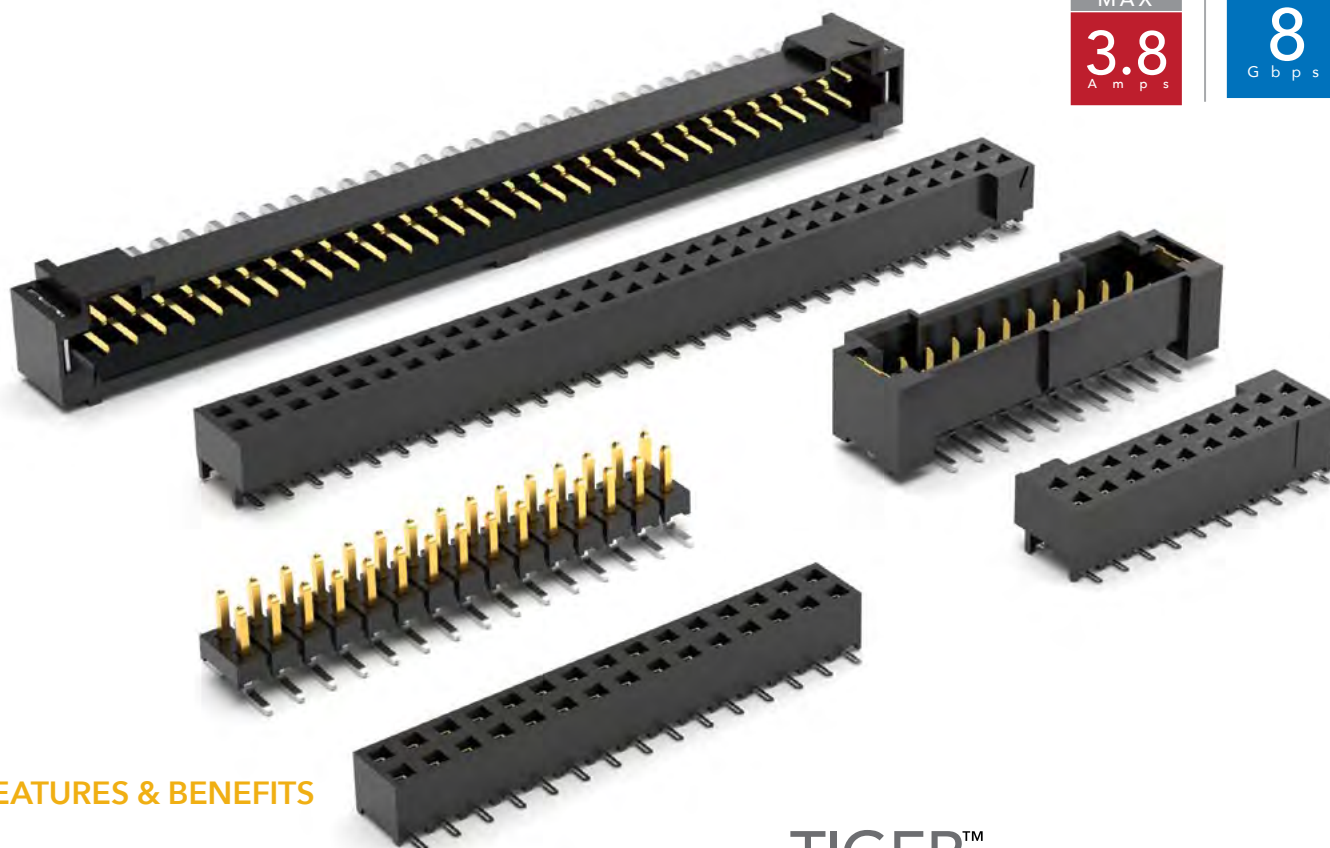
Samtec shall only comply with IATF-16949 on products it certifies as Automotive Custom Design "ACD" or on those designated with "A-" Samtec part # prefix.
"A-" products are designed to Samtec's specifications not customers' specifications. Contact autosalesgroup@samtec.com with questions.

RUGGED TIGER EYE™ SYSTEMS

(2.00 mm) .0787" PITCH

MAX
3.8
A m p s

8
G b p s



FEATURES & BENEFITS

- Rugged Tiger Eye™ contact system for high-reliability
- Wide range of stack heights (A-SMM/A-TMM Series)
- Right-angle mating headers available
- Up to 8 Gbps of performance
- Surface mount or through-hole
- Discrete wire assemblies available in 24-30 AWG PVC or Teflon® wire; contact asp@samtec.com for custom solutions

**TIGER™
EYE**
CONTACT



- High-Reliability
- High Mating Cycles
- Multi-finger Contact

KEY SPECIFICATIONS (A-S2M/A-T2M)

PITCH	STACK HEIGHTS	TOTAL PINS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	MAX CYCLES
2.00 mm	6 & 7 mm	10 - 60	Black LCP	BeCu (S2M) Phosphor Bronze (T2M)	Au or Sn over 50 μ" (1.27 μm) Ni	-55 °C to +125 °C	3.8 A (A-T2M) 2.6 A (A-S2M) (2 pins powered)	100 with 10 μ" (0.25 μm) Au

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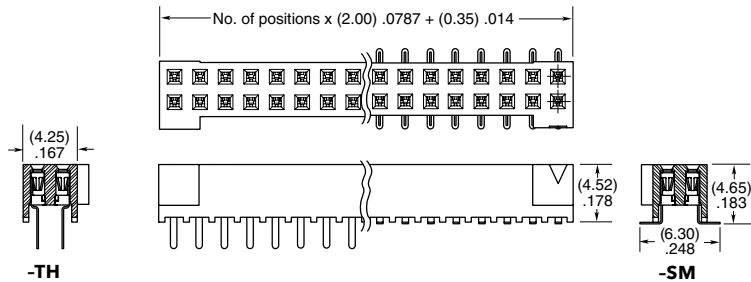


(2.00 mm) .0787" PITCH • HIGH-RELIABILITY CABLE INTERCONNECTS

SERIES	1	NO. OF POSITIONS	LEAD STYLE	PLATING OPTION	D	OPTIONS	PACKAGING
A-S2M Socket		05, 07, 10, 15, 20, 25, 30 (Per Row)	-01 = Through-hole -02 = Surface Mount	-L = 10 μ " (0.25 μ m) Gold on contact, Matte Tin on tail		-K = (5.50 mm) .217" DIA Polyimide film Pick & Place Pad (-02 only)	Leave blank for tube packaging -TR = Tape & Reel (-02 only)

TIGER EYE™
SYSTEM

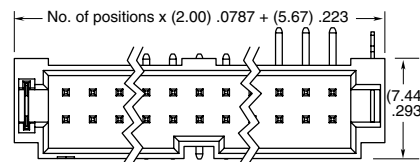
A-S2M
Board Mates:
A-T2M



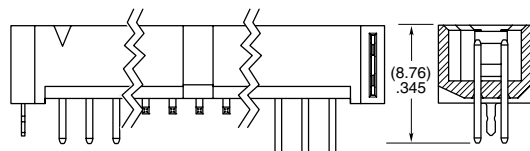
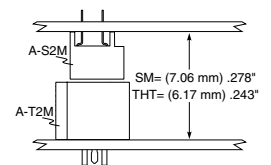
SERIES	1	NO. OF POSITIONS	01	PLATING OPTION	D	TAIL OPTION	OTHER OPTIONS	PACKAGING
A-T2M Header		05, 07, 10, 15, 20, 25, 30 (Per Row)		-L = 10 μ " (0.25 μ m) Gold on contact, Matte Tin on tail		-TH = Through-hole -RA = Right-angle -SM = Surface Mount	-WT = Weld Tab -K = (7.50 mm) .295" DIA Polyimide film Pick & Place Pad (-SM only)	Leave blank for tube packaging -TR = Tape & Reel (-SM only)

TIGER EYE™
SYSTEM

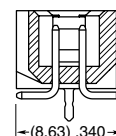
A-T2M
Board Mates:
A-S2M



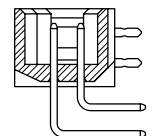
MATED HEIGHT



-TH-WT



-SM-WT



-RA-WT

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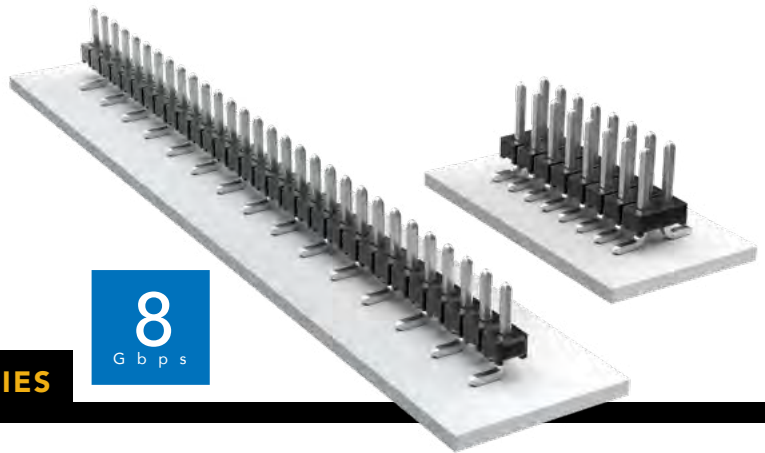
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LOW-PROFILE SMT HEADER

(2.00 mm) .0787" PITCH • A-TMM SERIES



A-TMM

Board Mates:

A-CLT, A-SQT, A-SQW,
A-ESQT, A-SMM, A-MMS

SPECIFICATIONS

Insulator Material:

Black Liquid Crystal Polymer

Terminal Material:

Phosphor Bronze

Plating:

Sn or Au over
50 μ " (1.27 μ m) 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 A-SQW;
250 VAC mated with A-SQT

PROCESSING

Lead-Free Solderable:

Yes

SMT Lead Coplanarity:

(0.15 mm) .006" max*
*(.004" stencil solution
may be available; contact
ipg@samtec.com)

A-TMM	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	SM	OTHER OPTION
-------	---	------------------	------------	----------------	------------	----	--------------

02 thru 40

Specify
LEAD
STYLE
from
chart

-L
= 10 μ " (0.25 μ m)
Gold on post,
Matte Tin on tail

-T
= Matte Tin

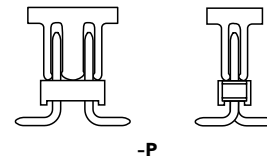
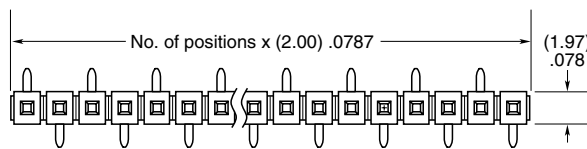
-S
= Single
Row

-D
= Double
Row

-A
= Alignment Pin
(Metal or plastic
at Samtec's
discretion)
(5 positions
minimum)
(-D only)

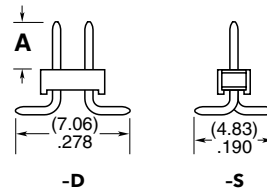
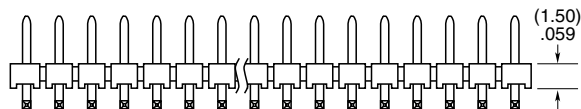
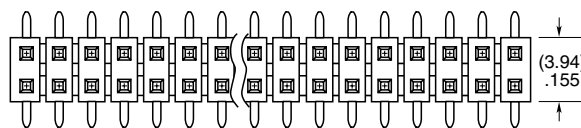
-P
= Pick &
Place Pad
(3 positions
minimum)

-TR
= Tape & Reel
(3 thru 36
positions only)



ALSO AVAILABLE

Other plating
(MOQ Required)



LEAD STYLE	A	MATES WITH
-01	(3.20) .126	A-SQT, A-SQW, A-ESQT, A-SMM, A-MMS
-04	(1.91) .075	A-CLT
-05	(1.65) .065	A-CLT
-06	(4.27) .168	A-CLT-BE

Note:

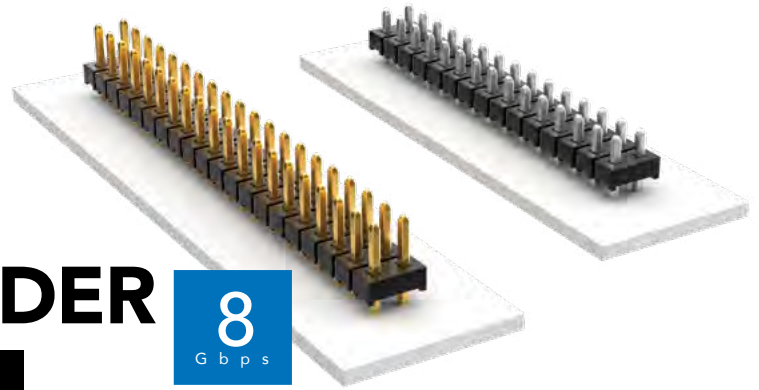
Some lengths, styles and options are non-standard, non-returnable.

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



THROUGH-HOLE LOW-PROFILE HEADER

(2.00 mm) .0787" PITCH • A-TMM SERIES



A-TMM

Board Mates:

A-CLT, A-SQT, A-SQW,
A-ESQT, A-SMM, A-MMS

SPECIFICATIONS

Insulator Material:

Black Liquid Crystal Polymer

Terminal Material:

Phosphor Bronze

Plating:

Sn or Au over
50 μ " (1.27 μ m) Ni

Current Rating (A-SMM/A-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 A-SQW;
250 VAC mated with A-SQT

PROCESSING

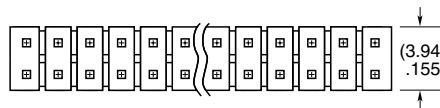
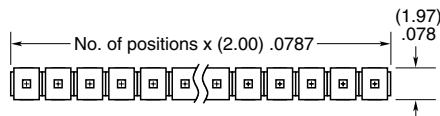
Lead-Free Solderable:

Yes

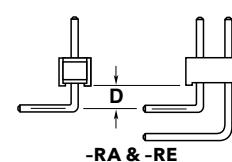
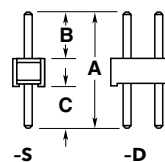
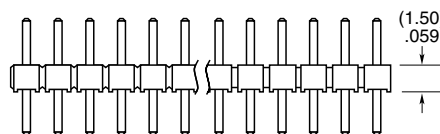
ALSO AVAILABLE

Other plating
(MOQ Required)

A-TMM	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OTHER OPTION
		02 thru 50	Specify LEAD STYLE from chart	-L = 10 μ " (0.25 μ m) Gold on post, Matte Tin on tail -T = Matte Tin	-S = Single Row -D = Double Row	-RA & -RE = Right-angle (Lead Style -01 only) (2 positions minimum)



LEAD STYLE	A	B	C
-01		(3.20) .126	(3.50) .138
-02	(8.20) .323	(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



Note:

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

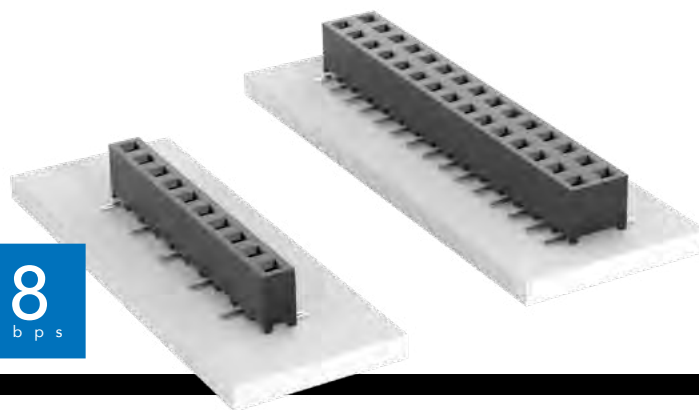
Due to technical progress, all designs, specifications and components are subject to change without notice.

OPTION	D
-RA	(1.27) .050
-RE	(3.56) .140



HIGH RELIABILITY SOCKET STRIPS

(2.00 mm) .0787" PITCH • A-SMM



A-SMM

Board Mates:

A-TMM, A-TMMH,
A-MTMM, A-MMT, A-TW



SPECIFICATIONS

Insulator Material:

Black Liquid Crystal Polymer

Contact Material:

BeCu

Plating:

Sn or Au over

50 μ " (1.27 μ m) Ni

Current Rating

(A-TMM/A-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 μ m) Au

PROCESSING

Lead-Free Solderable:

Yes

SMT Lead Coplanarity:

(0.10 mm) .004" max

ALSO AVAILABLE

Other Platings
(MOQ Required)



A-SMM	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OTHER OPTION	PACKAGING
-------	---	------------------	------------	----------------	------------	--------------	-----------

02
thru
40

-01
Through-hole

-02
= Surface Mount

-L
= 10 μ "
(0.25 μ m)
Gold on contact,
Matte Tin on tail

-S
= Single Row

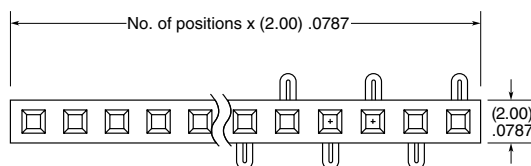
-D
= Double Row

-P
= Plastic Pick & Place Pad
(-02 thru -05 requires -TR)

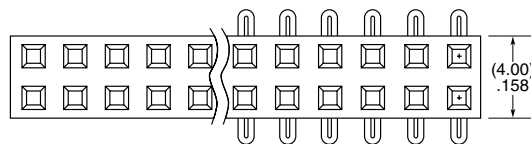
-K
= (5.50 mm)
.217" DIA
Polyimide Film
Pick & Place Pad
(-02 only)
(2 positions minimum,
-02 thru -05 requires -TR)

Leave blank for Tube packaging

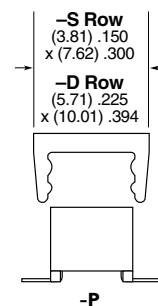
-TR
= Tape & Reel Packaging
(27 positions maximum)



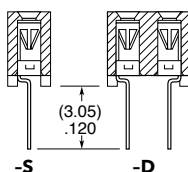
SINGLE ROW



DOUBLE ROW

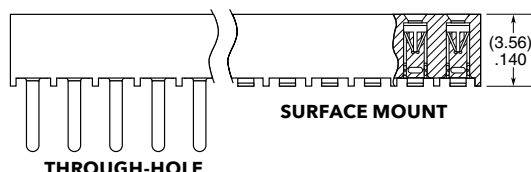


-P



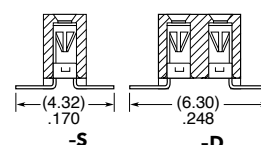
-S

-D



SURFACE MOUNT

THROUGH-HOLE



-S

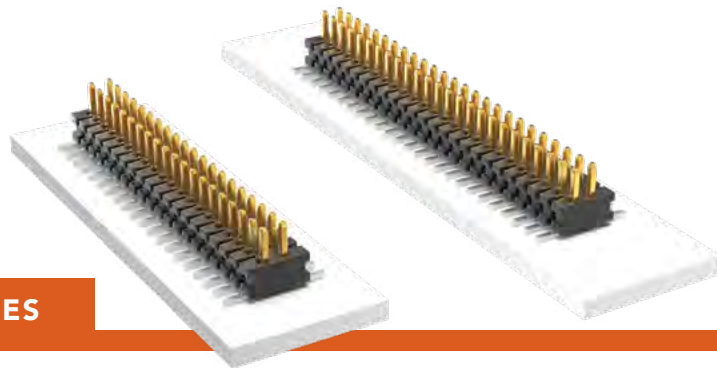
-D

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.

SMT MICRO TERMINAL STRIPS

(1.00 mm) .0394" PITCH • A-FTMH SERIES



SPECIFICATIONS

Insulator Material:

Black Liquid Crystal
Polymer

Terminal Material:

Phosphor Bronze

Plating:

Sn or Au over
50 μ " (1.27 μ m) Ni

Current Rating (A-FTMH/A-CLM):

2.8 A per pin
(2 pins powered)

Operating Temp Range:

-55 °C to +125 °C

PROCESSING

Lead-Free Solderable:

Yes

SMT Lead Coplanarity:

-DV: (0.10 mm) .004" max
-DH: (0.10 mm) .004" max (05-25)

(0.15 mm) .006" max (26-50)*

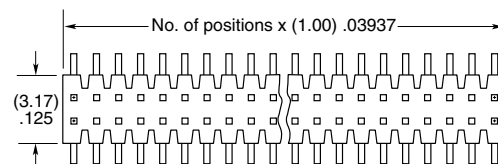
*(.004" stencil solution
may be available; contact
ipg@samtec.com)

ALSO AVAILABLE

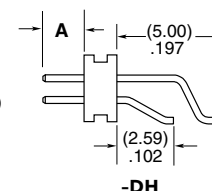
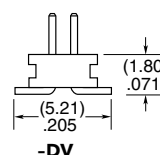
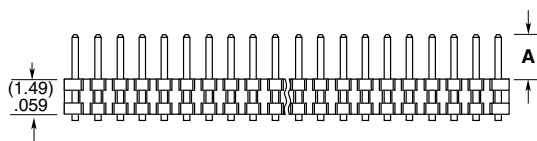
MOQ Required

Other platings

A-FTMH	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OTHER OPTION	TR
		05 thru 50	-02 = (1.91 mm) .075" Post -03 = (1.65 mm) .065" Post	-F = Gold flash on post, Matte Tin on tail -L = 10 μ " (0.25 μ m) Gold on post, Matte Tin on tail	-DV = Dual Vertical -DH = Dual Horizontal	-A = Alignment Pin (3 positions min.) Metal or plastic at Samtec discretion -K = (2.50 mm) .098" DIA Polyimide Film Pick & Place Pad (6 position min.) (-DH only) -P = Plastic Pick & Place Pad (6 positions min.) (-DV only)	Leave blank for tube packaging -TR Tape & Reel



LEAD STYLE	A
-02	(1.91) .075
-03	(1.65) .065



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.

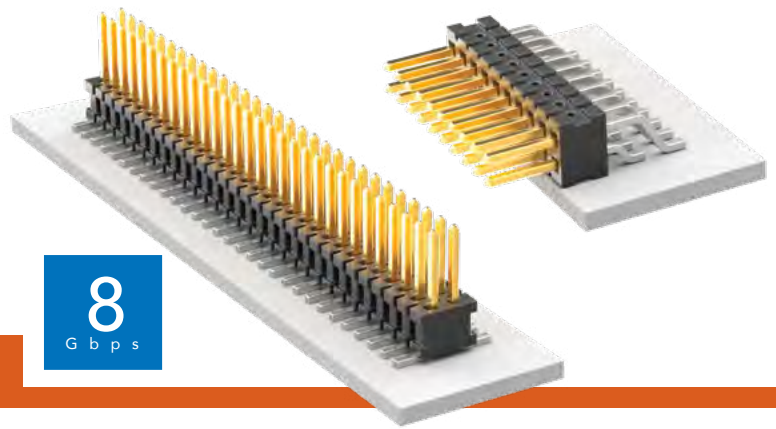
samtec.com/Automotive

Samtec shall only comply with IATF-16949 on products it certifies as Automotive Custom Design "ACD" or on those designated with "A-" Samtec part # prefix. "A-" products are designed to Samtec's specifications not customers' specifications. Contact autosalesgroup@samtec.com with questions.



SURFACE MOUNT MICRO HEADER

(1.27 mm) .050" PITCH • A-FTSH SERIES



A-FTSH Board Mates: A-CLP

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over
50 μ " (1.27 μ m) Ni
Current Rating
(A-FTSH/A-CLP):
3.4 A per pin
(2 pins powered)
Operating Temp Range:
-55 °C to +125 °C

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
-DV Tail Option:
(0.10 mm) .004" max (02-25)
-DH Tail Option:
(0.15 mm) .006" max (26-50)*
*(.004" stencil solution
may be available; contact
ipg@samtec.com)

ALSO AVAILABLE MOQ Required

Molded Pick & Place pads
Latches
Other platings

A-FTSH	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	TAIL OPTION	OTHER OPTIONS
--------	---	------------------	------------	----------------	-------------	---------------

02
thru
50

-01
= (3.05 mm) .120" Post

-02
= (1.91 mm) .075" Post

-03
= (1.65 mm) .065" Post
(Mates with A-CLP-D)

-04
= (3.81 mm) .150" Post
(Mates with A-CLP-DH)

-05
= (4.32 mm) .170" Post
(Mates with A-CLP-BE)

-L
= 10 μ "
(0.25 μ m)
Gold
on post,
Matte Tin
on tail

-DV
= Double Vertical

-DH
= Double
Horizontal
(Styles -01, -02
& -04 only)

-K
= Keying Shroud
Style -01 only and 05,
08, 10, 13, 15, 17,
20 & 25 pins/row only.
(-DV only)

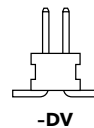
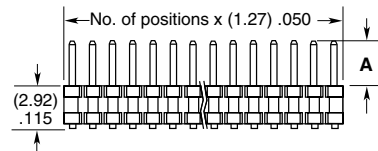
-A
= Alignment Pin
(-DV 3 positions
minimum)
(-DH 5 positions
minimum)
(plastic at Samtec
discretion)

-C
= (5.00 mm)
.197" DIA
Polyimide film
Pick & Place Pad
(-DH only)

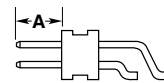
-P
= Pick & Place Pad
(-DV 4 positions
minimum)
(-DH not available)

-TR
= Tape & Reel

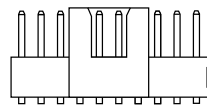
LEAD STYLE	A
-01	(3.05) .120
-02	(1.91) .075
-03	(1.65) .065
-04	(3.81) .150
-05	(4.32) .170



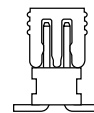
-DV



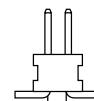
-DH
(Styles -01, -02, -04 only)



-K



-P



-A



Notes:

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

See A-SFM/A-TFM for positive alignment feature.

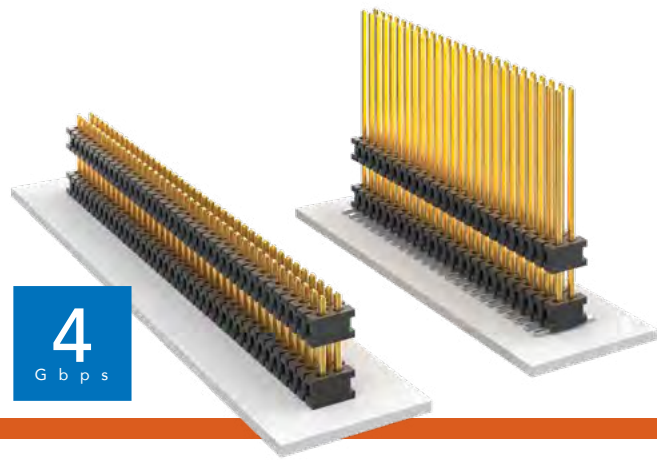
Due to technical progress, all designs, specifications and components are subject to change without notice.



MICRO BOARD STACKER

(1.27 mm) .050" PITCH • A-FW SERIES

4
G b p s



A-FW
Board Mates:
A-CLP

FLEX
STACK

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Terminal Material:
Phosphor Bronze
Plating:
Sn or Au over 50 μ " (1.27 μ m) Ni
Operating Temp Range:
-55 °C to +125 °C

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-30)
(0.15 mm) .006" max (31-50)*
*(.004" stencil solution
may be available; contact
ipg@samtec.com)

MATED HEIGHT

A-FW LEAD STYLE	A-CLP LEAD STYLE	MATED HEIGHT*
A-FW-XX-03-X-X-233-065	-02	8.13 mm) .329"
A-FW-XX-03-X-X-303-065		9.91 mm) .390"

*Processing conditions will affect mated height.

ALSO AVAILABLE

Smaller stack heights
(MOQ Required)

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.

A-FW	NO. OF 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 μ m)
Gold
on post,
Matte Tin
on tail

-G
= 10 μ "
(0.25 μ m)
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

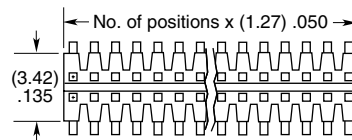
Example:
-065
= (1.65 mm)
.065"

-ES
= End Shroud
(-075 post
height only.
Mates only
with A-CLP)
(5.46 mm) .215"
to (15.49 mm) .610"
stacker height only
9 pins/row min.

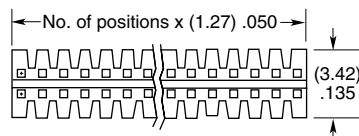
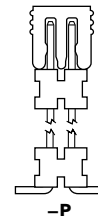
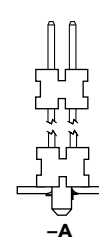
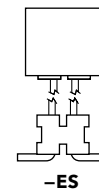
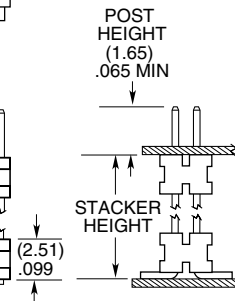
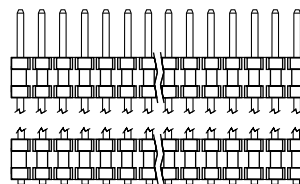
-A
= Alignment Pin
(3 positions min.)
(5.46 mm) .215" to
(15.75 mm) .620"
stacker height only
(SMT only)

-P
= Pick & Place Pad
(5 positions min.)
(SMT only)

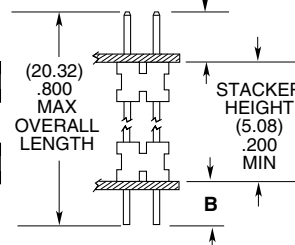
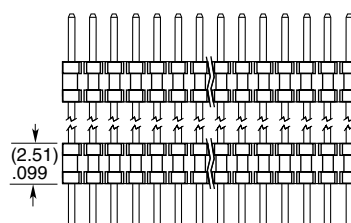
-TR
= Tape & Reel
(Max overall height
= Post+Stacker
Height+Pad+
Alignment Pin =
(17.78) .700")
(SMT only)



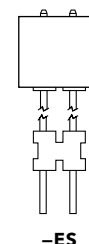
SURFACE MOUNT



THROUGH-HOLE



LEAD STYLE	TAIL (B)
-01	(1.14) .045
-02	(1.91) .075
-04	(2.29) .090



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

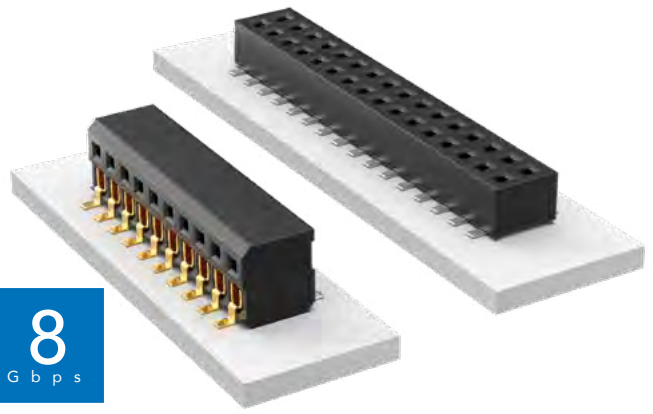
samtec.com/Automotive

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"A-" products are designed to Samtec's specifications not customers' specifications. Contact autosalesgroup@samtec.com with questions.



LOW-PROFILE DUAL WIPE SOCKET

(1.27 mm) .050" PITCH • A-CLP SERIES



A-CLP

Mates:

A-FTSH, A-FW

**TIGER™
CLAW**
CONTACT

SPECIFICATIONS

Insulator Material:

Black Liquid Crystal Polymer

Contact Material:

Phosphor Bronze

Plating:

Sn or Au over

50 μ" (1.27 μm) Ni

Current Rating (A-CLP/A-FTSH):

3.4 A per pin

(2 pins powered)

Voltage Rating:

280 VAC/395 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

PROCESSING

Lead-Free Solderable:

Yes

SMT Lead Coplanarity:

(0.10 mm) .004" max (02-35)

(0.15 mm) .006" max (36-50)*

*(.004" stencil solution

may be available; contact

ipg@samtec.com)

ALSO AVAILABLE

MOQ Required

Single row

Other platings



Note:

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

A-CLP	- 1	NO. PINS PER ROW	- 02	PLATING OPTION	- ROW OPTION	OTHER OPTIONS	PACKAGING
-------	-----	------------------	------	----------------	--------------	---------------	-----------

02 thru 50

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

-S
= Single
Row
-D
= Double
Row

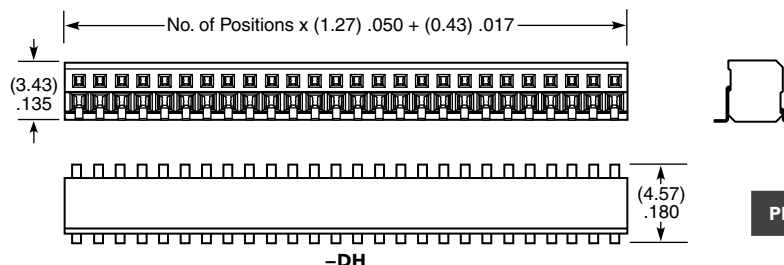
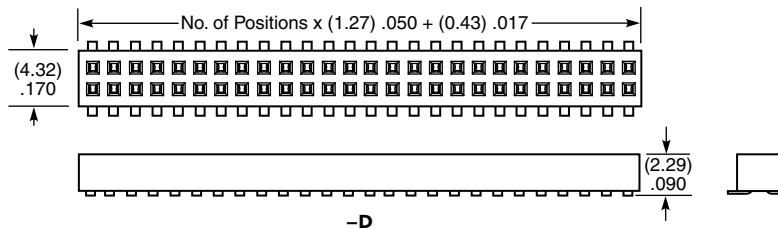
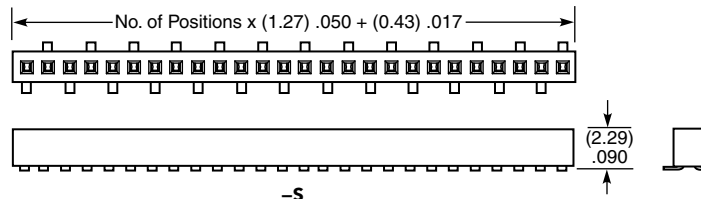
-DH
= Double
Horizontal
(Requires
A-FTSH-04
lead style)

Leave blank
for single row

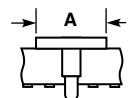
-BE
= Bottom Entry
(Required for
bottom
entry
applications)

-A
= Alignment Pin
(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
(3 positions
minimum)



PIN/ROW	A
04-15	(3.56) .140
16-50	(7.11) .280



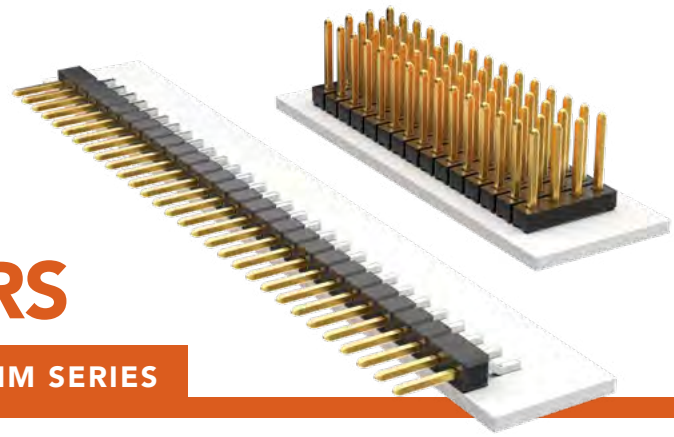
If odd pins/row, alignment pins are on middle position on centerline of the part.
If even pins/row, then alignment pins are between middle two positions.

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



HORIZONTAL & MODIFIED HEADERS

(2.00 mm) .0787" PITCH • A-MMT/A-MTMM SERIES



A-MMT/A-MTMM

Board Mates:

A-CLT, A-SQT*, A-SQW,
A-ESQT, A-SMM, A-MMS

*Important Note:

A-SQT will not mate to the
A-MMT -02 lead style .

SPECIFICATIONS

Insulator Material:

Black Liquid Crystal Polymer

Terminal Material:

Phosphor Bronze

Plating:

Au or Sn over

50 μ " (1.27 μ m) Ni

Operating Temp Range:

-55 °C to +105 °C with Tin;

-55 °C to +125 °C with Gold

PROCESSING

Lead-Free Solderable:

Yes

SMT Lead

Coplanarity (A-MMT):

(0.10 mm) .004" max (02-25)

(0.15 mm) .006" max (26-36)*

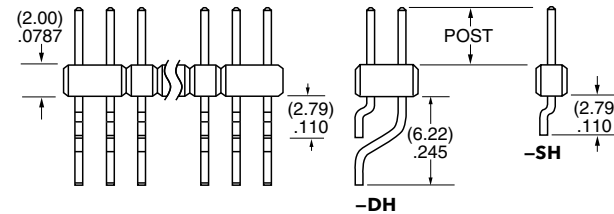
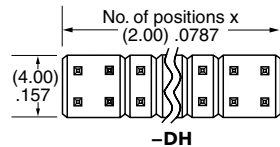
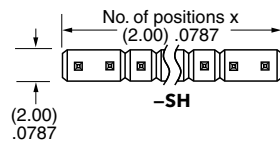
*(.004" stencil solution

may be available; contact

ipg@samtec.com)

A-MMT	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OPTION
-------	---	------------------	------------	----------------	------------	--------

02 thru 50



-L
= 10 μ "
(0.25 μ m)
Gold post,
Matte Tin
on tail

-T
= Matte Tin

-SH
= Single
Row

-DH
= Double
Row

-K
= (4.00 mm) .157"
DIA Polyimide Film
Pick & Place Pad
(3 positions min.)

-P
= Pick &
Place Pad
(2 positions min.)

-TR
= Tape & Reel

ALSO AVAILABLE

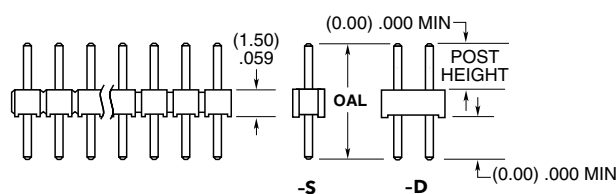
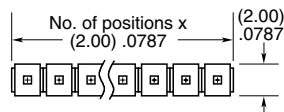
MOQ Required

Molded Alignment Pin (-A)

Other platings

A-MTMM	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	POST HEIGHT
--------	---	------------------	------------	----------------	------------	-------------

01 thru 50



-L
= 10 μ "
(0.25 μ m)
Gold post,
Matte Tin
on tail

-T
= Matte Tin

-S
= Single
Row

-D
= Double
Row

-“XXX”
= Post Height
in inches
(0.13 mm) .005"
increments

Example:
-070
= (1.78 mm)
.070"

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

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.

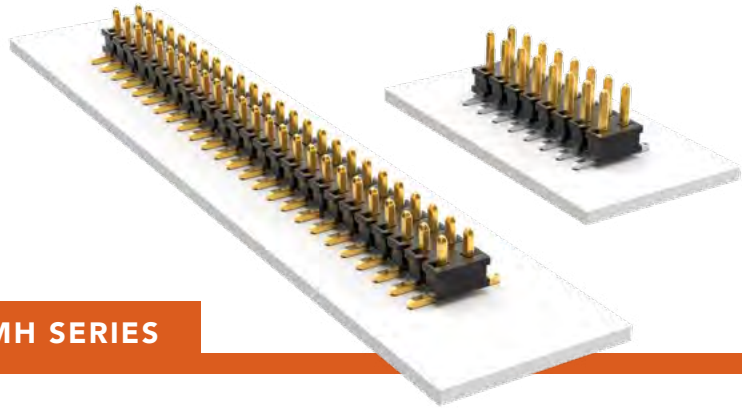
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FLEXIBLE SMT HEADER

(2.00 mm) .0787" PITCH • A-TMMH SERIES



A-TMMH

Board Mates:

A-CLT, A-SQT, A-SQW,
A-ESQT, A-SMM, A-MMS

SPECIFICATIONS

Insulator Material:

Black Liquid Crystal Polymer

Terminal Material:

Phosphor Bronze

Plating:

Sn or Au over 50 μ " (1.27 μ m) Ni

Current Rating (A-TMMH/A-ESQT):

4.5 A per pin
(2 pins powered)

Current Rating (A-TMMH/A-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 A-SQW;
250 VAC mated with A-SQT

A-TMMH

1

NO. PINS
PER ROW

03 thru 50

LEAD
STYLE

Specify
LEAD
STYLE
from
chart

PLATING
OPTION

-L
= 10 μ " (0.25 μ m)
Gold on post,
Matte Tin on tail

-T
= Matte Tin

DV

OTHER
OPTIONS

-A
= Alignment Pin
(3 positions minimum)

-M
= Pick & Place Pad
(5 positions minimum)

-TR
= Tape & Reel Packaging
(36 positions maximum)

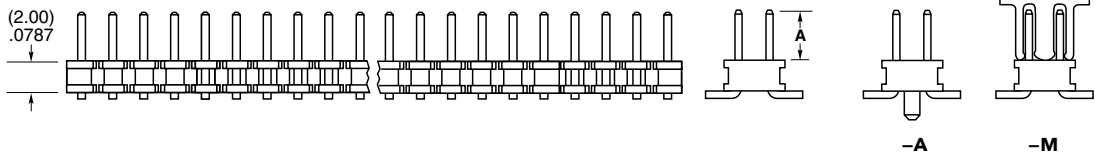
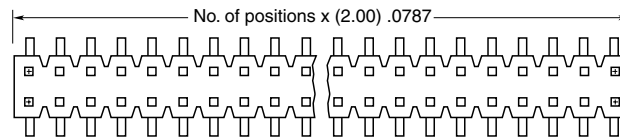
PROCESSING

Lead-Free Solderable:

Yes

SMT Lead Coplanarity:

(0.10 mm) .004" max



ALSO AVAILABLE

Other Platings
(MOQ Required)

LEAD STYLE	A	MATES WITH
-01	(3.20) .126	A-SQT, A-SQW, A-ESQT, A-SMM, A-MMS
-04	(1.91) .075	A-CLT
-05	(1.65) .065	

Note:

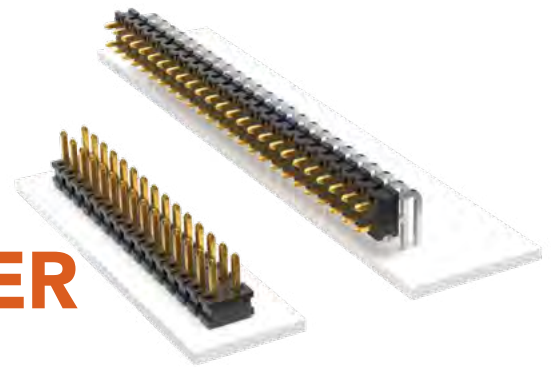
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options are non-standard,
non-returnable.

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FLEXIBLE THROUGH-HOLE HEADER

(2.00 mm) .0787" PITCH • A-TMMH SERIES



A-TMMH

Board Mates:

A-CLT, A-SQT, A-SQT,
A-ESQT, A-SMM, A-MMS

SPECIFICATIONS

Insulator Material:

Black Liquid Crystal Polymer

Terminal Material:

Phosphor Bronze

Plating:

Sn or Au over 50 μ " (1.27 μ m) Ni

Current Rating (A-TMMH/A-ESQT):

4.5 A per pin
(2 pins powered)

Current Rating (A-TMMH/A-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 A-SQW;

250 VAC mated with A-SQT

A-TMMH

1

NO. PINS
PER ROW

03 thru 50

LEAD
STYLE

Specify
LEAD
STYLE
from
chart

PLATING
OPTION

-L
= 10 μ " (0.25 μ m)
Gold on post,
Matte Tin on tail

-T
= Matte Tin

ROW
OPTION

-D
= Double
Row

TAIL
OPTION

-RA
= Right-angle

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	(6.45) .254	(1.65) .065	(2.29) .090

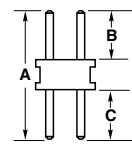
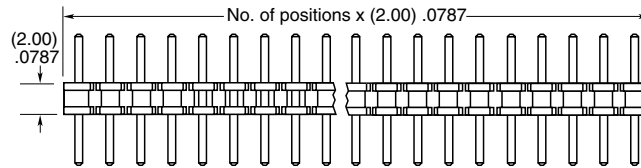
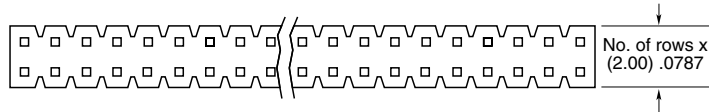
PROCESSING

Lead-Free Solderable:

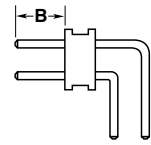
Yes

ALSO AVAILABLE

Other Platings
(MOQ Required)



-D



-RA



Note:

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options are non-standard,
non-returnable.

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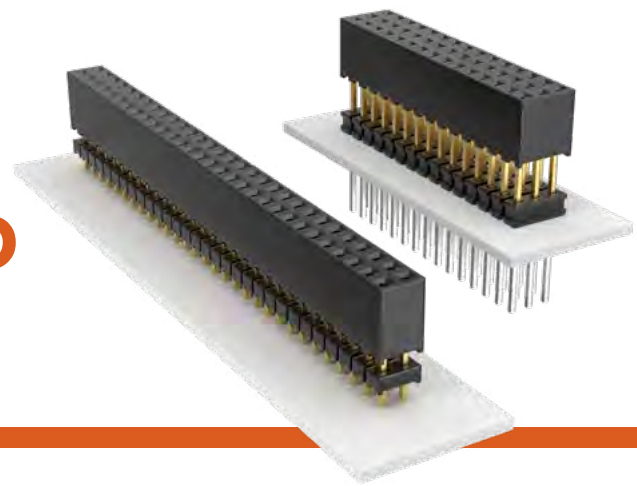
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FLEXIBLE ELEVATED SOCKET STRIPS

(2.00 mm) .0787" PITCH • A-ESQT SERIES



A-ESQT

Board Mates:

A-TMMH, A-TMM,
A-MTMM, A-MMT,
A-TW, A-ESQT



SPECIFICATIONS

Insulator Material:

Black Liquid Crystal Polymer

Contact Material:

Phosphor Bronze

Plating:

Sn or Au over
50 μ " (1.27 μ m) Ni

Current Rating

(A-ESQT/A-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

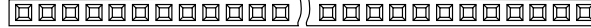
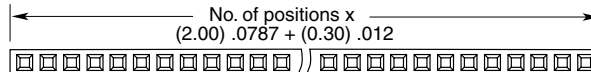
Max Cycles:

100 with 10 μ " (0.25 μ m) Au

Lead-Free Solderable:

Yes, for -S, -D
(Wave only for -T)

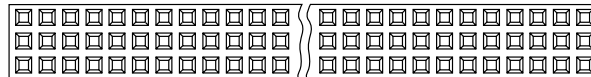
A-ESQT	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	BODY HEIGHT
		02 thru 50	Specify LEAD STYLE from chart	-L = 10 μ " (0.25 μ m) Gold on contact, Matte Tin on tail	-S = Single Row -D = Double Row -T = Triple Row	- "XXX" = Body Height (in inches) (7.87 mm) .309" minimum for -S, -D (9.53 mm) .375" minimum for -T



-S



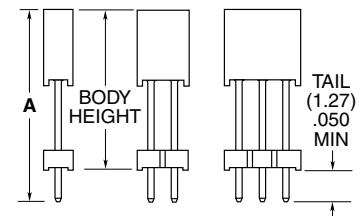
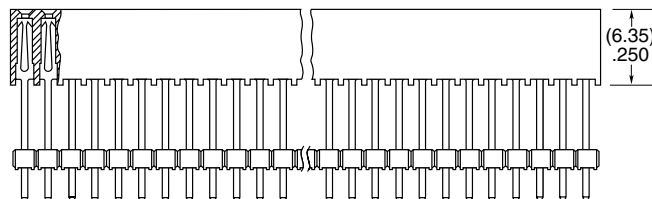
-D



-T

No. of rows
x (2.00) .0787

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



Note:

This Series is non-standard,
non-returnable.

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

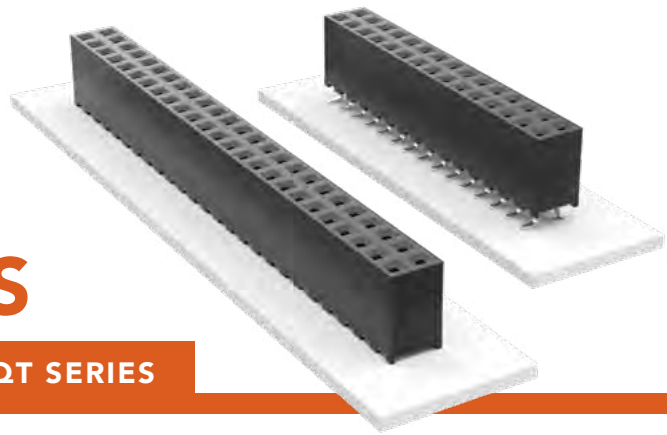
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COST-EFFECTIVE RUGGED SOCKETS

(2.00 mm) .0787" PITCH • A-SQW/A-SQT SERIES



A-SQW/A-SQT

Board Mates:

A-TMMH, A-TMM,
A-MTMM, A-MMT, A-TW



SPECIFICATIONS

Insulator Material:

Black Liquid Crystal Polymer

Contact Material:

Phosphor Bronze

Plating:

Sn or Au over

50 μ " (1.27 μ m) Ni

A-SQW Current Rating

(A-SQW/A-TMMH):

3.8 A per pin (2 pins powered)

A-SQT Current Rating

(A-SQT/A-TMMH):

5.1 A per pin (2 pins powered)

Voltage Rating:

281 VAC mated with A-TMM;

250 VAC mated with A-TMMH

Operating Temp Range:

-55 °C to +125 °C

A-SQW Insertion Depth:

(2.62 mm) .103" to

(5.03 mm) .198" with

(0.38 mm) .015" wipe

A-SQT Insertion Depth:

(2.62 mm) .103" to

(5.03 mm) .198"

A-SQT Normal Force:

60 grams (0.59 N) average

Max Cycles:

100 with 10 μ " (0.25 μ m) Au

A-SQW	1	NO. PINS PER ROW	01	PLATING OPTION	ROW OPTION	OPTION
-------	---	------------------	----	----------------	------------	--------

02 thru 50

-L
= 10 μ " (0.25 μ m)
Gold on contact,
Matte Tin on tail

-D
= Double Row

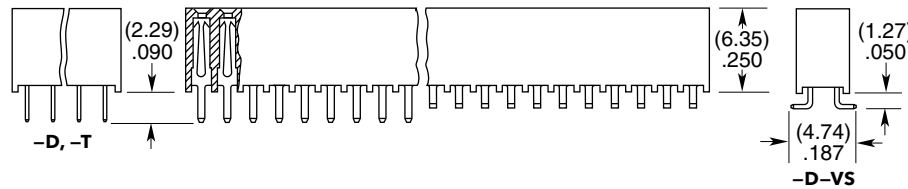
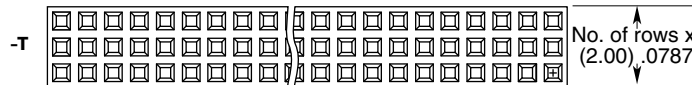
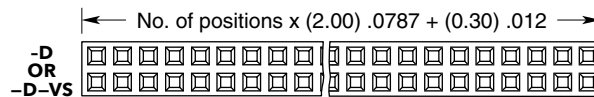
-D-VS
= Double Row
Surface Mount

-A
= Alignment Pin
(5 positions minimum)
Plastic at Samtec
discretion.

-T
= Triple Row

-K
= (4.25 mm) .167" DIA
Polyimide Film
Pick & Place Pad
(4 positions minimum)

-TR
= Tape & Reel
(4-28 positions only)



A-SQT	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	OTHER OPTION
-------	---	------------------	------------	----------------	------------	--------------

02 thru 50

Specify
LEAD
STYLE
from
chart

-L
= 10 μ " (0.25 μ m)
Gold on contact,
Matte Tin on tail

-S
= Single Row

-D
= Double Row

-T
= Triple Row

-RA
= Right-angle
(Lead Style -01 only)



PROCESSING

A-SQW Lead-Free Solderable:

Yes, for -D & -D-VS

Wave only for -T

A-SQT Lead-Free Solderable:

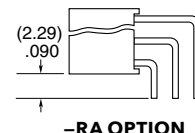
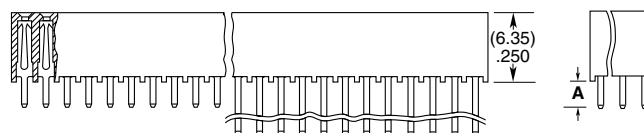
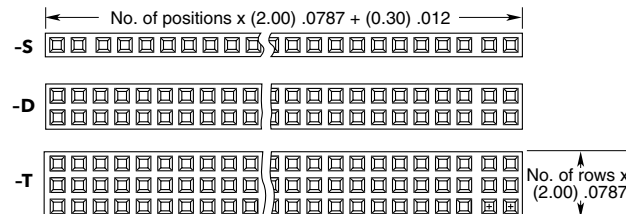
Yes

SMT Lead Coplanarity:

(0.10 mm) .004" max (02-10)

(0.15 mm) .006" max (11-50)*

*(.004" stencil solution
may be available; contact
ipg@samtec.com)



-RA OPTION

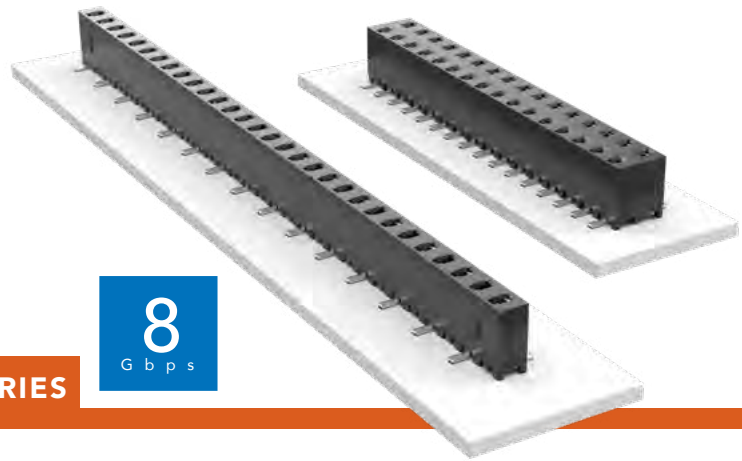
Note:
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options are non-standard,
non-returnable.

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TIGER CLAW™ SOCKET STRIP

(2.00 mm) .0787" PITCH • A-MMS SERIES



A-MMS

Board Mates:

A-TMMH, A-TMM,
A-MTMM, A-MMT, A-TW



SPECIFICATIONS

Insulator Material:

Black LCP

Contact Material:

Phosphor Bronze

Plating:

Sn or Au over
50 μ" (1.27 μm) Ni

Current Rating (A-MMS/A-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)

PROCESSING

Lead-Free Solderable:

Yes

SMT Lead Coplanarity:

(0.15 mm) .006" max*

*(.004" stencil solution

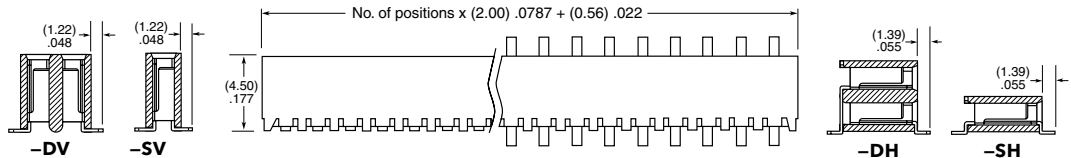
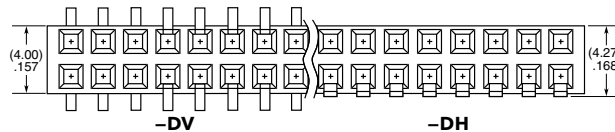
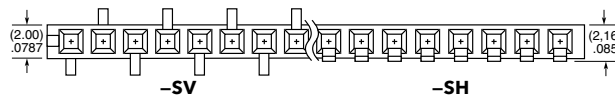
may be available; contact

ipg@samtec.com)

ALSO AVAILABLE MOQ Required

Through-hole
pass-through options
Other platings

A-MMS	1	NO. PINS PER ROW	02	PLATING OPTION	ROW OPTION	OTHER OPTION
		02 thru 40		-L = 10 μ" (0.25 μm) Gold contact, Matte Tin on tail	-SV = Single Vertical -DV = Double Vertical -SH = Single Horizontal -DH = Double Horizontal	-A = Alignment Pin (-DV only) -K = (5.50 mm) .217" DIA Polyimide Film Pick & Place Pad (-SV & -DV only) (-SV= 3 positions min.) (-DV= 4 positions min.) -P = Plastic Pick & Place Pad (4 positions min., -SV only) (5 positions min., -DV only) -TR = Tape & Reel



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.

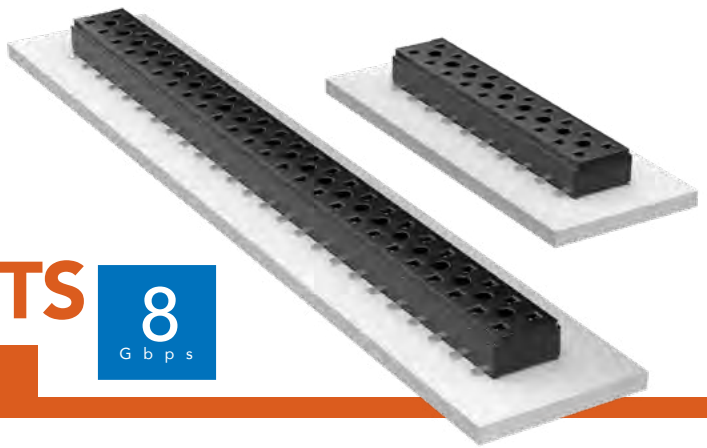
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COST-EFFECTIVE & DUAL WIPE SOCKETS

(2.00 mm) .0787" PITCH • A-CLT SERIES



A-CLT

Mates:

A-TMM, A-TMMH,
A-MTMM, A-MMT, A-TW

**TIGER™
CLAW**
CONTACT

SPECIFICATIONS

Insulator Material:

Black Liquid Crystal Polymer

Contact Material:

Phosphor Bronze

Plating:

Sn or Au over 50 μ" (1.27 μm) Ni

Current Rating (A-TMMH/A-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

PROCESSING

Lead-Free Solderable:

Yes

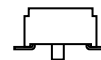
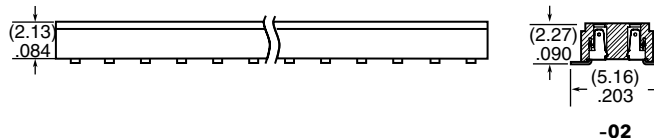
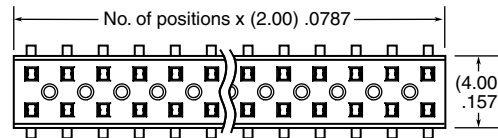
SMT Lead Coplanarity:

(0.10 mm) .004" max (02-25)

(0.15 mm) .006" max (26-34)*

(0.20 mm) .008" max (35-50)*

*(.004" stencil solution
may be available; contact
ipg@samtec.com)



-A Option

ALSO AVAILABLE

Other Platings
(MOQ Required)

Note:

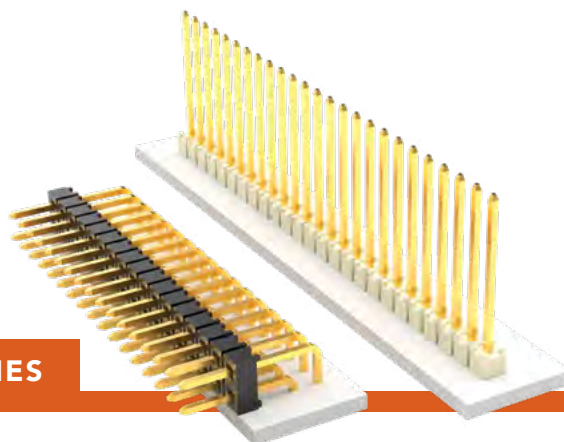
Some lengths, styles and
options are non-standard,
non-returnable.

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



MODIFIED .025" SQ POST HEADERS

(2.54 mm) .100" PITCH • A-MTSW/A-HMTSW SERIES



A-MTSW/A-HMTSW

Board Mates:

A-SSW, A-SSQ, A-SSM

FLEX STACK

SPECIFICATIONS

Insulator Material:

A-MTSW: Black Glass

Filled Polyester

A-HMTSW: Natural Liquid

Crystal Polymer

Terminal Material:

Phosphor Bronze

Plating:

Au or Sn over

50 μ " (1.27 μ m) Ni

Operating Temp Range:

-55 °C to +125 °C with Gold

-55 °C to +105 °C with Tin

PROCESSING

Lead-Free Solderable:

A-MTSW: No, Lead Wave Only

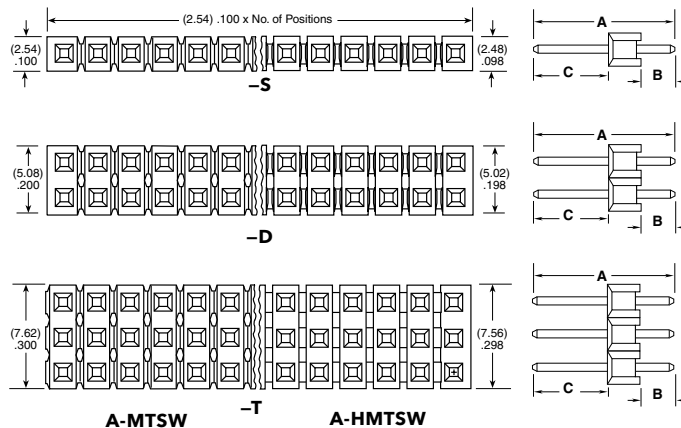
A-HMTSW: Yes

SERIES	PIN CENTERS	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	POST HEIGHT	END OPTION
A-MTSW = Modified Strip	-1 = (2.54 mm) .100" Pitch (All positions filled)	01 thru 50 = .100" (2.54 mm) Center Version	Specify LEAD STYLE from chart	-L = 10 μ " (0.25 μ m) Gold on post, Matte Tin on tail	-S = Single Row	"XXXX" = "C" Dimension (Specify post height in INCHES .005" (0.13 mm) increments)	-RA = Right-Angle
A-HMTSW = Hi-Temp Modified Strip	-2 = (5.08 mm) .200" Pitch (Every other position filled)	02 thru 25 = .200" (5.08 mm) Center Version		-T = Matte Tin	-D = Double Row		-RE = Right-Angle Elevated (Single row only)
					-T = Triple Row		

LEAD STYLE	A
-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

FOR "B" = (2.29) .090	
LEAD STYLE	C MAXIMUM STRAIGHT
-06	(2.79) .110
-07	(6.10) .240
-08	(8.64) .340
-09	(13.72) .540
-10	(16.26) .640
-11	(18.80) .740
-12	(21.34) .840
-13	(26.42) 1.040
-21	(31.50) 1.240
-22	(11.18) .440
-23	(6.48) .255
-24	(7.37) .290
-27	(28.96) 1.140
-28	(23.88) .940

STRAIGHT PIN VERSIONS



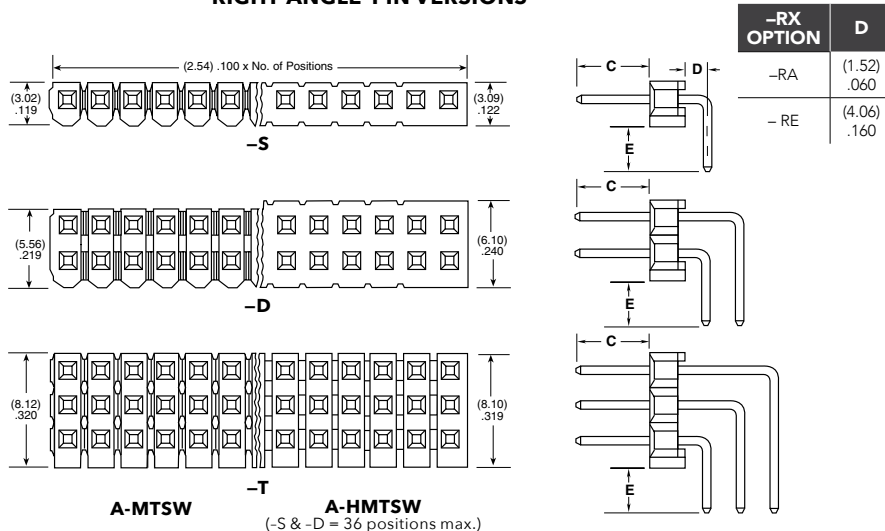
FOR "E" = (2.29) .090 MIN FOR -RA & -RE		
LEAD STYLE	C MAXIMUM with/-RA	C MAXIMUM with/-RE
-06	Not Available	Not Available
-07	(3.30) .130	Not Available
-08	(5.84) .230	(3.30) .130
-09	(10.92) .430	(8.38) .330
-10	(13.46) .530	(10.92) .430
-11	(16.00) .630	(13.46) .530
-12	(18.54) .730	(16.00) .630
*-13	(23.62) .930	(21.08) .830
*-21	(28.70) 1.130	(26.16) 1.030
-22	(8.38) .330	(5.84) .230
*-23	(3.68) .145	Not Available
*-24	(4.57) .180	
*-27	(26.16) 1.030	
*-28	(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 Right-angle

Note:

These Series are non-standard, non-returnable.

RIGHT-ANGLE PIN VERSIONS



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

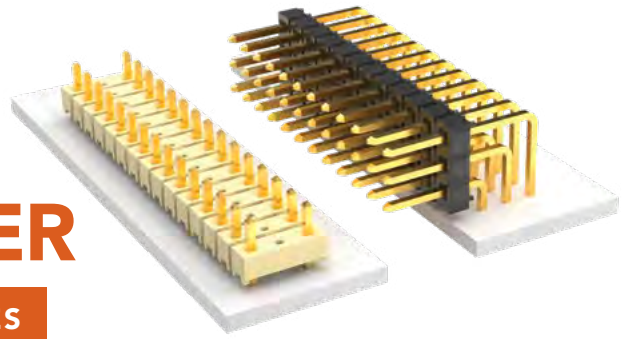
samtec.com/Automotive

Samtec shall only comply with IATF-16949 on products it certifies as Automotive Custom Design "ACD" or on those designated with "A-" Samtec part # prefix. "A-" products are designed to Samtec's specifications not customers' specifications. Contact autosalesgroup@samtec.com with questions.



THROUGH-HOLE .025" SQ POST HEADER

(2.54 mm) .100" PITCH • A-TSW/A-HTSW SERIES



A-TSW, A-HTSW

Board Mates:

A-SSW, A-SSQ, A-SSM

SPECIFICATIONS

Insulator Material:

A-TSW: PBT

A-HTSW: Natural LCP

Terminal Material:

Phosphor Bronze

Plating:

Au or Sn over 50 μ " (1.27 μ m) Ni

Operating Temp Range:

-55 °C to +125 °C with Gold

-55 °C to +105 °C with Tin

Voltage Rating:

550 VAC mated with A-SSW

450 VAC -RA mated with A-SSM

Lead-Free Solderable:

A-HTSW: Yes

A-TSW: No, Lead Wave Only

CURRENT RATING (PER PIN)

A-TSW mated with

A-SSW	A-SSQ	A-SSM
5.7 A	6.3 A	5.2 A

2 POSITIONS POWERED

ALSO AVAILABLE

Other Platings
(MOQ Required)

SERIES

A-TSW
= Standard Strip

A-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

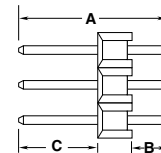
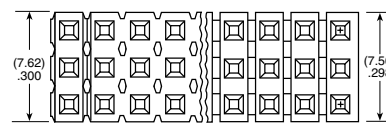
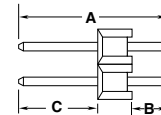
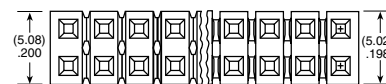
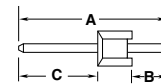
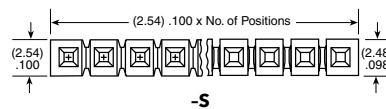
01 thru 50
= .100" (2.54 mm)
Center Version

02 thru 25
= .200" (5.08 mm)
Center Version

LEAD STYLE

Specify
LEAD STYLE
from chart

STRAIGHT PIN VERSIONS



A-TSW

A-HTSW

STRAIGHT PIN VERSIONS

LEAD STYLE	A	B	C
-05	(8.51) .335	(3.30) .130	(2.67) .105
-06	(7.62) .300	(2.41) .095	(2.67) .105
-07	(10.92) .430	(2.54) .100	
-08	(13.46) .530	(5.08) .200	
-09	(18.54) .730	(10.16) .400	
-10	(21.08) .830	(12.70) .500	(5.84) .230
-11	(23.62) .930	(15.24) .600	
-12	(26.16) 1.030	(17.78) .700	
-13	(31.24) 1.230	(22.86) .900	
-14	(13.46) .530	(2.79) .110	(8.13) .320
-15	(18.54) .730		(13.21) .520
-16		(7.87) .310	(8.13) .320
-17	(21.08) .830	(2.79) .110	(15.74) .620
-18	(23.62) .930		(18.29) .720

STRAIGHT PIN VERSIONS

LEAD STYLE	A	B	C
-19	(26.16) 1.030		(20.83) .820
-20	(31.24) 1.230	(2.79) .110	(25.91) 1.020
-21	(36.32) 1.430	(2.79) .110	(30.99) 1.220
-22	(16.00) .630	(7.62) .300	(5.84) .230
-23	(11.30) .445	(2.92) .115	(6.73) .265
-24	(12.15) .480		
25	(16.00) .630	(5.33) .210	(8.13) .320
▲-26	(11.58) .456	(3.20) .126	
-27	(33.78) 1.330	(25.40) 1.000	(5.84) .230
-28	(28.70) 1.130	(20.32) .800	
-29	(33.78) 1.330	(23.11) .910	(8.13) .320
-30	(28.70) 1.130	(18.03) .710	
+41	(9.27) .365	(0.89) .035	(5.84) .230
+42	(11.94) .470	(1.27) .050	(8.13) .320

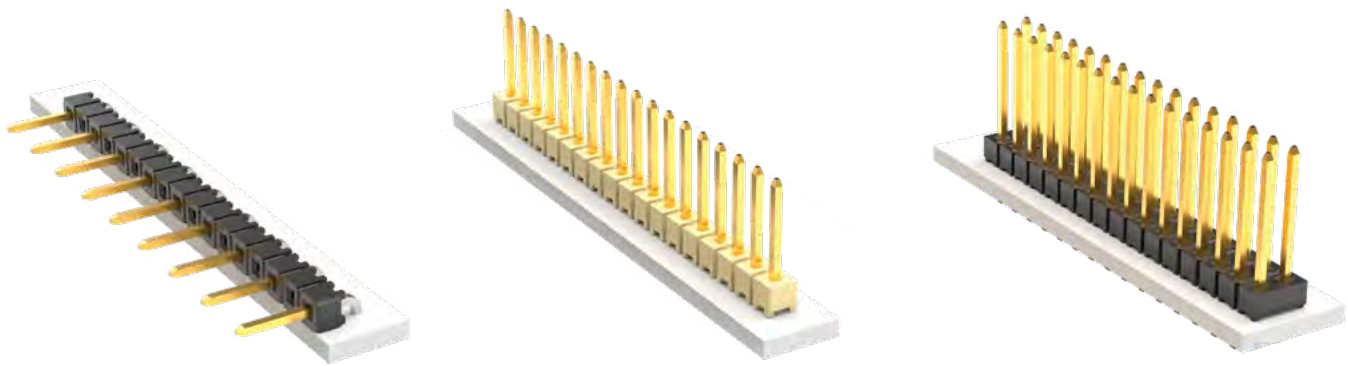
+ Style -41 & -42 available with A-HTSW only.

▲ Except: Style -26 (0.46) .018 DIA Tail

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.



PLATING OPTION

-L
= 10 μ " (0.25 μ m) Gold on post, Matte Tin on tail

-T
= Matte Tin

ROW OPTION

-S
= Single Row

-D
= Double Row

-T
= Triple Row

OTHER OPTION

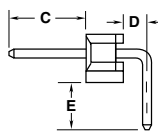
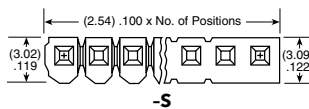
(Leave blank for straight version)

-RA
= Right-angle

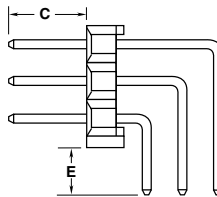
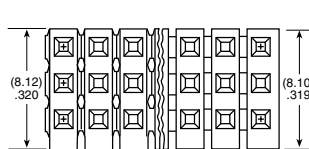
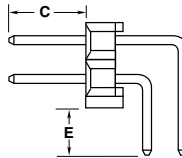
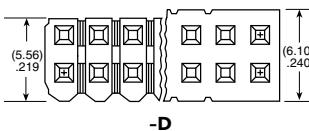
-RE
= Right-angle Elevated
(A-HTSW only)

-NA
= Right-angle
(Using straight body for coplanar
mating with A-SSW-RA series)

RIGHT-ANGLE VERSIONS



LEAD STYLE	D
- RA	(1.52) .060
- RE	(4.06) .160



A-TSW **A-HTSW**

RIGHT-ANGLE VERSIONS		
-RE LEAD STYLE	C	SINGLE E
-09	(5.84) .230	(4.83) .190
-10		(7.37) .290
-11		(9.91) .390
-12		(12.45) .490
-13		(17.53) .690
-16	(8.13) .320	(2.54) .100
-21	(5.84) .230	(22.61) .890
-22		(2.29) .090
-27		(20.07) .790
-28		(14.99) .590

RIGHT-ANGLE VERSIONS				
-RA LEAD STYLE	SINGLE (-S)		DOUBLE (-D)	TRIPLE (-T & -Q)
	C	E	E	E
- 08	(5.84) .230	(2.29) .090	(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	(8.13) .320	(5.08) .200	(5.08) .200	(5.08) .200
- 21	(5.84) .230	(25.15) .990	N/A	N/A
*- 22		(4.83) .190	(4.83) .190	(4.83) .190
*- 25	(8.13) .320	(2.54) .100	(2.54) .100	(2.54) .100
- 27	(5.84) .230	(22.61) .890	N/A	N/A
- 28		(17.53) .690	(17.53) .690	
- 29	(8.13) .320	(20.32) .800	N/A	
- 30		(15.24) .600	(15.24) .600	

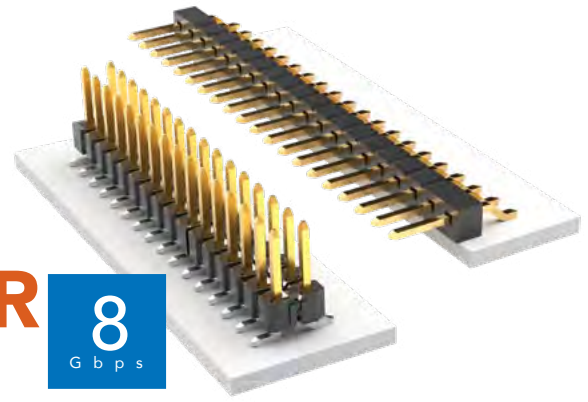
* Available with -LA (Locking Lead) Option

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



SURFACE MOUNT .025" SQ POST HEADER

(2.54 mm) .100" PITCH • A-TSM SERIES



A-TSM

Board Mates:

A-SSW, A-SSQ, A-SSM

A-TSM

1

NO. PINS
PER ROW

LEAD
STYLE

PLATING
OPTION

ROW
OPTION

OTHER
OPTIONS

SPECIFICATIONS

Insulator Material:

Black Liquid Crystal Polymer

Terminal Material:

Phosphor Bronze

Plating:

Au or Sn over

50 μ " (1.27 μ m) 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 A-SSM

PROCESSING

Lead-Free Solderable:

Yes

-DH/-SH/-SV Lead Coplanarity:

(0.15 mm) .006" max (02-36)*

-DV Lead Coplanarity:

(0.10 mm) .004" max (02-05)

(0.13 mm) .005" max (06-10)*

(0.15 mm) .006" max (11-36)*

*(.004" stencil solution
may be available; contact
ipg@samtec.com)

ALSO AVAILABLE

Other Platings
(MOQ Required)

MATES	CURRENT RATING (PER PIN)
A-TSM/A-SSW	4.7 A
A-TSM/A-SSM	5.4 A

2 POSITIONS POWERED

02 thru 30

Specify
LEAD
STYLE
from
chart

-L
= 10 μ "
(0.25 μ m)
Gold on
post,
Matte Tin
on tail

-T
= Matte
Tin

-SV
= Single Row
Vertical Pin

-DV
= Double Row
Vertical Pin

-SH
= Single Row
Horizontal Pin

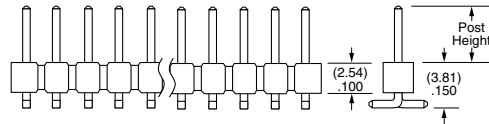
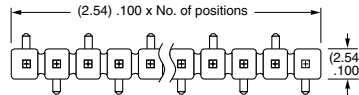
-DH
= Double Row
Horizontal Pin
(Style -01, -02 &
-03 only)

-A
= Alignment Pin
metal or plastic
at Samtec discretion
(02 positions minimum)

-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)

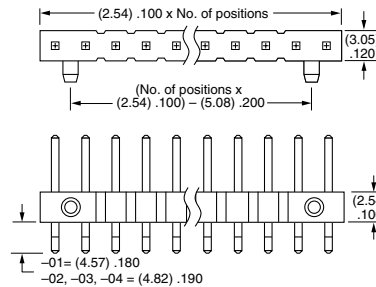
-P
= Plastic Pick & Place Pad
(-DV: 4 positions
minimum without -TR;
2 & 3 positions
available with -TR)
(-SH: 4 positions
minimum without -TR;
2 & 3 positions
available with -TR)
(-DH: 5 positions
minimum without -TR;
(-SV: 4 positions
minimum without -TR;
2 & 3 positions
available with -TR)

-TR
= Tape & Reel
-SV: 02-22 positions,
-DV: 02-28 positions,
-SH: 02-30 positions,
-DH: 02-29 positions

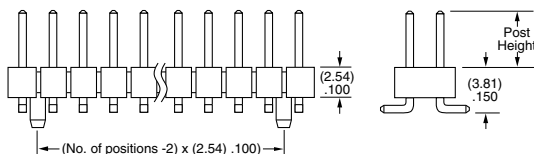
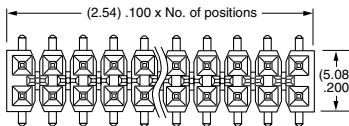


-SV Row Option

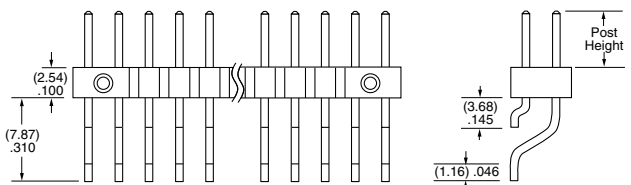
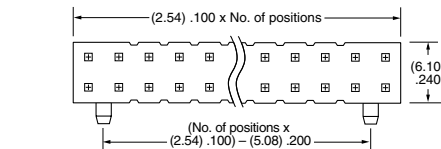
LEAD STYLE	POST HEIGHT	MATES WITH
-01	(5.84) .230	A-SSW, A-SSM
-02	(8.13) .320	A-SSM -DH
-03	(10.67) .420	Bottom Mount & Pass Through
-04	(3.05) .120	N/A



-SH Row Option



-DV Row Option



-DH Row Option

Note:

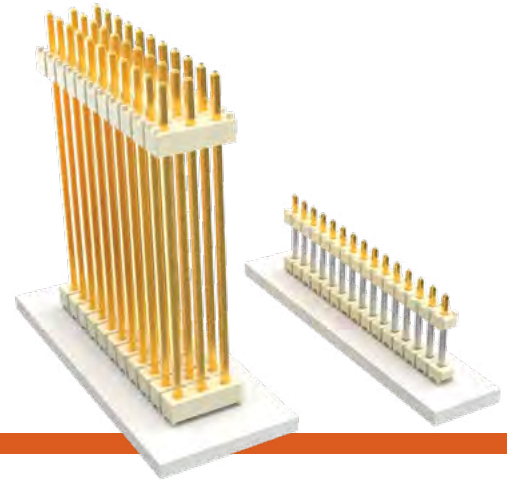
Some lengths, styles and
options are non-standard,
non-returnable.

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



FLEXIBLE .025" SQ BOARD STACKERS

(2.54 mm) .100" PITCH • A-HW SERIES



A-HW

Board Mates:

A-SSW, A-SSQ, A-SSM

FLEX STACK

SPECIFICATIONS

Insulator Material:

Natural Liquid Crystal Polymer

Terminal Material:

Phosphor Bronze

Plating:

Au or Sn over

50 μ " (1.27 μ m) Ni

Operating Temp Range:

-55 °C to +125 °C with Gold

-55 °C to +105 °C with Tin

PROCESSING

Lead-Free Solderable:

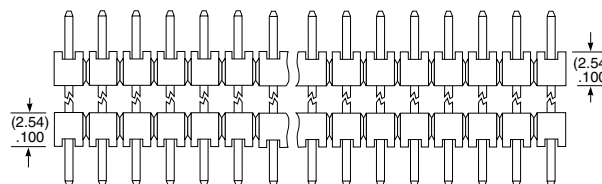
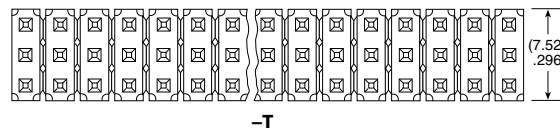
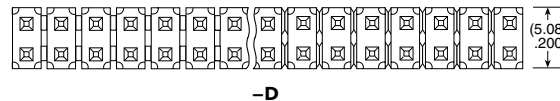
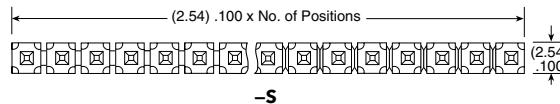
Yes

ALSO AVAILABLE

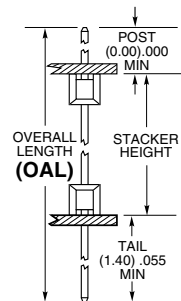
MOQ Required

Polarization

SERIES	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	STACKER HEIGHT	OTHER OPTION
A-HW = High-Temp Custom Tail	01 thru 50	Specify LEAD STYLE from chart	-L = 10 μ " (0.25 μ m) Gold on contact area of longer tail, Matte Tin on tail -T = Matte Tin	-S = Single Row -D = Double Row -T = Triple Row	- "XXX" = Stacker Height (in inches) (5.08 mm) .200" minimum Example: -250 = (6.35 mm) .250"	- "XXX" = Tail Length (in inches) (1.40 mm) .055" minimum Example: -250 = (6.35 mm) .250"



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



Notes:

For added mechanical stability, Samtec recommends mechanical board spacers be used in applications with gold or selective gold plated connectors. Contact jpg@samtec.com for more information.

This Series is non-standard, non-returnable.

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

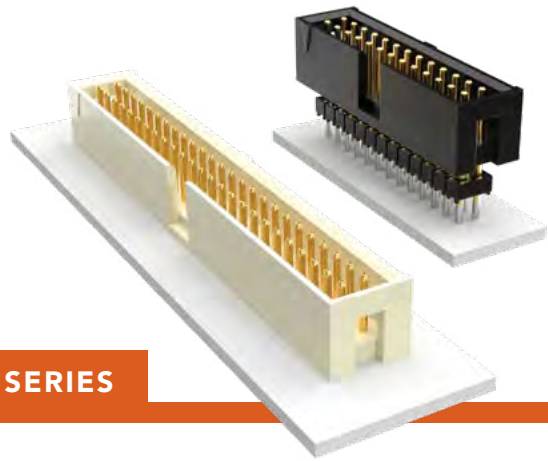
samtec.com/Automotive

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SHROUDED .025" SQ POST HEADERS

(2.54 mm) .100" PITCH • A-TSS/A-HTSS/A-ZSS SERIES



A-TSS/A-HTSS/A-ZSS

Mates:

A-SSW, A-SSQ, A-SSM

SPECIFICATIONS

Insulator Material:

A-TSS, A-ZSS=Black Glass
Filled Polyester

A-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

Withstanding Voltage:

1000 VRMS

PROCESSING

Lead-Free Solderable:

A-HTSS=Yes

A-TSS, A-ZSS=No, Lead Wave only

SMT Lead Coplanarity:

(0.15 mm) .006" max*

*(.004" stencil solution may be available; contact ipg@samtec.com)

SERIES

1

NO. PINS PER ROW

03
(A-TSS only)

05, 07, 08, 10,
12, 13, 15, 17,
20, 25, 32, 36
(Standard sizes)

Specify LEAD STYLE from chart

PLATING OPTION

-L
= 10 μ" (0.25 μm)
Gold on post,
Matte Tin on tail

-T
= Matte Tin

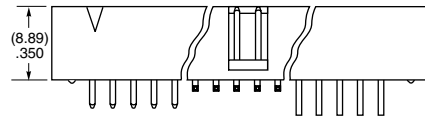
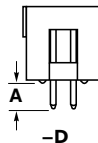
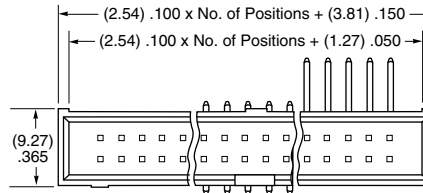
ROW OPTION

-D
= Double Row
Through-hole
(lead style -01,
-02 & -03 only)

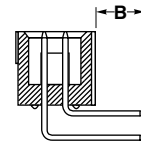
-DV
= Double Row
Surface Mount
(lead style -01 only)
(A-HTSS only)

-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



-DV
(A-HTSS ONLY)



-D-RA

LEAD STYLE	RIGHT ANGLE (B)
-04	(3.30) .130
-05	(5.84) .230

A-ZSS

1

NO. PINS PER ROW

02-18, 20, 22, 24,
25, 28, 30, 32, 36
(Standard sizes)

Specify LEAD STYLE from chart

PLATING OPTION

-L
= 10 μ" (0.25 μm)
Gold on post,
Matte Tin on tail

-T
= Matte Tin

D

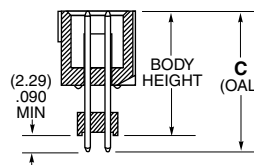
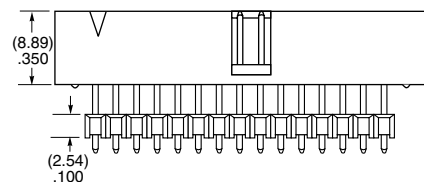
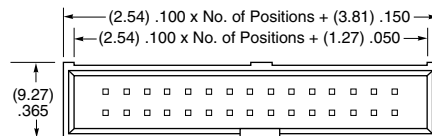
BODY HEIGHT

- "XXXX"
= Body Height

ALSO AVAILABLE

MOQ Required

Other sizes
Other platings
Alignment Pins
Single Row
Locking Leads



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.

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:
Some lengths, styles and options are non-standard, non-returnable. A-ZSS is non-standard, non-returnable.

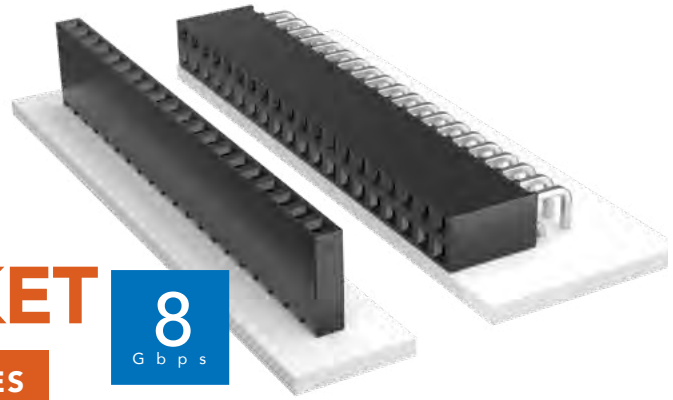
Due to technical progress, all designs, specifications and components are subject to change without notice.



THROUGH-HOLE .025" SQ POST SOCKET

(2.54 mm) .100" PITCH • A-SSW/A-SSQ SERIES

8
G b p s



A-SSW/A-SSQ

Mates:

A-TSW, A-MTSW,
A-TSS, A-HTSS,
A-ZSS, A-TSM



SPECIFICATIONS

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 μ m) Ni

Current Rating (A-SSW/A-TSM):

4.7 A per pin
(2 pins powered)

Current Rating (A-SSQ/A-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 μ m) Au

Voltage Rating:

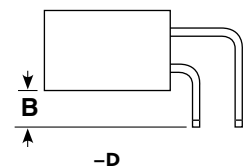
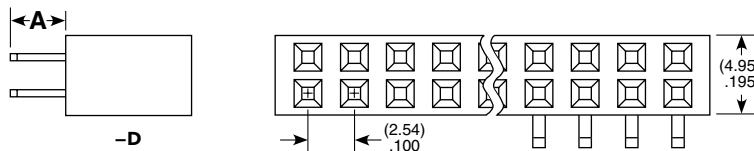
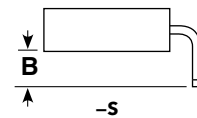
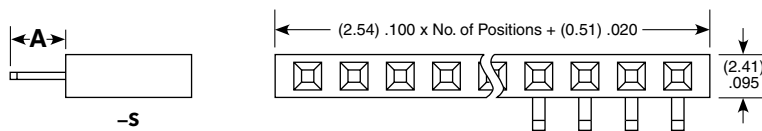
465 VAC / 655 VDC

SERIES	1	NO. PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	TAIL OPTION
A-SSW		01 thru 50	Specify LEAD STYLE from chart	-L = 10 μ " (0.25 μ m) Gold on contact, Matte Tin on tail	-S = Single Row	Leave blank for straight pin version
A-SSQ				-T = Matte Tin (-T N/A on LIF contacts)	-D = Double Row	-RA = Right-angle (-S & -D only)
					-T = Triple Row	

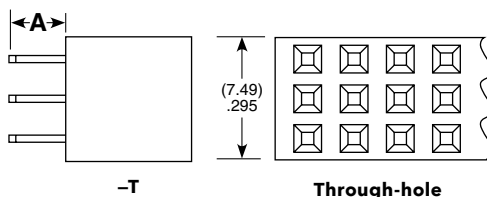
THROUGH-HOLE		
LEAD STYLE		SINGLE DOUBLE OR TRIPLE A
Standard Insertion Force	Low Insertion Force*	
-01	-21	(2.64) .104
-02	-22	(4.93) .194
-03	-24	(10.00) .394
-04	-24	(14.83) .584
-06**	N/A	(3.15) .124

* LIF not available with Tin Plating

**Style -06 Not available with A-SSQ



Right-Angle



Through-hole

RIGHT-ANGLE			
LEAD STYLE		SINGLE (-S)	DOUBLE (-D)
Standard Insertion Force	Low Insertion Force*	B	B
-02	-22	(2.54) .100	(2.54) .100
-03	-23	(7.62) .300	(7.62) .300
-04	-24	(12.45) .490	N/A

*LIF not available with Tin Plating

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.

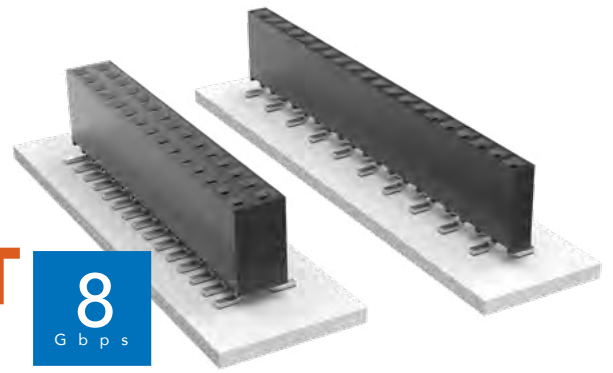
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SURFACE MOUNT .025" SQ POST SOCKET

(2.54 mm) .100" PITCH • A-SSW SERIES



8
G b p s

A-SSW

Mates:

A-TSW, A-MTSW,
A-HTSW, A-HMTSW,
A-TSS, A-HTSS, A-ZSS,
A-TSM, A-HW



SPECIFICATIONS

Insulator Material:

Black LCP

Contact Material:

Phosphor Bronze

Plating:

Au or Sn over
50 μ " (1.27 μ m) Ni

Current Rating (A-SSW/A-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 μ m) Au

Voltage Rating:

465 VAC / 655 VDC

PROCESSING

Lead-Free Solderable:

Yes

SMT Lead Coplanarity:

(0.10 mm) .004" max

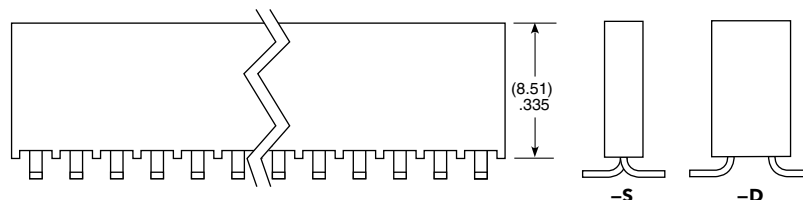
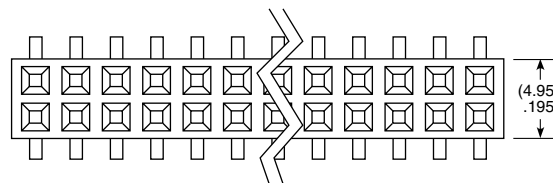
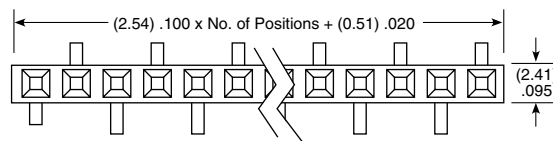
ALSO AVAILABLE

MOQ Required

Other platings

Notch option

A-SSW	1	NO. PINS PER ROW	22	PLATING OPTION	ROW OPTION	VS	OTHER OPTION
		02 thru 36		-L = 10 μ " (0.25 μ m) Gold on contact, Matte Tin on tail	-S = Single Row -D = Double Row		-K = -S: (3.50 mm) .138" DIA, -D: (6.50 mm) .256" DIA Polyimide film Pick & Place Pad (03 positions min.) -TR = Tape & Reel (-02 thru -28)



Note:

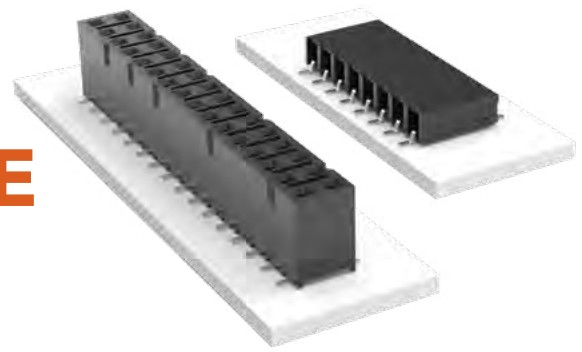
Some lengths, styles and options are non-standard, non-returnable.

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



TIGER CLAW™ SURFACE MOUNT SOCKET

(2.54 mm) .100" PITCH • A-SSM SERIES



A-SSM

Mates:

A-TSW, A-MTSW,
A-TSS, A-ZSS, A-DW,
A-ZW, A-TSM, A-HMTSW,
A-HTSW, A-HTSS, A-MTLW



SPECIFICATIONS

Insulator Material:

Black Liquid Crystal Polymer

Contact Material:

Phosphor Bronze

Plating:

Au or Sn over
50 μ " (1.27 μ m) Ni

Current Rating (A-SSM/A-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 = (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 = (4.34 mm) .171" to

(6.35 mm) .250"

Normal Force:

125 grams (1.21 N) average

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*

*(.004" stencil solution

may be available; contact

ipg@samtec.com)

A-SSM	1	NO. PINS PER ROW	PLATING OPTION	ROW OPTION	OTHER OPTION
-------	---	------------------	----------------	------------	--------------

02 thru 36
(-SV, -SH, -DH)

02 thru 40
(-DV)

-L

= 10 μ " (0.25 μ m)
Gold on contact,
Matte Tin on tail

-SV

= Single Row
Vertical Pin

-DV

= Double Row
Vertical Pin

-SH

= Single Row
Horizontal Pin

-DH

= Double Row
Horizontal Pin

-A

= Alignment Pin
(-DV only)

-BE

= Bottom Entry
(-DV & -SV only)

-P

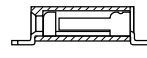
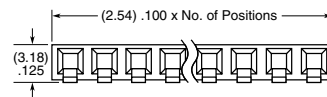
= Plastic Pick & Place Pad
(-DV & -SV only)
(6 positions min.;
Contact Samtec
on availability of
other positions)

-K

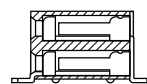
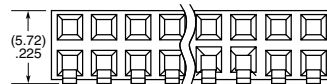
= (6.50 mm) .256" DIA
Polyimide film
Pick & Place Pad
(2 positions min.)
-DV & -SV only

-TR

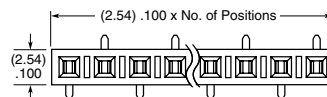
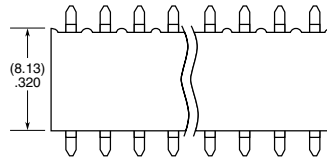
= Tape & Reel
(29 positions max.)



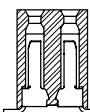
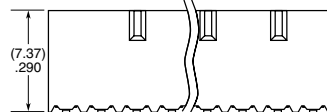
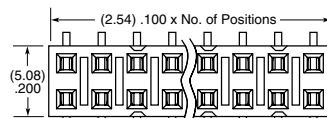
-SH



-DH



-SV



-DV



Note:

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

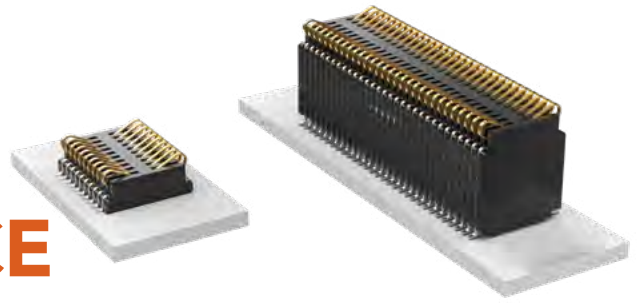
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samtec.com/Automotive

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LOW-PROFILE AND ELEVATED ONE-PIECE



(1.00 mm) .0394" PITCH • A-FSI SERIES

SPECIFICATIONS

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

PROCESSING

Lead-Free Solderable:

Yes

SMT Lead Coplanarity:

(0.10 mm) .004" max (05-30)

(0.15 mm) .006" max (50)*

*(.004" stencil solution

may be available; contact

ipg@samtec.com)

Compression Board:

Gold Pads required

ALSO AVAILABLE

MOQ Required

No alignment pin

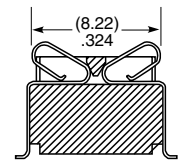
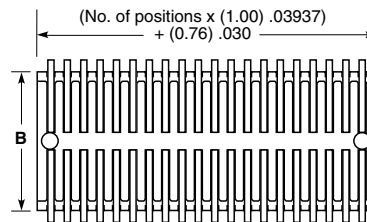
Top side alignment pin

Bottom side alignment pin

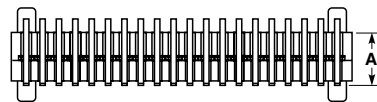
Other platings

A-FSI	1	PINS PER ROW	BODY HEIGHT	PLATING OPTION	ROW OPTION	ALIGNMENT OPTION	OTHER OPTION
		05 thru 50 (Multiples of 5)	-03 = 3 mm -06 = 6 mm (Double Row only) -10 = 10 mm (Double Row only)	-L = 10 µ" (0.25 µm) Gold on contact, Matte Tin on tail (Not available with -03 body height) -S = 30 µ" (0.76 µm) Gold on contact; Matte Tin on tail	-S = Single Row (Available with 5, 10 & 20 pins with -AD alignment pin) -D = Double Row	Leave blank for no Alignment Pin -AD = Alignment Pin Top & Bottom	-P = Plastic Pick & Place Pad (5.08 mm) .200" X (12.45 mm) .490" (Not available with -S row option or -03 body height) -TR = Tape & Reel

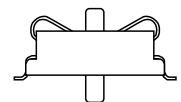
BODY HEIGHT	A	B
-03	(3.00) .118	(8.76) .345
-06	(6.00) .236	(9.02) .355
-10	(10.00) .394	(9.02) .355



-06 & -10 Contact Detail

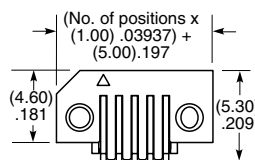


Short Version



-03-AD Shown

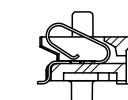
Double Row Version -03, -06, -10



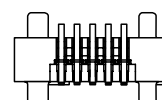
Notes:

Applications requiring 40-50 positions without threaded inserts, please contact Samtec Interconnect Processing Group.

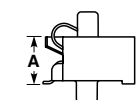
Some lengths, styles and options are non-standard, non-returnable.



-03, -06 & -10 Contact Detail



Short Version



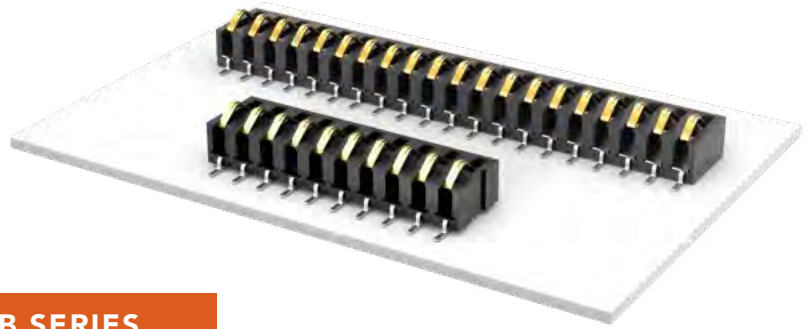
-03-AD Shown

Single Row Version -03, -06, -10

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



ONE-PIECE INTERFACES



(2.54 mm) .100" PITCH • A-SIB SERIES

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer
Contact Material:
Phosphor Bronze
Plating:
Au or Sn over
50 μ " (1.27 μ m) Ni
Current Rating:
2.6 A per pin
(1 pin powered)
Operating Temp Range:
-55 °C to +125 °C

A-SIB

1

NO. OF
POSITIONS

02

PLATING
OPTION

S

OPTION

PACKAGING

02 thru 30
(Per Row)

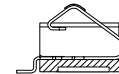
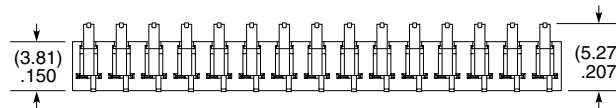
-F
= Gold flash
on contact,
Matte Tin
on tail

-P
= Pick & Place Pad
(Requires -TR;
04-30 Positions only)

-TR
= Tape & Reel

PROCESSING

Lead-Free Solderable:
Yes
SMT Lead Coplanarity:
(0.10 mm) .004" max (02-19)
(0.15 mm) .005" max (20-30)*
*(.004" stencil solution
may be available; contact
ipg@samtec.com)



Notes:

The A-SIB Series
is intended for vertical
mating only.

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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HIGH-SPEED MICRO PITCH SYSTEM

(0.50 mm) .0197" PITCH • A-FT5/A-FS5 SERIES



A-FT5

Mates:
A-FS5

A-FS5

Mates:
A-FT5

SPECIFICATIONS

Insulator Material:
Black Liquid Crystal Polymer

Contact Material:
Phosphor Bronze (A-FT5)
BeCu (A-FS5)

Weld Tab:
Phosphor Bronze

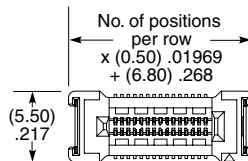
Plating:
Au or Sn over
50 μ " (1.27 μ m) Ni

Current Rating:
1.8 A per pin
(2 pins powered)

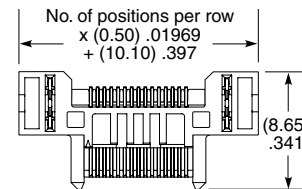
Operating Temp Range:
-55 °C to +125 °C

Lead-Free Solderable:
Yes

A-FT5	NO. OF POSITIONS	LEAD STYLE	PLATING OPTION	ROW OPTION	TH	OPTION	TR
	-15, -30 (Per Row)	-01.0 = 1 mm Body Height -03.0 = 3 mm Body Height -01 = Right- angle	-L = 10 μ " (0.25 μ m) Gold on contact, Matte Tin on tail	-DV = Vertical -RA = Right- angle	Leave blank for -RA -TH = Through- hole weld tab	Required callouts -P = Pick & Place Pad (-DV only) -K = (5.00 mm) .197" DIA Polyimide Film Pick & Place Pad (-RA only)	-TR = Tape & Reel



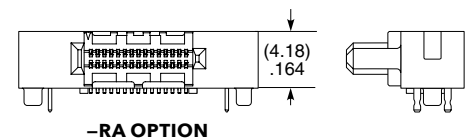
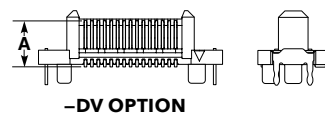
LEAD STYLE	A
-01.0	(3.72) .146
-03.0	(5.72) .225



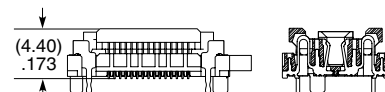
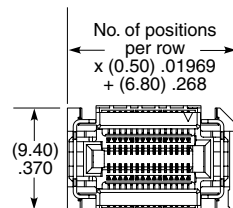
MATED HEIGHT *

A-FS5 LEAD STYLE	A-FT5 LEAD STYLE	
	-01.0	-03.0
-02.0	(5.00 mm) .197"	(7.00 mm) .276"

*Processing conditions
will affect mated height.



A-FS5	NO. OF POSITIONS	LEAD STYLE	PLATING OPTION	DV	TH	K	TR
	-15, -30 (Per Row)	-04.0 = 4 mm Body Height	-L = 10 μ " (0.25 μ m) Gold on contact, Matte Tin on tail		-TH = Through-hole weld tab	-K = (8.25 mm) .325" DIA Polyimide Film Pick & Place Pad	-TR = Tape & Reel



Notes:

Contact system
provides 0.50 mm float
in X and Y directions.

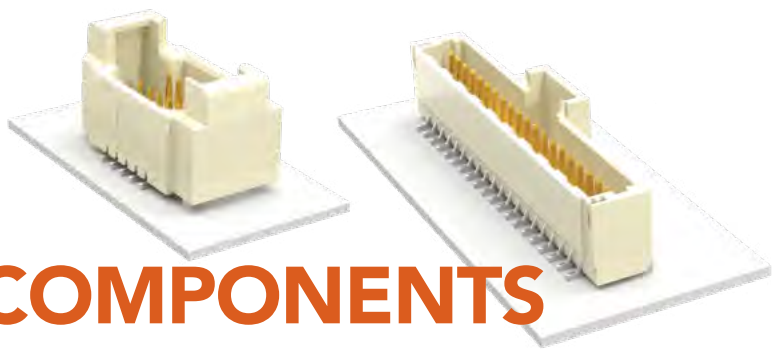
Some lengths, styles and
options are non-standard,
non-returnable.

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DISCRETE WIRE HEADER/CABLE COMPONENTS

(1.00 mm) .0394" PITCH • A-T1M, A-ISS1, A-ISD1, A-CC09 SERIES



SPECIFICATIONS

Insulator Material:
Natural LCP
Terminal Material:
Phosphor Bronze
Weld Tab:
Phosphor Bronze
Plating:
Au or Sn over
50μ" (1.27 μm) Ni
Operating Temp Range:
-55°C to +85°C
Current Rating:
3.3 A per pin
(1 pin powered)
Voltage Rating:
250 VAC/353 VDC

A-T1M

NO. OF POSITIONS

-02 thru -20

PLATING OPTION

-GF
= 3 μ" (0.07 μm)
Gold contact and tail
(-DH & -DV only)

-F
= 3 μ" (0.07 μm)
Gold on contact,
Matte Tin on tail
(-SH & -SV only)

ROW OPTION

-SH
= Single Row
Horizontal

-SV
= Single Row
Vertical

-DH
= Double Row
Horizontal

-DV
= Double Row
Vertical

LATCH

(Required in
callout for
-SH & -SV)

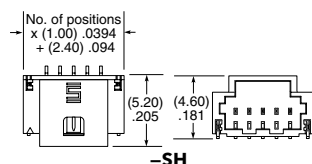
-L
= Positive
Latch
(-SH & -SV
only)

OPTIONS

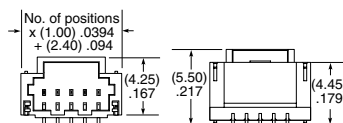
-K
= (4.00 mm)
.157" DIA
Polyimide Film
Pick &
Place Pad
(-SH & -DV
only)

-P
= Pick &
Place Pad
(-SV only)

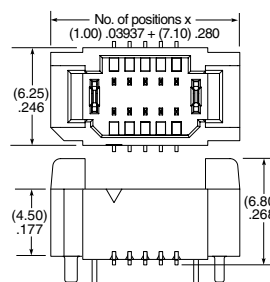
MICROMATE™



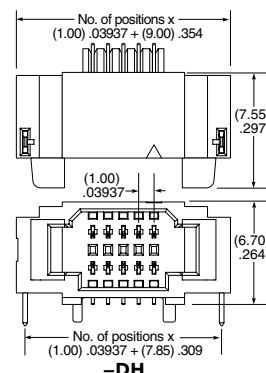
-SH



-SV



-DV



-DH

SERIES

NO. OF POSITIONS

LATCH

SERIES

01

PLATING

A-ISS1
= Single Row Body

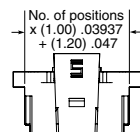
A-ISD1
= Double Row Body

-02 thru -20

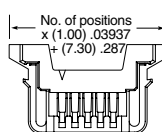
-L
= Positive Latch
(Single row only)

A-CC09R
= Contact, Full Reel
(25,000 Parts per Reel)

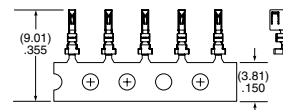
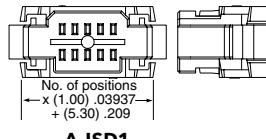
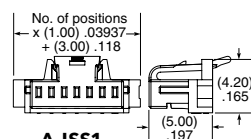
-GF
= 3 μ" (0.07 μm) Gold
contact and tail



A-ISS1



A-ISD1



Contact Material:
Phosphor Bronze

TOOLING

Hand Tool: CAT-HT-309-2830-12

Clamp for mounting hand tool: CAT-HT-MNT-01

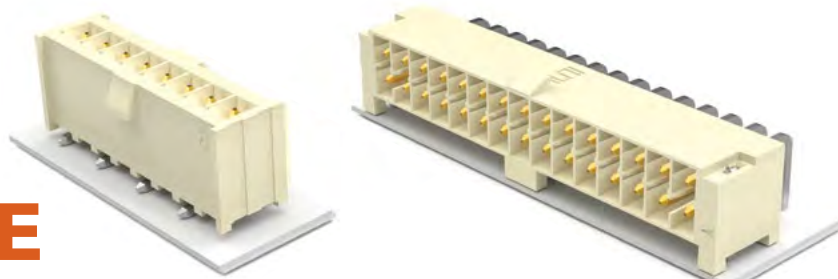
Mini Applicator: CAT-MC-309-2830-XX-01

Note:
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options are non-standard,
non-returnable.

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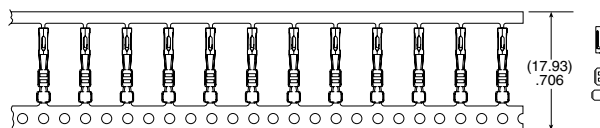
DISCRETE WIRE HEADER/CABLE COMPONENTS

(2.54 mm) .100" PITCH • A-IPL1, A-CC79 SERIES

MAX
4.8
A m p s

A-IPL1	1	PINS PER ROW	LEAD STYLE	PLATING OPTION	ROW OPTION	TAIL OPTION	K	TR
SPECIFICATIONS Insulator Material: Natural LCP Terminal Material: Phosphor Bronze Plating: Sn or Au over 50 μ " (1.27 μ m) Ni Operating Temp Range: -55 °C to +125 °C Voltage Rating: 675 VAC/954 VDC		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 μ m) 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
		 -02-S	 SINGLE ROW DOUBLE ROW		 -01-S	 -01-D		 -01-S-RE1
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)* *(.004" stencil solution may be available; contact ipg@samtec.com) -SH SMT Lead Coplanarity: (0.15 mm) .006" max (02-25)* *(.004" stencil solution may be available; contact ipg@samtec.com)		 -02-D	 -02-SH	 -01	 -01-S-RA	 -01-D-RA		 -01-D-RE1
Note: Some lengths, styles and options are non-standard, non-returnable.								

SERIES	WIRE GAUGE	01	PLATING OPTION
A-CC79R = Contact, Full Reel (12,000 Parts per Reel)	-2630 = 26 to 30 AWG -2024 = 20 to 24 AWG		-L = 10 μ " (0.25 μ m) Gold on contact, Tin on tail



TOOLING

Hand Tool: CAT-HT-179-2030-13 (20-30 AWG)

Mini Applicator: CAT-MC-179-2024-XX-01 (20-24 AWG)
Mini Applicator: CAT-MC-179-2630 XX-01 (26-30 AWG)
Extraction Tool: CAT-EX-179-01

Note:
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