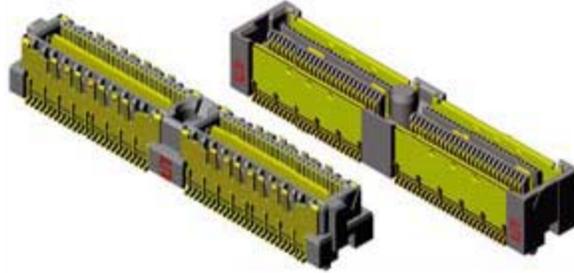


Series: QMSS/QFSS High Speed Shielded Terminal 0.635 mm pitch



1.0 SCOPE

- 1.1 This specification covers performance, tests and quality requirements for the Samtec QMSS/QFSS High Speed Socket/Terminal 0.625 mm pitch

2.0 ELECTRICAL

- 2.1 Dielectric Withstanding Voltage, DWV, per EIA-364-20
 - 2.1.1 900 VAC mated with QFSS
- 2.2 Insulation Resistance, IR, per EIA-364-21
 - 2.2.1 > 5,000 Meg Ohms --- PASS
- 2.3 Low Level Contact Resistance, LLCR, per EIA-364--23
 - 2.3.1 27.9 milli Ohms Average - Contact System
- 2.4 Current Carrying Capacity for a 30°C temp rise, CCC, per EIA-364-70
 - 2.4.1 3.4 A (4 Contacts in series)
 - 2.4.2 7.8 A - GND System, Two Banks

3.0 MATERIALS

- 3.1 Insulator Material
 - 3.1.1 LCP
- 3.2 Contact
 - 3.2.1 Copper Alloy with Gold over 50 micro Inches Nickel

4.0 MECHANICAL

- 4.1 Operational Temperature
 - 4.1.1 -55 degrees C to 125 degrees C
- 4.2 Mating/Unmating forces, per EIA-364-13
 - 4.2.1 22.8/16.7 lbs respectively - Four Banks
- 4.3 Durability after 100 cycles per EIA-364-23
 - 4.3.1 LLCR change < 15.0 milli-Ohms (L- plating) --- PASS
- 4.4 Normal Force at 0.006 inches deflection, per EIA-364-04
 - 4.4.1 141.9 gr.

5.0 ENVIRONMENTAL**5.1 Thermal Aging per EIA-364-17**

- 5.1.1 No Evidence of Physical Damage seen --- PASS
- 5.1.2 Change in Contact LLCR did not exceed +15.0 milli-Ohms (L- plating) --- PASS
- 5.1.3 Test Conditions
 - 5.1.3.1 105 degrees C
 - 5.1.3.2 250 hours

5.2 Cyclic Humidity per EIA-364-31

- 5.2.1 No Evidence of Physical Damage seen --- PASS
- 5.2.2 Insulation Resistance > 5000 Meg Ohms --- PASS
- 5.2.3 No evidence of Breakdown or Arcing when applying 750 VAC --- PASS
- 5.2.4 Change in LLCR not to exceed +15.0 milli-Ohms (L- plating) --- PASS
- 5.2.5 Test Conditions
 - 5.2.5.1 Cyclic 25 degrees C to 65 degrees C for 240 hours, at 90% to 95% RH
 - 5.2.5.2 Time Condition "B" (240 hours) for Method III, excluding sub-cycle 7A and 7B

5.3 Thermal Shock per EIA-364-32

- 5.3.1 No Evidence of Physical Damage seen --- PASS
- 5.3.2 Change in Signal LLCR did not exceed +15 mOhm --- PASS
- 5.3.3 No evidence of Breakdown or Arcing when applying 700 VAC
- 5.3.4 Insulation Resistance > 5000 Meg Ohms --- PASS
- 5.3.5 Test Conditions
 - 5.3.5.1 # Thermal Cycles: 100
 - 5.3.5.2 Hot Temp: 85 degrees C +3 degrees C/-0 degrees C
 - 5.3.5.3 Cold Temp: -55 degrees C +0 degrees C/-3 degrees C
 - 5.3.5.4 Dwell/Configuration: 30 Minutes, Mated and Mounted
 - 5.3.5.5 Hot/Cold Transition: Instantaneous

5.4 Mechanical Shock per EIA-364-27

- 5.4.1 Change in Signal LLCR did not exceed +15 mOhm --- PASS
- 5.4.2 Test Conditions
 - 5.4.2.1 Peak Value: 100 G
 - 5.4.2.2 Duration: 6 milliSec
 - 5.4.2.3 Waveform: Sawtooth
 - 5.4.2.4 Velocity: 11.3 FPS
 - 5.4.2.5 # Shocks/Direction: 3 Shocks/3 Axes (18 total)

Series: QMSS/QFSS High Speed Shielded Terminal 0.635 mm pitch

- 5.5 Mechanical Shock per EIA-364-27
 - 5.5.1 No Evidence of Physical Damage seen --- PASS
 - 5.5.2 No Contact Interruptions greater than 1.0 microSec --- PASS
 - 5.5.3 Test Conditions
 - 5.5.3.1 Test Condition: Test Condition "C"
 - 5.5.3.2 Peak Value: 100 G
 - 5.5.3.3 Duration: 6 milliSec
 - 5.5.3.4 Waveform: Half Sine
 - 5.5.3.5 Velocity: 12.3 FPS
 - 5.5.3.6 # Shocks/Direction: 3 Shocks/3 Axes (18 total)
- 5.6 Vibration per EIA-364-28
 - 5.6.1 No Evidence of Physical Damage seen --- PASS
 - 5.6.2 Change in Signal LLCR did not exceed +15 mOhm --- PASS
 - 5.6.3 No Contact Interruptions greater than 1.0 microSec --- PASS
 - 5.6.4 Test Conditions
 - 5.6.4.1 Test Condition: Test condition V, Letter "B", Random
 - 5.6.4.2 Frequency: 50 to 2000 Hz
 - 5.6.4.3 PSD: 0.04
 - 5.6.4.4 Duration: 2 Hour/Axis, 3 Axes Total
 - 5.6.4.5 G's: 7.56 G rms
- 5.7 Vibration per EIA-364-28
 - 5.7.1 No Evidence of Physical Damage seen --- PASS
 - 5.7.2 No Contact Interruptions greater than 1.0 microSec --- PASS
 - 5.7.3 Test Conditions
 - 5.7.3.1 Test Condition: B
 - 5.7.3.2 G 'RMS': 7.56
 - 5.7.3.3 Frequency: 50 to 2000 Hz
 - 5.7.3.4 Duration: 2 Hour/Axis, 3 Axes Total
 - 5.7.3.5 G's:

6.0 MIXED FLOWING GAS, MFG

- 6.1 Change in Signal LLCR after 10 days mated did not exceed +15 mOhm --- PASS
 - 6.1.1 Test Conditions
 - 6.1.1.1 Temperature: 30 C
 - 6.1.1.2 RH: 70%
 - 6.1.1.3 Chlorine, CL2: 10 ppb
 - 6.1.1.4 Nitrogen Oxide, NO2: 200 ppb
 - 6.1.1.5 Hydrogen Sulfide, H2S: 10 ppb
 - 6.1.1.6 Sulfur Dioxide, SO2: 100 ppb

Series: QMSS/QFSS High Speed Shielded Terminal 0.635 mm pitch

7.0 HIGH FREQUENCY PERFORMANCE

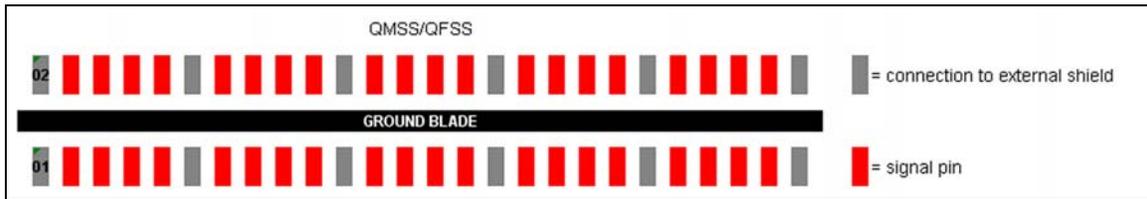
7.1 Empirical Boundaries on Performance with Sinusoidal Signals

7.1.1 DV configuration, readings based on 3dB insertion loss frequency.

7.1.2 System Impedance: 50Ω and 100Ω for Single-Ended and Differential Pair respectively.

7.1.3 For complete test information, click [HERE](#)

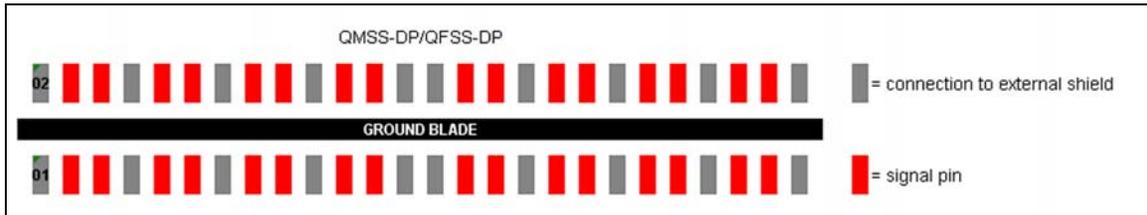
7.2 QMSS/QFSS, Single-Ended Signaling



QMSS/QFSS, Single-Ended Signaling

Socket	Header	Mated Height	Configuration	Signaling	Performance
QFSS-026-01-L-D-A	QMSS-026-11-L-D-A	11mm	Standard	Single-Ended	6.0 GHz

7.3 QMSS-DP/QFSS-DP Differential Pair Signaling



QMSS-DP/QFSS-DP Differential Pair Signaling

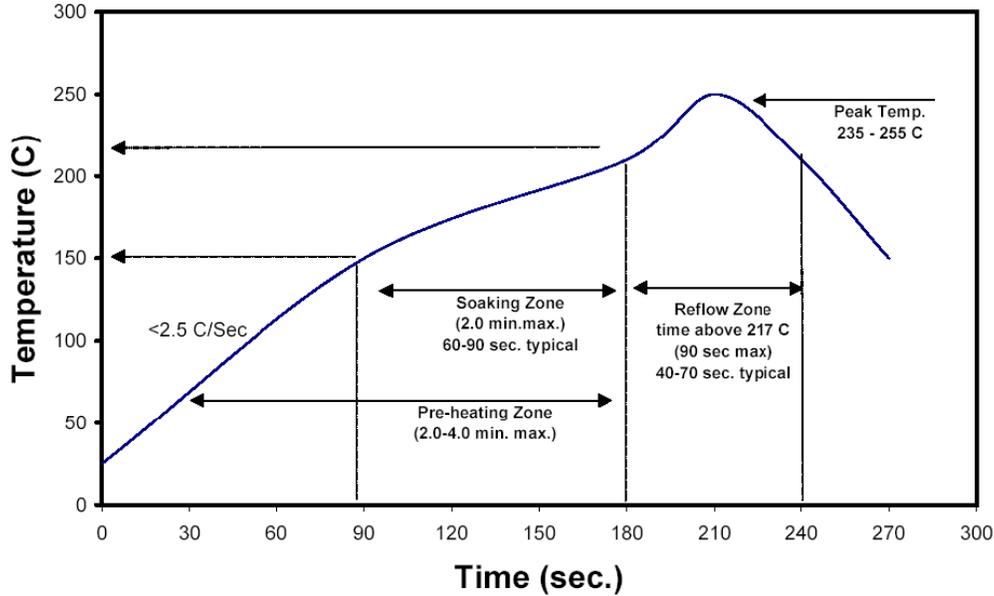
Socket	Header	Mated Height	Configuration	Signaling	Performance
QFSS-026-01-L-D-DP-A	QMSS-026-11-L-D-DP-A	11mm	-DP	Differential Pair	7.5GHz

For additional information, contact Samtec Signal Integrity Group
sig@samtec.com or 1-(800)-726-8329.

Series: QMSS/QFSS High Speed Shielded Terminal 0.635 mm pitch

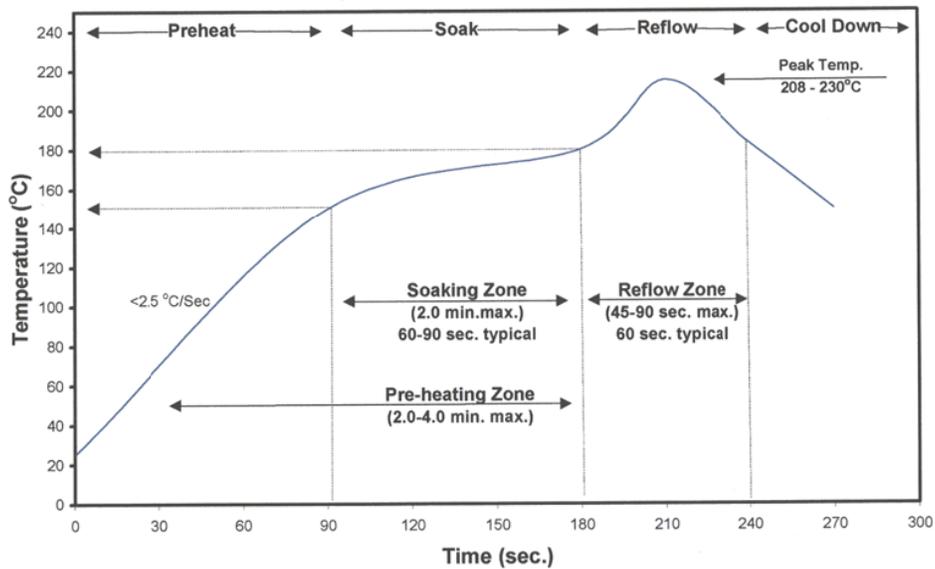
8.0 PROCESSING, LEAD-FREE

Kester Lead Free Reflow Profile
Alloys: Sn96.5/Ag3.0/Cu0.5 and Sn96.5/Ag3.5



9.0 PROCESSING, Sn63/Pb37

Standard Solder Paste Reflow Profile
for Kester Paste Containing
Alloys: Sn63Pb37 or Sn62Pb36Ag02



Series: QMSS/QFSS High Speed Shielded Terminal 0.635 mm pitch

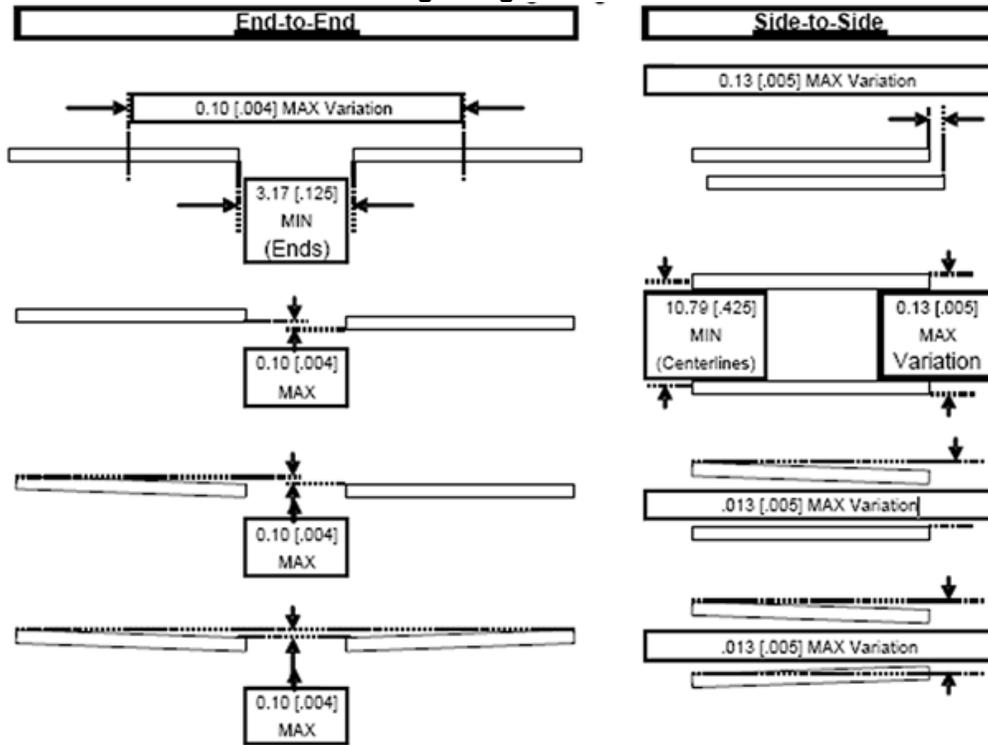
10.0 Multi Connector Processing Placement Limitations – See Following Figures

10.1 When using multiple connectors on a printed circuit board, care must be taken to ensure proper alignment and the following figures illustrate the placement limitations for these connectors, but do not take into account the spacing required for additional components, or automatic placement / rework equipment.

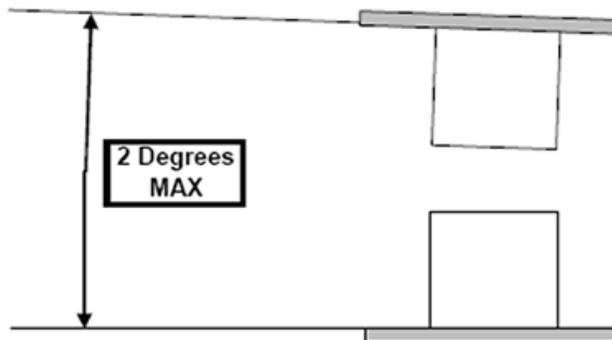
10.2 For applications requiring more than two connectors per board, please contact Samtec's Interconnect Processing group at ipg@samtec.com

10.3 Multi Connector processing – Constrained Board Alignment

Constrained Board Alignment-multi connectors processed to Boards
 CTE differences between PCB/fixturing during re-flow must be considered regarding connector locations

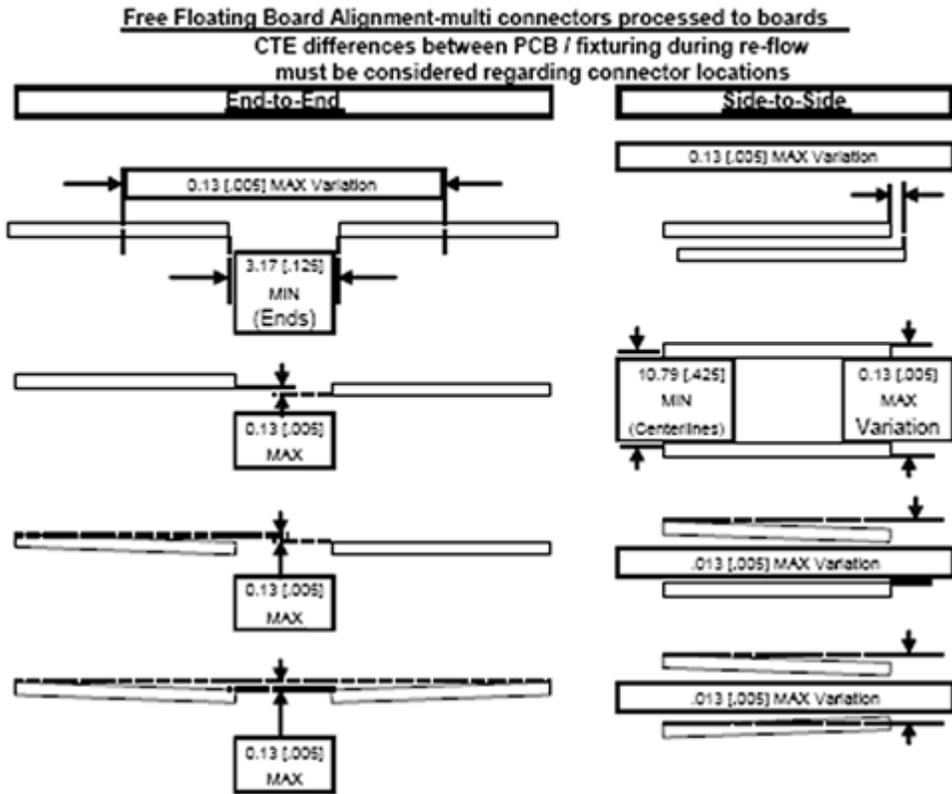


Constrained Board Alignment-multi connectors processed to boards



Series: QMSS/QFSS High Speed Shielded Terminal 0.635 mm pitch

10.4 Multi Connector processing – Free Floating Alignment



Free Floating Board Alignment-multi connectors processed to boards

