



PRODUCT SPECIFICATION

1.0 SCOPE

This Product Specification covers the SMP product family (Interface Only) and is a general performance guideline. Please contact Molex RFMS Engineering for specific design iteration performance ratings. As customer end use applications vary greatly, the performance requirements stated within are superseded by performance requirements stated on the Molex Sales Drawing(s).

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME
SMP

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

MIL-STD-348B

4.0 RATINGS

4.1 VOLTAGE

335 Vrms at Sea Level
65 Vrms at 70,000 Feet

4.2 TEMPERATURE

Rating: - 65°C TO + 165°C

4.3 FREQUENCY RATING

0 to 40 GHz

4.4 NOMINAL IMPEDANCE

50 Ohm

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5.0 PERFORMANCE

5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Insulation Resistance	MIL-PRF-39012, paragraph 3.11	5000 Megohms
2	Dielectric Withstanding Voltage	MIL-PRF-39012, paragraph 3.17	500 Vrms
3	Low Level Contact Resistance (LLCR)	MIL-PRF-39012, paragraph 3.16 Center Contact Outer Contact	Initial: Baseline (Reference Only) Post Environment: 10.0 Milliohms Max Increase Initial: Baseline (Reference Only) Post Environment: 10.0 Milliohms (Noble Plating) 20.0 Milliohms (Non-Noble Plating) Max Increase
4	Voltage Standing Wave Ratio	MIL-PRF-39012, paragraph 3.14	See Sales Drawing
5	RF Insertion Loss	MIL-PRF-39012, paragraph 3.27	Application specific. See Sales Drawing where applicable.

5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
6	Material	MIL-PRF-39012, paragraph 3.3	See Sales Drawing
7	Finish	MIL-PRF-39012, paragraph 3.3.1	See Sales Drawing
8	Design	MIL-PRF-39012, paragraph 3.4	See Sales Drawing
9	Recommended Mating Torque		N/A
10	Force to Engage	Axial Force (Full, Ltd, Smooth)	15.00 lbs (66.75N), 10.00 lbs (44.5N), 2.00 lbs (8.9N) MAX
11	Force to Disengage	Axial Force (Full, Ltd, Smooth)	5.00 lbs (22.25N), 2.00 lbs (8.9N), 0.5 lbs (2.225N) MIN
12	Coupling Proof Torque	MIL-PRF-39012, paragraph 3.6	N/A

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5.2 MECHANICAL REQUIREMENTS (continued)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
13	Mating Characteristics	MIL-PRF-39012, paragraph 3.7	MIL-STD-348B dimensions
14	Connector Durability	MIL-PRF-39012, paragraph 3.15 (Full, Ltd, Smooth)	100, 500, 1000 Cycles
15	Center Contact Retention	MIL-PRF-39012, paragraph 3.12 Axial Force (Cable Connectors) Axial Force (Adapters) Axial Force (PCB Connectors) Radial Torque	1.5 lbs MIN (terminated to cable) 1.5 lbs MIN N/A N/A
16	Cable Retention	MIL-PRF-39012, paragraph 3.24 Axial Force	Per Cable Specification

5.3 ENVIRONMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
17	Vibration	MIL-PRF-39012, paragraph 3.18 Per MIL-STD-202, Method 204	Test Condition B <u>Signal (Center) LLCR:</u> 10.0 Milliohms Max Increase Post Environment <u>Outer Conductor LLCR:</u> 10.0 Milliohms (Noble Plating) 20.0 Milliohms (Non-Noble Plating) Max Increase Post Environment
18	Shock	MIL-PRF-39012, paragraph 3.19 Per MIL-STD-202, Method 213	Test Condition B <u>Signal (Center) LLCR:</u> 10.0 Milliohms Max Increase Post Environment <u>Outer Conductor LLCR:</u> 10.0 Milliohms (Noble Plating) 20.0 Milliohms (Non-Noble Plating) Max Increase Post Environment

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19	Shock (Thermal)	MIL-PRF-39012, paragraph 3.2 Per MIL-STD-202, Method 107	Test Condition B <u>Signal (Center) LLCR:</u> 10.0 Milliohms Max Increase Post Environment <u>Outer Conductor LLCR:</u> 10.0 Milliohms (Noble Plating) 20.0 Milliohms (Non-Noble Plating) Max Increase Post Environment
20	Corrosion (Salt Spray)	MIL-PRF-39012, paragraph 3.13 Per MIL-STD-202, Method 101	Test Condition B
21	Moisture Resistance	MIL-PRF-39012, paragraph 3.21 Per MIL-STD-202, Method 106	DWV 500 Vrms (after drying)
22	Temperature Life	EIA-364-17, Method A, Condition 4 (105 Deg C for 1000 hours)	No physical damage. <u>Signal (Center) LLCR:</u> 10.0 Milliohms Max Increase Post Environment <u>Outer Conductor LLCR:</u> 10.0 Milliohms (Noble Plating) 20.0 Milliohms (Non-Noble Plating) Max Increase Post Environment
23	Cyclic Temperature and Humidity	EIA-364-31, method III, Condition B	No physical damage. <u>Signal (Center) LLCR:</u> 10.0 Milliohms Max Increase Post Environment <u>Outer Conductor LLCR:</u> 10.0 Milliohms (Noble Plating) 20.0 Milliohms (Non-Noble Plating) Max Increase Post Environment
24	Mixed Flowing Gas	EIA-364-65, Condition IIA, 14 days (7 + 7)	No physical damage. <u>Signal (Center) LLCR:</u> 10.0 Milliohms Max Increase Post Environment <u>Outer Conductor LLCR:</u> 10.0 Milliohms (Noble Plating) 20.0 Milliohms (Non-Noble Plating) Max Increase Post Environment

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6.0 MISALIGNMENT

6.1 RADIAL MISALIGNMENT

FORMULA: $A = B \times \sin(\beta)$

A = Max radial misalignment

B = Height of the bullet $\leq 13\text{mm}$ (.512")

β = Max angle 4°

For bullet height $> 13\text{mm}$, max radial misalignment: 0.92mm (.036")

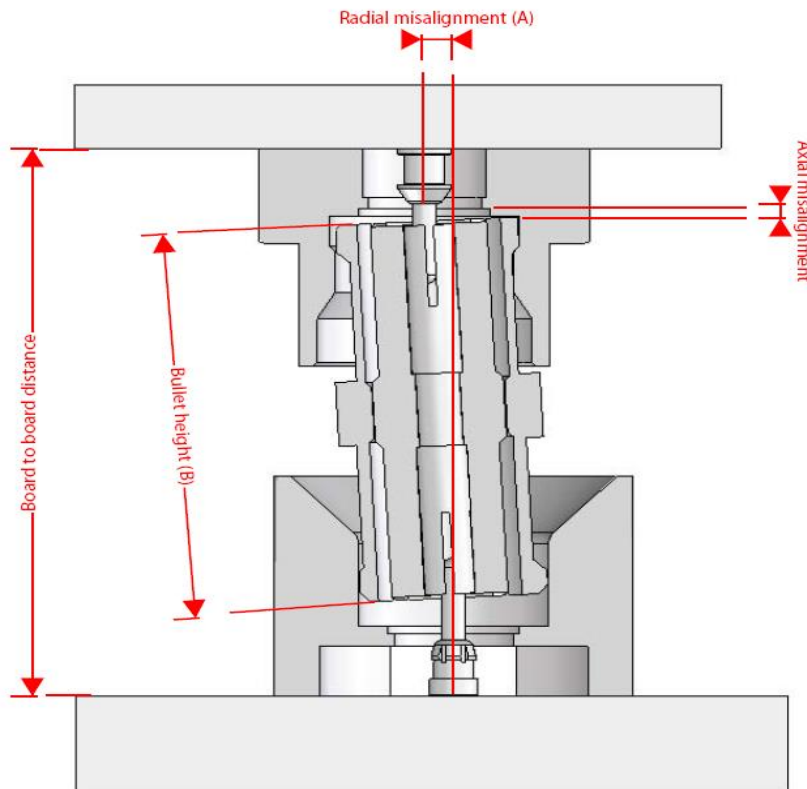
6.2 AXIAL MISALIGNMENT

WITHOUT RADIAL MISALIGNMENT:

MAXIMUM AXIAL MISALIGNMENT = 0.7mm (.027")

WITH SIMULTANEOUS RADIAL MISALIGNMENT:

MAXIMUM AXIAL MISALIGNMENT = 0.6mm (.024")



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