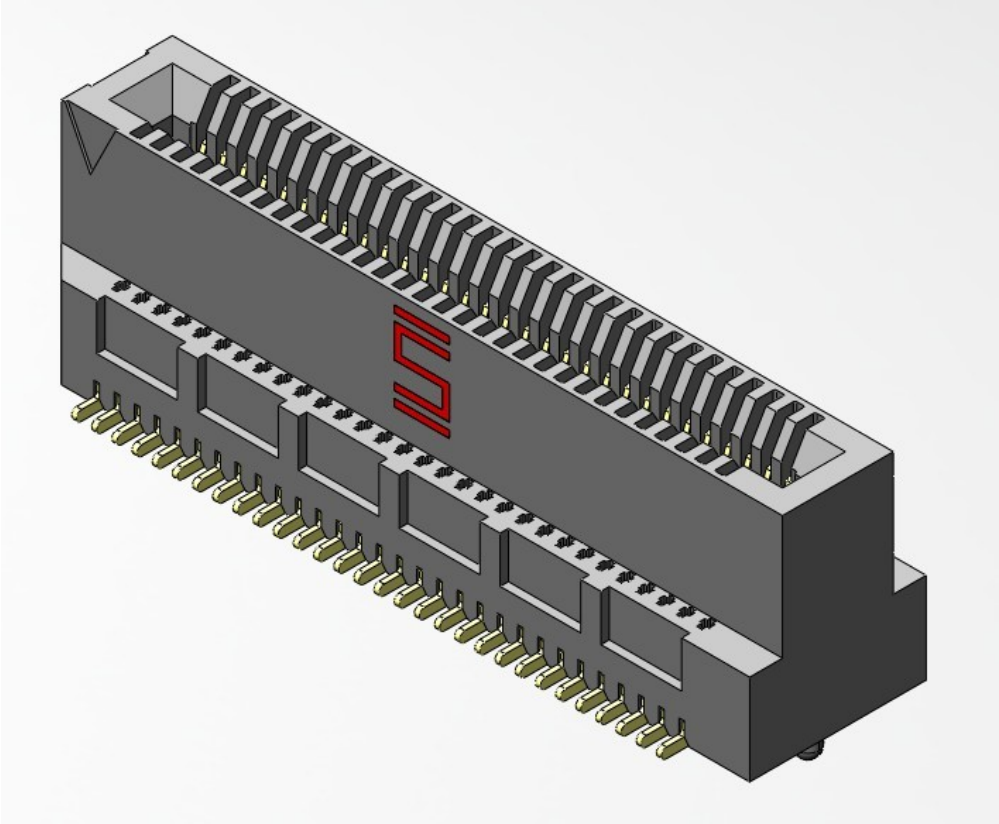
Series: MEC8 0,80 mm (.0315”) Mini Edge Card Connector, Vertical

MEC8 Series – Socket, Vertical Orientation



Other configurations available for:

Right Angle Application
Edge Mount Application
Press Fit Application

See www.samtec.com for more information.

1.0 SCOPE

1.1 This specification covers performance, testing and quality requirements for Samtec’s MEC8 Series 0,80 mm (.0315”) Mini Edge Card Connector. All information contained in this specification is for a Vertical .062” (1,57 mm) Edge Card configuration unless otherwise noted.

2.0 DETAILED INFORMATION

2.1 Product prints, footprints, catalog pages, test reports and other specific, detailed information can be found at www.samtec.com?MEC8-DV.

Series: MEC8 0,80 mm (.0315") Mini Edge Card Connector, Vertical

3.0 TESTING

3.1 Current Rating: 2.3A (One Pin Powered Per Row)

3.2 Voltage Rating: 180 VAC

3.3 Operating Temperature Range: -55°C to +125°C

3.4 Electrical:

ITEM	TEST CONDITION	REQUIREMENT	STATUS
Withstanding Voltage	EIA-364-20 (No Flashover, Sparkover, or Breakdown)	560 VAC	Pass
Insulation Resistance	EIA-364-21 (1000 MΩ minimum)	1,000 MΩ	Pass
Contact Resistance (LLCR)	EIA-364-23	Δ 15 mΩ maximum (Samtec defined)/ No damage	Pass

3.5 Mechanical:

ITEM	TEST CONDITION	REQUIREMENT	STATUS
Durability	EIA-364-09C	100 cycles (10µ" Au Contact/30µ" Hard Au Card)	Pass
Random Vibration	EIA-364-28 Condition V, Letter B 7.56 G 'RMS', 50 to 2000 Hz, 2 hours per axis, 3 axis total , PSD 0.04	Visual Inspection: No Damage LLCR: Δ 15 mΩ maximum Event Detection: No interruption > 50 Nanoseconds	Pass
Mechanical Shock	EIA-364-27 100 G, 6 milliseconds, sawtooth wave, 11.3 fps, 3 shocks/direction, 3 axis (18 total shocks)	Visual Inspection: No Damage LLCR: Δ 15 mΩ maximum Event Detection: No interruption > 50 Nanoseconds	Pass
Normal Force	EIA-364-04	30 grams minimum for Gold interface	Pass

Series: MEC8 0,80 mm (.0315") Mini Edge Card Connector, Vertical

3.6 Environmental:

ITEM	TEST CONDITION	REQUIREMENT	STATUS
Thermal Shock	EIA-364-32 Thermal Cycles: 100 (30 minute dwell) Hot Temp: 85°C Cold Temp: -55°C Hot/Cold Transition: Immediate	Visual Inspection: No Damage LLCR: Δ 15 mΩ DWV: 560 VAC IR: >10,000 MΩ	Pass
Thermal Aging (Temp Life)	EIA-364-17 Test Condition 4 @ 105°C Condition B for 250 hours	Visual Inspection: No Damage LLCR: Δ 15 mΩ DWV: 560 VAC IR: >10,000 MΩ	Pass
Cyclic Humidity	EIA-364-31 Test Temp: 25°C to 65°C Relative Humidity: 90 to 95% Test Duration: 240 hours	Visual Inspection: No Damage LLCR: Δ 15 mΩ DWV: 560 VAC IR: >10,000 MΩ	Pass
Gas Tight	EIA-364-36 Gas Exposure: Nitric Acid Vapor Duration: 60 min. Drying Temp.: 50°C +/- 3°C Measurements: Within 1 hour of Exposure	LLCR: Δ 15 mΩ	Pass
Compliant pin remounting operation	Mount and remount 3 different connectors in same PCB hole pattern	Carrier Board PCB vias are not damaged, 15 milliohm change max	Pass

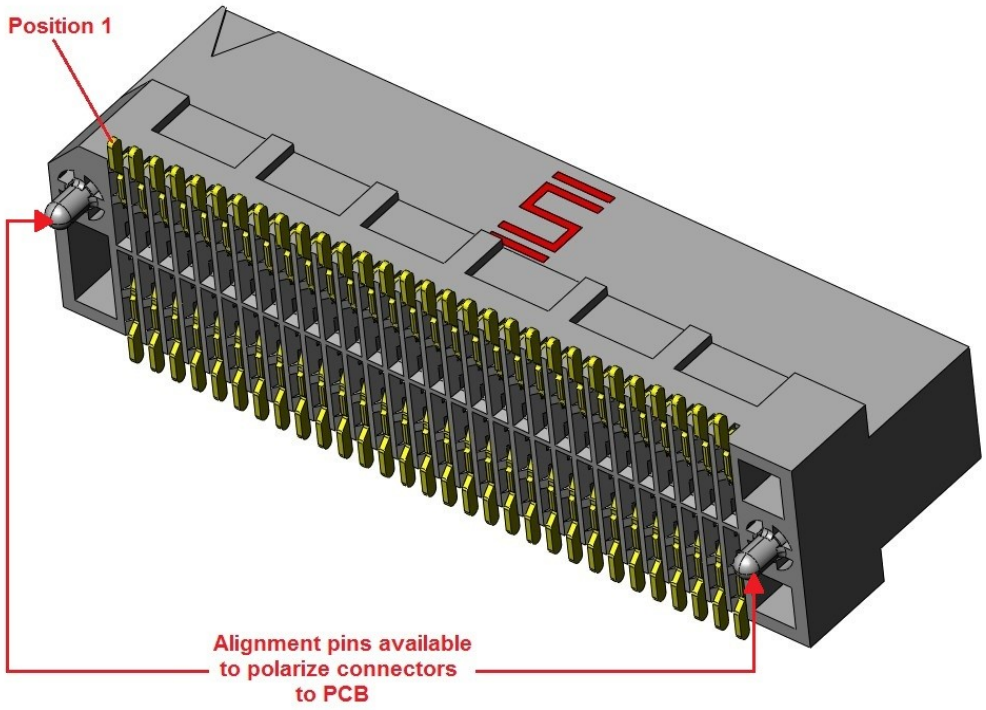
Series: MEC8 0,80 mm (.0315”) Mini Edge Card Connector, Vertical

4.0 MATED SYSTEM

4.1 Mated View: Mated view information can be found at link below:

http://suddendocs.samtec.com/prints/mec8%20mated%20document-mkt.pdf

5.0 POLARIZING FEATURES



6.0 HIGH SPEED PERFORMANCE

6.1 Empirical Boundaries on Performance with Sinusoidal Signals

6.1.1 DV configuration, reading based on -3db insertion loss point.

6.1.2 System Impedance: 50Ω and 100Ω for Single-End and Differential Pair respectively.

6.1.3 For complete test information, click HERE.

6.2 Edge Route - Vertical Surface Mount - Single-ended

Series: MEC8 0,80 mm (.0315”) Mini Edge Card Connector, Vertical

Standard configuration, single-ended signaling			
Socket	**Configuration**	**Signaling**	**Performance**
MEC8-150-01-SM-DV-A	Standard	Single-Ended	7.0 GHz

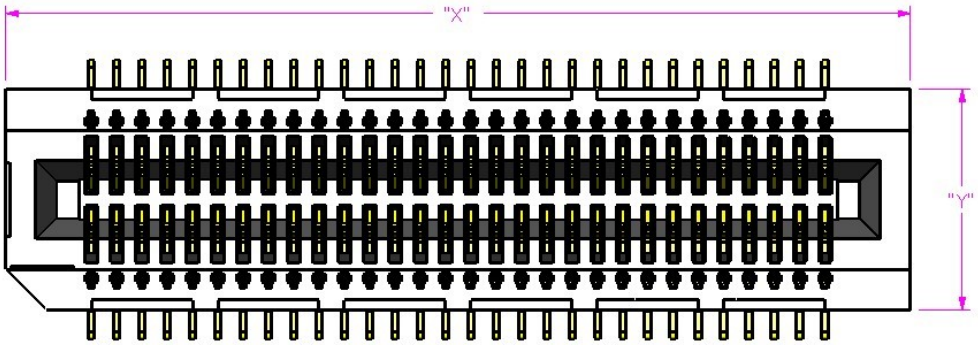
6.3 Edge Route - Vertical Surface Mount - Differential

Standard configuration, single-ended signaling			
Socket	**Configuration**	**Signaling**	**Performance**
MEC8-150-01-SM-DV-A	Standard	Differential	7.0 GHz

7.0 PROCESSING RECOMMENDATIONS

7.1 Mating Alignment Requirements:

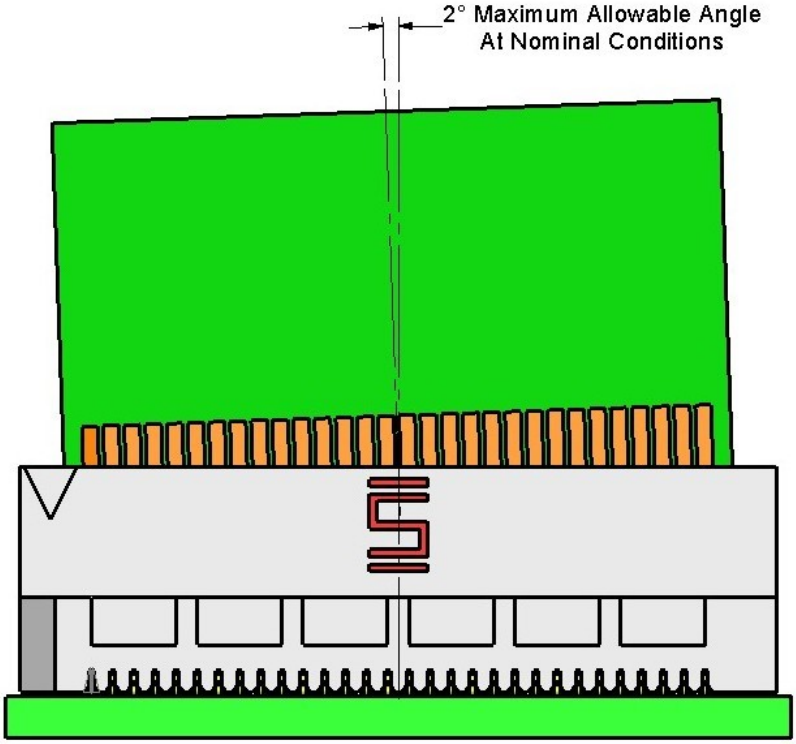
7.1.1 The parts can be rigidly misaligned by no more than 0,08 mm (.003”) in the X- and 0,13mm (.005”) in the Y-direction to ensure a good mate.



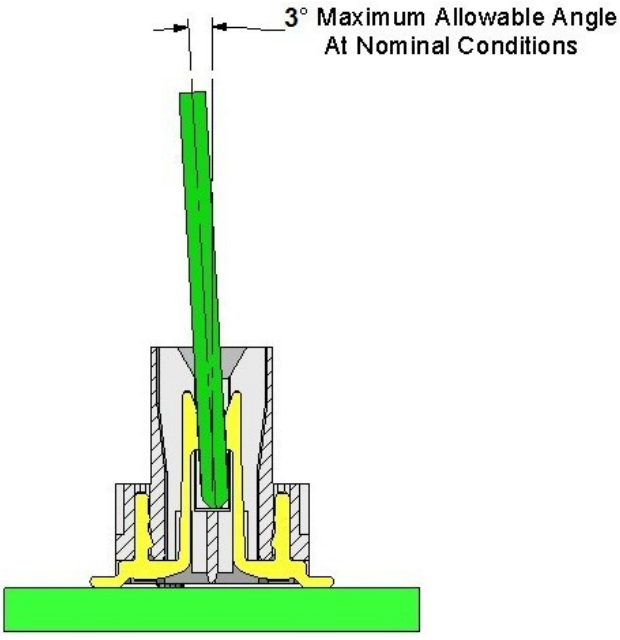
Series: MEC8 0,80 mm (.0315”) Mini Edge Card Connector, Vertical

7.2 Mating Angle Requirements:

7.2.1

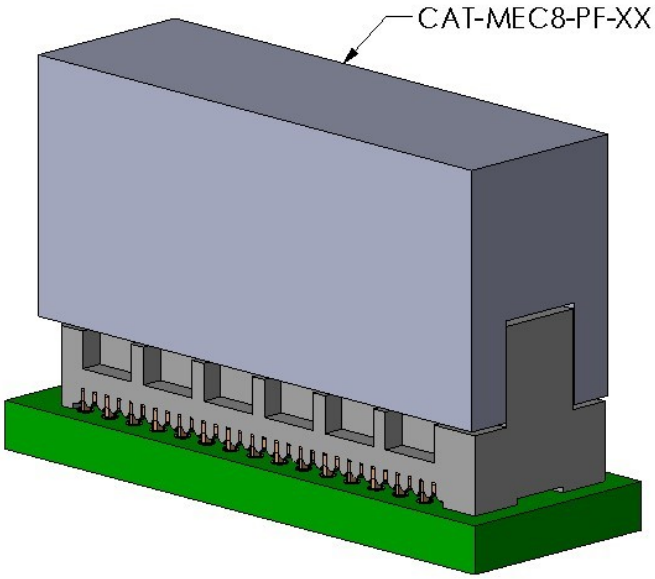


7.2.2

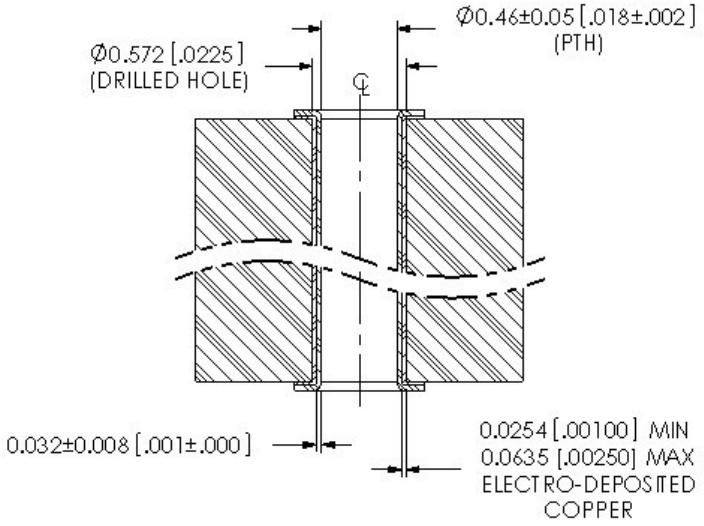


Series: MEC8 0,80 mm (.0315”) Mini Edge Card Connector, Vertical

7.2.3 Press Fit Tooling Application



7.2.4 Recommended plated through hole dimensions for contact



7.3 Multiple Connector Applications: Not recommended for applications in which multiple connectors are mated to a single daughtercard. For more information, please contact IPG@Samtec.com.

7.4 Due to variances in equipment, solder pastes and applications (board design, component density, etc.), Samtec does not specify a recommended reflow profile for our connectors. The processing parameters provided by the solder paste manufacturer should be employed and can usually be found on their website.

All of Samtec's surface mount components are lead free reflow compatible and compliant with the profile parameters detailed in IPC/JEDEC J-STD-020 which requires that components be capable of withstanding a peak temperature of 260°C as well as 30 seconds above 255°C.

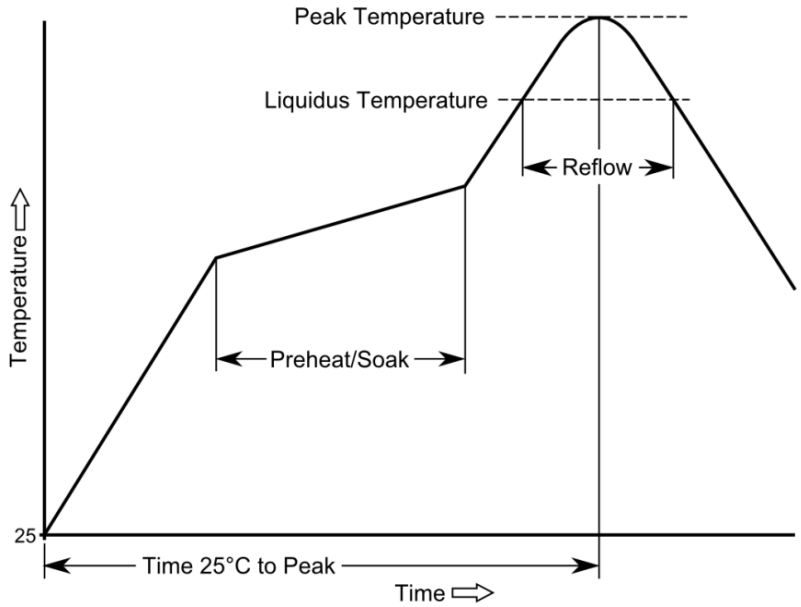
Samtec Recommended Temperature Profile Ranges (SMT)

Sn-Pb Eutectic Assembly

Preheat/Soak (100°C-150°C)	Max Ramp Up Rate	Reflow Time (above 183°C)	Peak Temp	Time within 5°C of 235°C	Max Ramp Down Rate	Time 25°C to Peak Temp
60-120 sec.	3°C/s max.	40-150 sec.	235°C	20 sec. max.	6°C/s max.	6 min. max.

Pb-Free Assembly

Preheat/Soak (150°C-200°C)	Max Ramp Up Rate	Reflow Time (above 217°C)	Peak Temp	Time within 5°C of 260°C	Max Ramp Down Rate	Time 25°C to Peak Temp
60-120 sec.	3°C/s max.	40-150 sec.	260°C	30 sec. max.	6°C/s max.	8 min. max.



7.4.1

These guidelines should not be considered design requirements for all applications.
Samtec recommends testing interconnects on your boards in your process to guarantee optimum results.

7.5 Maximum Reflow Passes: The parts can withstand three reflow passes at a maximum component temperature of 260°C.

7.6 Stencil Thickness: The recommended stencil thickness is .006" (0,15 mm).

7.7 Placement: Machine placement of the parts is strongly recommended.
Note: If the Locking Clip option (-LC) is used, manual placement will be required if the force needed to fully seat the connector exceeds the limit of the machine placement equipment. For more information, please visit the Processing page on our website or contact Samtec's Interconnect Processing Group at ipg@samtec.com.

7.8 Reflow Environment: Samtec recommends the use of a low level oxygen environment (typically achieved through Nitrogen gas infusion) in the reflow process to improve solderability.

7.9 Cleaning: Samtec, Inc. has verified that our connectors may be cleaned in accordance with the solvents and conditions designated in the EIA-364-11 standard.

8.0 ADDITIONAL RESOURCES

8.1 For additional mechanical testing or product information, contact our Customer Engineering Support Group at **CES@samtec.com**
8.2 For additional information on high speed performance testing, contact our Signal Integrity Group at **SIG@samtec.com**
8.3 For additional processing information, contact our Interconnect Processing Group at **IPG@samtec.com**.
8.4 For RoHS, REACH or other environmental compliance information, contact our Product Environmental Compliance Group at **PEC@samtec.com**