

Description

The SMB name derives from SubMiniature B (the second subminiature design). The SMB was developed in the 1960's.

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 their interface is in compliance with MIL-STD-348.

Available in 50 & 75 ohm impedance

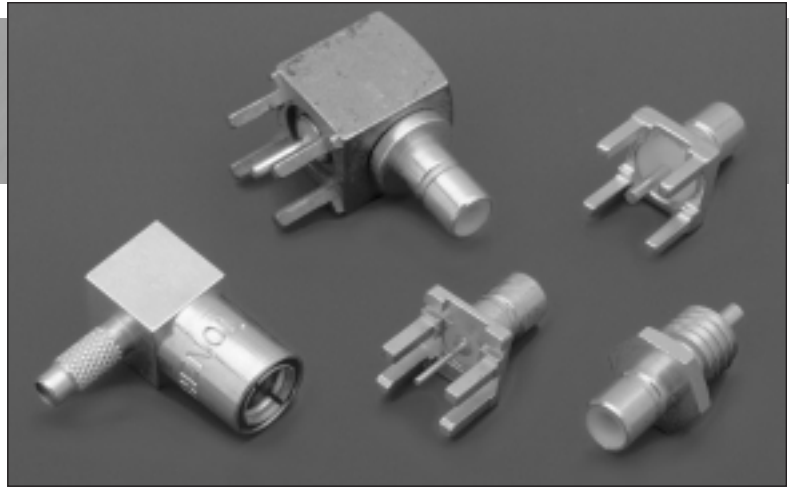
SMB provides broadband capability through 4 GHz with a snap-on connector design and utilizes die cast components on non-critical areas to provide a low cost solution.

Features and 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.
- Availability in 50 Ohm, 75 Ohm & High Density 75 Ohm ensures customer a solution to specific applications.
- Various plating options: Nickel, Gold, Tin Lead. Also 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. Ideal for mating a high number of connectors on a pair of PCBs.

Application

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



50 ohm Coaxial Connectors

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ELECTRICAL

Impedance	50 ohms
Frequency range	0-4 GHz with low reflection; usable to 10.0 GHz.
Voltage rating for RG-188/U cables	Sea level: 335 volts 70,000 ft: 85 volts
Dielectric withstanding voltage	750 VRMS RG-196 type 1000 VRMS for RG-188 type
VSWR straight connectors rt. angle connectors	RG-196/U series 1.30 + .04 f (GHz) 1.45 + .06 f (GHz)
	RG-188/U series 1.25 + .04 f (GHz) 1.35 + .04 f (GHz)
Contact resistance	Center contact: initial, 6.0 milliohms; After environmental, 8.0 Outer contact: initial, 1.0 milliohms; After environmental, 1.5 Braid to body: initial, 1.0 milliohms; After environmental, N/A
Insulation resistance	1000 megohms min.
RF leakage	-55 dB min. @ 2 - 3 GHz
Insertion loss: straight connectors rt. angle connectors	0.30 dB @ 1.5 GHz
	0.60 dB @ 1.5 GHz

MECHANICAL

Mating	50 ohm snap-on coupling, per MIL-STD-348
Engagement forces	Initial 14 lbs. max. engagement. After 500 matings, 14 lbs. max engagement and disengagement. 2 lbs. min. disengagement.
Connector affixment to cable	Braid and jacket: hex crimp.
Cable affixment to center contact	Solder
Contact captivation	All types, except as noted
Cable retention	Equal to breaking strength of cable employed
Connector durability	500 mating and unmating cycles min.

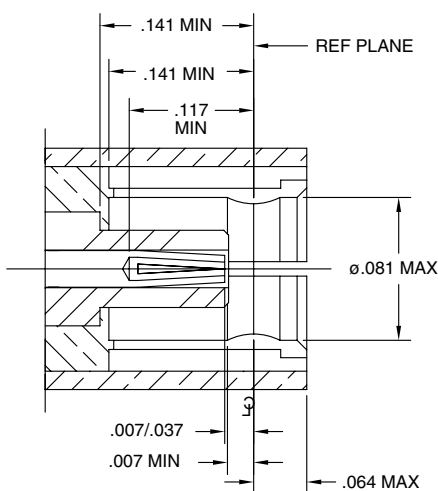
ENVIRONMENTAL

Temperature range	-65°C to + 165°C
Thermal shock	MIL-STD-202 method 107 (test cond. B) except high temp test @ + 200°C
Vibration	MIL-STD-202 method 204, snap-on (test cond. B) (15G's)
Shock	MIL-STD-202 method 213, snap-on (test cond. B) 75 G's @ 6 milliseconds 1/2 sine.
Corrosion	MIL-STD-202 method 101 (test cond. B) 5% salt solution.

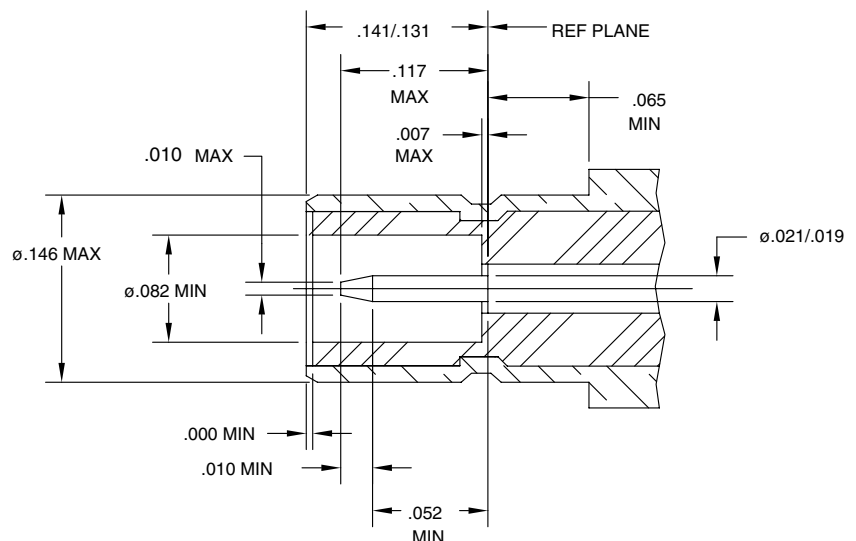
MATERIAL

Bodies	Brass per QQB-626 or zinc per ASTM B86-71, as specified, nickel (or gold) plated as listed
Center contacts	Female: beryllium copper, gold plated Male: brass or beryllium copper, gold plated
Outer contact	Nickel or gold plated as listed.
Crimp ferrules	Annealed copper alloy
Insulators	TFE

PLUG



JACK



Amphenol standard 75 ohm SMB 903 series connectors are constructed in accordance with the requirements of MIL-C-39012 and their interface is in compliance with MIL-STD-348. These subminiature units feature positive lock mating as well as snap-on mating faces.

They are available in a variety of configurations and styles. This series has broadband performance with low reflection.

MATERIAL

Bodies	Brass per QQB-626, as specified, nickel (or gold) plated as listed
Center contacts	Female: beryllium copper, gold plated Male: brass or beryllium copper, gold plated
Outer contact	Nickel or gold plated as listed.
Crimp ferrules	Annealed copper alloy
Insulators	TFE

SPECIFICATIONS

ELECTRICAL

Impedance	75 ohms
Frequency range	0-4 GHz with low reflection; usable to 10.0 GHz.
Voltage rating for RG-188/U cables	Sea level: 335 volts 70,000 ft: 85 volts
Dielectric withstanding voltage	1,000 VRMS
RF high potential withstanding voltage	RG-195/U series 500 VRMS
Corona level	RG-195/U series 400 min. volts @ 70K ft.
VSWR straight connectors	RG-196/U series 1.30 + .04 f (GHz) RG-188/U series 1.25 + .04 f (GHz)
right angle connectors	RG-196/U series 1.45 + .06 f (GHz) RG-188/U series 1.35 + .04 f (GHz)
Contact resistance	Center contact: initial, 6.0 milliohms; After environmental, 8.0 Outer contact: initial, 1.0 milliohms; After environmental, 1.5 Braid to body: initial, 1.0 milliohms; After environmental, N/A
Insulation resistance:	1000 megohms min.
RF leakage	-55 dB min. @ 2 - 3 GHz
Insertion loss: straight	0.30 dB @ 1.5 GHz
right angle	0.60 dB @ 1.5 GHz

* These characteristics are typical and may not apply to all connectors.

This series is also called SMZ.

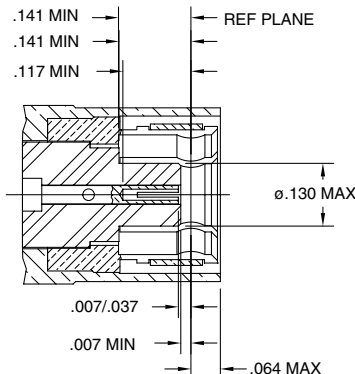
MECHANICAL

Mating	75 ohm snap-on coupling, per MIL-STD-348
Engagement forces	Initial 14 lbs. max. engagement. After 500 matings, 14 lbs. max engagement and disengagement. 2 lbs. min. disengagement.
Connector affixment to cable	Braid and jacket: hex crimp.
Cable affixment to center contact	Solder
Contact captivation	All types, except as noted
Cable retention	Equal to breaking strength of cable employed
Connector durability	500 mating and unmating cycles min.

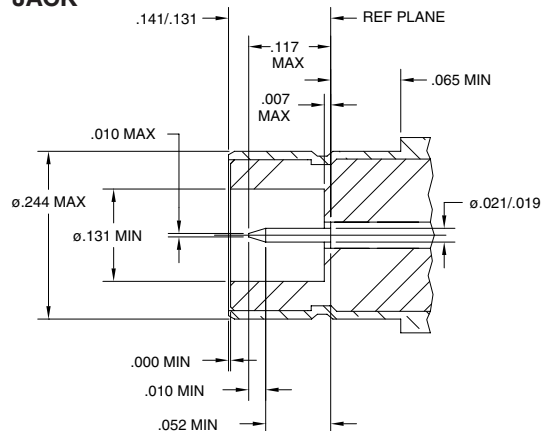
ENVIRONMENTAL

Temperature range	-65°C to + 165°C
Thermal shock	MIL-STD-202 method 107 (test cond. B) except high temp test @ + 200°C
Vibration	MIL-STD-202 method 204, snap-on (test cond. B) (15G's)
Shock	MIL-STD-202 method 213, snap-on (test cond. B) 75 G's @ 6 milliseconds 1/2 sine.
Corrosion	MIL-STD-202 method 101 (test cond. B) 5% salt solution.

PLUG



JACK



75 ohm High Density Coaxial Connectors

Amphenol high density 75 ohm 903 Series SMB connectors conform to the requirements of MIL-C-39012 and the interface is in compliance with MIL-STD-348.

Features/Benefits

- Broadband capability through 4 GHz combines with compact, space saving design.
- Can easily be identified by their red Teflon insulators.
- Guided entry sleeve for positive mating.
- Closed entry contact to prevent "slide-by".
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- Full range of high density SMB connector configurations is available, including end launch, printed circuit board and cable connectors.
- Series gives design engineers options in applications where physical space is limited.



SPECIFICATIONS

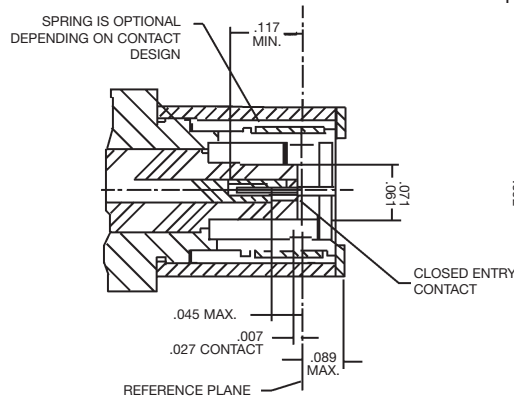
ELECTRICAL

Impedance	75 ohms
Frequency range	0-4 GHz with low reflection
Voltage rating for RG-188/U cables	Sea level: 335 volts 70,000 ft: 85 volts
Dielectric withstanding voltage	750 VRMS, RG-196 type 1000 VRMS, RG-188 type
VSWR straight right angle connectors	735A type 1.25 + .04 f (GHz) 1.35 + .04 f (GHz)
Contact resistance	Center contact: initial, 6.0 milliohms; After environmental, 8.0 Outer contact: initial, 1.0 milliohms; After environmental, 1.5 Braid to body: initial, 1.0 milliohms; After environmental, N/A
Insulation resistance:	1000 megohms min.
RF leakage	-55 dB min. @ 2 - 3 GHz
Insertion loss: straight rt. angle	0.30 dB @ 1.5 GHz 0.60 dB @ 1.5 GHz

MATERIAL

Bodies	Brass per QQB-626 or zinc per ASTM B86-71, as specified, nickel (or gold) plated as listed
Center contacts	beryllium copper, gold plated
Outer contact	Nickel or gold plated as listed.
Crimp ferrules	Annealed copper alloy
Insulators	TFE - Red for I.D.

PLUG



MECHANICAL

Mating	75 ohm snap-on coupling, per MIL-STD-348
Engagement forces	Initial 14 lbs. max. engagement. After 500 matings, 14 lbs. max engagement and disengagement. 2 lbs. min. disengagement.
Connector affixment to cable	Braid and jacket: hex crimp.
Cable affixment to center contact	Solder or crimp
Contact captivation	All types, except as noted
Cable retention	Equal to breaking strength of cable employed
Connector durability	500 mating and unmating cycles min.

ENVIRONMENTAL

Temperature range	-65°C to + 165°C
Thermal shock	MIL-STD-202 method 107 (test cond. B) except high temp test @ + 200°C
Vibration	MIL-STD-202 method 204, snap-on (test cond. B) (15G's)
Shock	MIL-STD-202 method 213, snap-on (test cond. B) 75 G's @ 6 milliseconds 1/2 sine.
Corrosion	MIL-STD-202 method 101 (test cond. B) 5% salt solution.

* These characteristics are typical and may not apply to all connectors.

JACK

