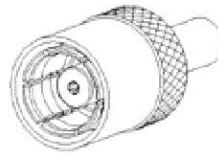


SMB connector series

The SMB name derives from SubMiniature B (the second subminiature design). Developed in the 1960's, the SMB is a smaller version of the SMA with snap-on coupling. Amphenol's SMB connectors conform to the requirements of MIL-C-39012, and the interface is in compliance with MIL-STD-348. Available in 50 Ω and 75 Ω impedance, the SMB provides broadband capability through 4 GHz with a snap-on connector design and utilizes die cast components on non-critical areas to provide a low-cost solution.



Features & Benefits

- Broadband performance with low reflection DC to 4 GHz provides low cost connector combined with high quality.
- Quick connect/disconnect snap-on mating reduces installation time.
- Various plating options in nickel, gold, and tin lead. Selective plating provides corrosion resistance finish as well as good solderability characteristics.
- SMB PCB slide-on plug and jack allows board-to-board mounting with a low insertion force. This is ideal for mating a high number of connectors on a pair of PCB's.

Applications

- | | | |
|--------------------|--------------------|------------------------|
| ■ Automotive | ■ Automotive (GPS) | ■ Base Stations |
| ■ Cable Assemblies | ■ Components | ■ Instrumentation |
| ■ PC/LAN | ■ Process Controls | ■ Radio Boards |
| ■ Surge Protection | ■ Telecom | ■ Test and Measurement |
| ■ Video Systems | | |

50 Ω SMB Specifications

Electrical	
Impedance	50 Ω
Frequency Range	0-4 GHz with low reflection; usable to 10.0 GHz
Voltage Rating for RG-188/U Cable	335 volts at sea level and 85 volts at 70,000 feet
Dielectric Withstanding Voltage	RG-196: 750 VRMS; RG-188: 1,000 VRMS
VSWR	Straight connector, RG-196/U: 1.30 + .04 f (GHz) Right angle connector, RG-196/U: 1.45 + .06 f (GHz) Straight connector, RG-188/U: 1.25 + .04 f (GHz) Right angle connector, RG-188/U: 1.35 + .04 f (GHz)
Contact Resistance	Center contact: 6.0 mΩ initial, 8.0 after environmental; Outer contact: 1.0 mΩ initial, 1.5 after environmental Braid to body: 1.0 mΩ initial, after environmental N/A
Insulation Resistance	1,000 MΩ minimum
Insertion Loss	Straight connector: 0.30 dB @ 1.5 GHz Right angle connector: 0.60 dB @ 1.5 GHz
RF Leakage	-55 dB minimum @ 2-3 GHz
Mechanical	
Mating	Snap-on coupling per MIL-STD-348
Braid/Jacket Cable Affixment	Hex crimp
Center Conductor Cable Affixment	Solder
Contact Captivation	All types unless noted otherwise
Cable Retention	Equal to breaking strength of cable employed
Engagement Forces	Engagement: 14 lbs maximum Disengagement: 2 lbs minimum After 500 matings, 14 lbs maximum engagement and disengagement
Connector Durability	500 mating cycles minimum
Material	
Center Contact	Female: beryllium copper, gold-plated Male: brass or beryllium copper, gold-plated
Outer Contact Plating	Nickel or gold plating as indicated
Body	Brass per QQB-626, or zinc per ASTM B86-71
Body Plating	Nickel or gold plating as indicated
Insulator	TFE
Crimp Ferrule	Annealed copper alloy
Environmental	
Temperature Range	- 65°C to +165°C
Thermal Shock	MIL-STD-202 method 107, test condition B (except high temperatures @ 200°C
Shock	MIL-STD-202 method 202, method 13, snap-on, test condition B; 75 G's @ 6 milliseconds ½ sine
Vibration	MIL-STD-202 method 204, snap-on, test condition B; (15 G's)
Corrosion	MIL-STD-202 method 101, test condition B. 5% salt solution

Note: These characteristics are typical but may not apply to all connectors.

75 Ω SMB Specifications

Electrical	
Impedance	75 Ω
Frequency Range	0-4 GHz with low reflection; usable to 10.0 GHz
Voltage Rating for RG-188/U Cable	335 volts at sea level and 85 volts at 70,000 feet
Dielectric Withstanding Voltage	1,000 VRMS
RF High Potential Withstanding Voltage	RF-195/U series: 500 VRMS
Corona Level	RG-195/U series: 400 volts minimum @ 70,000 ft
VSWR	Straight connector, RG-196/U: 1.30 + .04 f (GHz) Right angle connector, RG-196/U: 1.45 + .06 f (GHz) Straight connector, RG-188/U: 1.25 + .04 f (GHz) Right angle connector, RG-188/U: 1.35 + .04 f (GHz)
Contact Resistance	Center contact: 6.0 mΩ initial, 8.0 after environmental; Outer contact: 1.0 mΩ initial, 1.5 after environmental Braid to body: 1.0 mΩ initial, after environmental N/A
Insulation Resistance	1,000 MΩ minimum
Insertion Loss	Straight connector: 0.30 dB @ 1.5 GHz Right angle connector: 0.60 dB @ 1.5 GHz
RF Leakage	-55 dB minimum @ 2-3 GHz
Mechanical	
Mating	Snap-on coupling per MIL-STD-348
Braid/Jacket Cable Affixment	Hex crimp
Center Conductor Cable Affixment	Solder
Contact Captivation	All types unless noted otherwise
Cable Retention	Equal to breaking strength of cable employed
Engagement Forces	Engagement: 14 lbs maximum Disengagement: 2 lbs minimum After 500 matings, 14 lbs maximum engagement and disengagement
Connector Durability	500 mating cycles minimum
Material	
Center Contact	Female: beryllium copper, gold-plated Male: brass or beryllium copper, gold-plated
Outer Contact Plating	Nickel or gold plating as indicated
Body	Brass per QQB-626
Body Plating	Nickel or gold plating as indicated
Insulator	TFE
Crimp Ferrule	Annealed copper alloy
Environmental	
Temperature Range	- 65°C to +165°C
Thermal Shock	MIL-STD-202 method 107, test condition B (except high temperatures @ 200°C
Shock	MIL-STD-202 method 213, snap-on, test condition B; 75 G's @ 6 milliseconds ½ sine
Vibration	MIL-STD-202 method 202, snap-on, test condition B; (15 G's)
Corrosion	MIL-STD-202 method 101, test condition B. 5% salt solution

Note: These characteristics are typical but may not apply to all connectors.

75 Ω High Density SMB Specifications

Electrical	
Impedance	75 Ω
Frequency Range	0-4 GHz with low reflection; usable to 10.0 GHz
Voltage Rating for RG-188/U Cable	335 volts at sea level and 85 volts at 70,000 feet
Dielectric Withstanding Voltage	RG-196: 750 VRMS RG-188: 1,000 VRMS
VSWR	Straight connector, 735A: 1.25 + .04 f (GHz) Right angle connector, 735A: 1.35 + .04 f (GHz)
Contact Resistance	Center contact: 6.0 mΩ initial, 8.0 after environmental; Outer contact: 1.0 mΩ initial, 1.5 after environmental Braid to body: 1.0 mΩ initial, after environmental N/A
Insulation Resistance	1,000 MΩ minimum
Insertion Loss	Straight connector: 0.30 dB @ 1.5 GHz Right angle connector: 0.60 dB @ 1.5 GHz
RF Leakage	-55 dB minimum @ 2-3 GHz
Mechanical	
Mating	Snap-on coupling per MIL-STD-348
Braid/Jacket Cable Affixment	Hex crimp
Center Conductor Cable Affixment	Solder or crimp
Contact Captivation	All types unless noted otherwise
Cable Retention	Equal to breaking strength of cable employed Engagement Forces
Engagement Forces	Engagement: 14 lbs maximum Disengagement: 2 lbs minimum After 500 matings, 14 lbs maximum engagement and disengagement
Connector Durability	500 mating cycles minimum
Material	
Center Contact	Female: beryllium copper, gold-plated Male: brass or beryllium copper, gold-plated
Outer Contact Plating	Nickel or gold plating as indicated
Body	Brass per QQB-626
Body Plating	Nickel or gold plating as indicated
Insulator	TFE
Crimp Ferrule	Annealed copper alloy
Environmental	
Temperature Range	- 65°C to +165°C
Thermal Shock	MIL-STD-202 method 107, test condition B (except high temperatures @ 200°C
Shock	MIL-STD-202 method 213, snap-on, test condition B; 75 G's @ 6 milliseconds ½ sine
Vibration	MIL-STD-202 method 202, snap-on, test condition B; (15 G's)
Corrosion	MIL-STD-202 method 101, test condition B. 5% salt solution

Note: These characteristics are typical but may not apply to all connectors.