



General Information

SMB Connector Specifications

Electrical Characteristics

Impedance -- 50 ohms and 75 ohms, nominal

Frequency Range -- 0 to 4.0 GHz

Voltage Rating (VRMS)--

	Sea Level	70,000 Feet
50 ohm connectors for RG-178/U series cable	300	75
50 ohm connectors for RG-316/U series cable	400	100
75 ohm connectors for RG-179/U series cable	300	75
75 ohm connectors for RG-195/U series cable	500	125

Insulations Resistance -- 1000 megohms min.

Contact Resistance -- (milliohms max.)

	Initial	After Environment
Center contact	6.0	8.0
Outer contact	1.0	1.5
Braid to body	1.0	N/A

Contact Current Rating -- 1.5 amps DC max.

Voltage Standing Wave Ratio (VSWR) --

to 4.0 GHz or 80% of upper cutoff frequency of the cable, whichever is lower.

Cable	Mating Engagement	
	Straight	Rt. Angle
RG-178/U Series	$1.30 + .04F$	$1.45 + .06F$
RG-316/U Series	$1.25 + .04F$	$1.35 + .04F$

F=GHz, does not apply to 75 ohm connectors.

R.F. High Potential Withstanding Voltage Frequency -- 5 MHZ

Leakage Current -- N/A

50 ohm connectors for RG-178/U series cable	675 VRMS
50 ohm connectors for RG-316/U series cable	950 VRMS
75 ohm connectors for RG-179/U series cable	950 VRMS
75 ohm connectors for RG-195/U series cable	1225 VRMS

R.F Leakage --

-55 dB min. at 2-3 GHz

Insertion Loss -- *

.25 dB max. at 4 GHz

Mechanical Characteristics

Engagement Forces--

MIL-Type 50 ohm -- Initial, 8.0 lbs. [35.6 N] maximum engagement. After 500 matings, 8.0 lbs. [35.6 N] maximum engagement and 2 lbs. [8.8 N] minimum disengagement.

Commercial Type and MIL-Type 75 ohm -- Initial, 14 lbs. [62.3 N] maximum engagement. After 500 matings, 14 lbs. [62.3 N] maximum engagement and 2 lbs. [8.8 N] minimum disengagement.

Cable Attachment--

Straight Connectors -- Crimp, both center contact and braid.

Right-Angle Connectors -- Crimp on braid and bifurcated solder center contact.

Durability -- 500 cycles per MIL-C-39012

Contact Captivation -- When captivated, the contacts will withstand 4.0 lbs. minimum axial force.

Cable Retention -- When properly assembled to the compatible braided coaxial cable, the retention is equal to the breaking strength of the cable. When properly assembled to the compatible semi-rigid cable, the retention is as follows:

.056" [1.42] dia. 20 lbs. [89 N] .086" [2.18] dia. 30 lbs. [133 N] .141" [3.58] dia. 60 lbs. [267 N]

Marking -- Per MIL-STD-130

Environmental Characteristics

Temperature Rating -- -65°C to +165°C

Corrosion (salt spray) -- MIL-STD-202, Method 101, test condition B, 5% salt solution

Vibration High Frequency -- MIL-STD-202, Method 204, test condition B (15 G's)

Shock -- MIL-STD-202, Method 213, test condition B, 75 G's at 6 milliseconds, 1/2 sine

Thermal Shock -- MIL-STD-202, Method 107, test condition B, except high temperature shall be +85°C. High temperature shall be +200°C for connectors using 200°C cables.

Moisture Resistance -- MIL-STD-202, Method 106, when interface gasket is used. No measurements of high humidity. Insulation resistance shall be 200 megohms minimum within five minutes after removal from humidity.

Durability Test -- Conducted per MIL-C-39012 Reg. Para. 3.15, Method Para. 4.6.12

Materials

Body, Body Components and Male Contacts -- Brass, half hard, per QQ-B-626, Alloy 360.

Female Contacts -- Beryllium copper per QQ-C-530, heat treated per MIL-H-7199.

Insulators -- TFE fluorocarbon per ASTM D 1710, Type 1, Grade 1.

Lockwashers -- Phosphor bronze per QQ-B-750.

Crimp Ferrule -- Annealed copper alloy per WW-T-799.

Gaskets -- Silicone rubber per ZZ-R-765, Class 11B, Grade 65-75.

Plating

Center Contacts -- .000050 [0.00127] min. Gold per MIL-G-452048 Type 1, Grade C, Class 1, over .000100 [0.00254] min. nickel per QQ-N-290.

Other Metal Parts -- Gold, Nickel or Solder plated to meet the Finish and Corrosion requirements of MIL-C-39012.

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