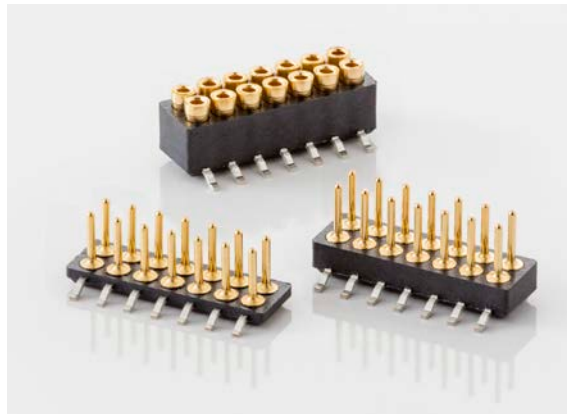




Product Specification

Mezza-pede[®] SMT Connector Low Profile 1.0mm Pitch



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1.0 Scope

This product specification applies to 1.0mm pitch Mezza-pede® SMT Connectors, designed for the mating and unmating of a PC board (PCB) to a PCB, PCB to flex cable, or flex cable to flex cable. The female connector (receptacle) may also be used as a surface mount socket for a thru-hole device.

2.0 Introduction

There are two (2) components that make up this connector system; a header and a socket (receptacle). The receptacle incorporates terminals consisting of a female shell with an internal contact, an insulator, and a terminal lead [see Fig 2A]. The receptacle is typically mounted to the PC board (motherboard).

The header incorporates a male terminal, an insulator, and a terminal lead. The header is attached to a daughter card in board to board applications or to a flex circuit for PCB to cable assemblies.

Receptacles and headers are each shipped in tape and reel packaging. The headers are shipped with a protective (pick-and-place) cover that is removed after solder-attach (also available as an option on the receptacle). This cover can be left in place for storage or for protection of the male terminals during the handling processes.

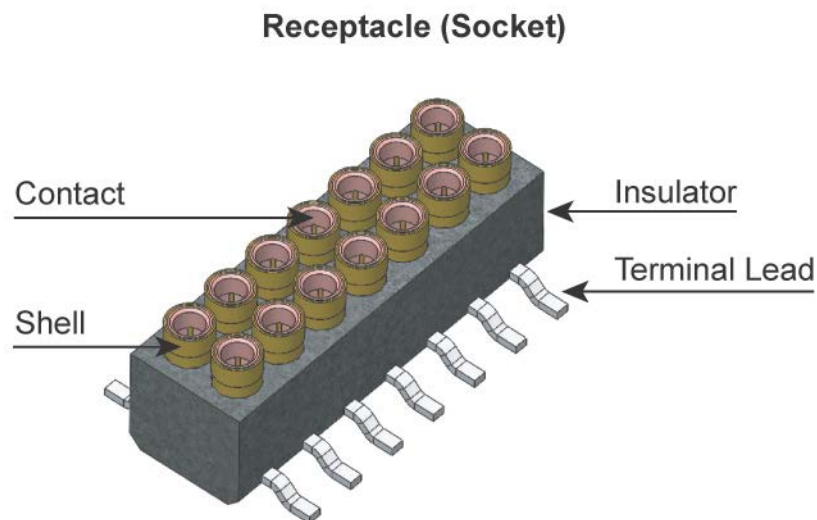


Figure 2A

3.0 Materials

3.1 Base Materials:

- 3.1.1 Male Terminal: Brass – Copper Alloy (C36000) ASTM B16
- 3.1.2 Female Shell: Brass – Copper Alloy (C36000) ASTM B16
- 3.1.3 Contact: Beryllium Copper (C17200) ASTM B194
- 3.1.4 Lead Frame: Beryllium Copper (C17200) ASTM B194
- 3.1.5 Insulator: LCP, Color Black, UL Rated 94V-0
- 3.1.6 Pick & Place Cover: LCP, Color Black, UL Rated 94V-0
- 3.1.7 Solder Paste: Lead-free, 96.5%Sn/3.0%Ag/0.5%Cu

3.2 Standard Plating:

- 3.2.1 Male Terminal: 0.000030[0.000762] min. Gold over 0.000050[0.00127] min. Nickel
- 3.2.2 Female Shell: 0.000010[0.000254] min. Gold over 0.000050[0.00127] min. Nickel
- 3.2.3 Contact: 0.000030[0.000762] min. Gold over 0.000050[0.00127] min. Nickel
- 3.2.4 Lead Frame: 0.000100[0.00254] min. Matte Tin over 0.000050[0.00127] min. Nickel

4.0 Mechanical

ITEM	DESCRIPTION	STANDARD	REQUIREMENT		TEST CONDITION
			Insertion	Extraction	
4.1	<u>Mating / Unmating Force</u>	EIA 364-13	2.5 Lbs. [11.1 N]	2.2 Lbs. [9.8 N]	14 Pos. Mounted, Axially aligned for self-centering – not lubricated
4.2	<u>Durability</u>	EIA 364-09	No evidence of damage, LLCR < 10 milliohm change from initial		100 cycles, LLCR @ 5, 30 and 100 cycles
4.3	<u>Mechanical Shock</u>	EIA 364-27	No evidence of damage, LLCR < 10 milliohm change from initial		Shock at 50 g's, 11 millisecond ½ sin wave, 18 shocks total
4.4	<u>Mechanical Vibration</u>	EIA 364-28	No evidence of damage, LLCR < 10 milliohm change from initial		Condition D (3.10 G'rms, 60 minutes each axis)

5.0 Electrical

ITEM	DESCRIPTION	STANDARD	REQUIREMENT		TEST CONDITION
			Insertion	Return	
5.1	<u>Insertion / Return Loss</u>	EIA 364-108	@ -10 / -15db	< -3db	DC to 4 GHz
5.2	<u>Contact Resistance (Low Level)</u>	EIA 364-23	The contact resistance shall not exceed 10 milliohm change from initial		100 mA max / 20mV
5.3	<u>Current Carrying Capacity</u>	EIA 364-70	Temperature rise above ambient shall not exceed 30°C		Current Levels: 0.5, 1.0, 1.5 and 3.0 amps
5.4	<u>Insulation Resistance</u>	EIA 364-21	> 1000 MΩ		Unmated, at 100V DC, 2 minutes electrification time
5.5	<u>Dielectric Withstanding Voltage</u>	EIA 364-20	No evidence of breakdown, arcing, or physical damage to the connector		Unmounted, unmated, testing between rows through adjacent contacts (500 VAC for 1 minute, 500v/s)
5.6	<u>Capacitance</u>	EIA 364-30	Reading between adjacent contacts shall not exceed 1pF		Unmounted, unmated, testing between adjacent contacts (Frequency 4GHz)
5.7	<u>Inductance</u>	EIA 364-109	Reading between adjacent contacts shall be no greater than 5nH		Unmounted, mutual (Loop) (Frequency 4 GHz)
5.8	<u>Characteristic Impedance</u>	EIA 364-108	Reading between adjacent contacts shall be no greater than ±10% of the 50Ω resistance		Terminating 2 adjacent terminals with a 50Ω surface mount resistor (Frequency 4 GHz)

6.0 Environmental

ITEM	DESCRIPTION	STANDARD	REQUIREMENT	TEST CONDITION
6.1	<u>Cyclic Humidity</u>	EIA 364-31B	No evidence of damage, LLCR < 10 milliohm change from initial	504 Hours, 21 cycles, 85%
6.2	<u>Thermal Shock</u>	EIA 364-32C	No evidence of breakdown, mechanical damage, discontinuity < 1 microsecond	5 cycles, -55°C to +125°C, 30 minute dwell
6.3	<u>High Temperature Life</u>	EIA 364-17B	No evidence of breakdown, arcing or damage, LLCR < 15 milliohm change from initial	500 Hours, +125°C LLCR @ 168, 336 & 500 Hrs
6.4	<u>Mixed Flowing Gas</u>	EIA 364-65A	No evidence of damage, LLCR < 10 milliohm change from initial	Mated connector, Class IIA and IIIA, 20 days
6.5	<u>Solderability</u>	MIL-STD-202	95% min. coverage	Steam aging 60 min.

7.0 Operating Temperature

Operating Temperature - 55°C to +125°C

8.0 Revision History

REV.	DESCRIPTION	BY	DATE
0	New Release	G. Goodman	1-26-09
1	Sections 1 & 2: Minor text changes for clarity, added Fig 2A, Section 3.0: updated material specs for consistency, Section 4.1: added Force values in Newtons Section 6.2: updated Requirement	G. Goodman	12-7-16