

# SMB Series

## Description

The growth rate of these emerging markets has fueled an increasing demand for subminiature coaxial connectors with very good electrical performance to 4 GHz. SMB connectors conform to the requirements of MIL-C-39012 and their interface is in compliance with MIL-STD-348. SMB series connectors feature quick connect / disconnect snap-on mating and are available in 50 ohm, 75 ohm and a high density 75 ohm version. The series has broadband performance with low reflection.

## Applications

- Telecommunications
- Test and Measurement
- Instrumentation
- Wireless
- Process Controls
- PC / LAN
- Base Stations
- Microwave Components
- Radio Boards
- Video Systems

## Features

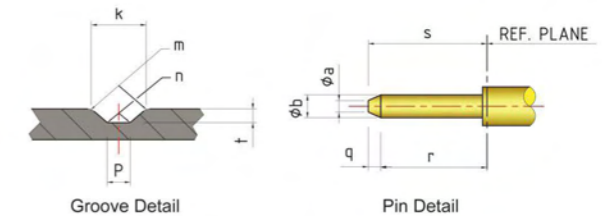
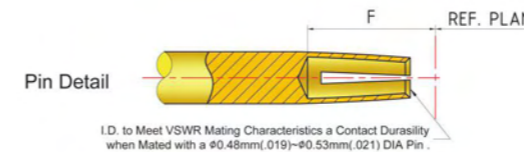
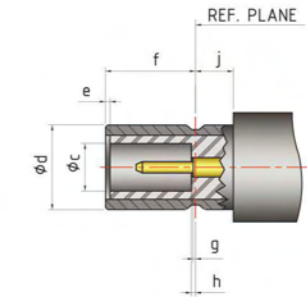
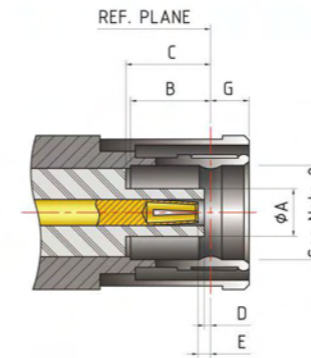
- Low cost combined with high quality.
- Broadband performance with low reflection DC to 4 GHz.
- Quick connect/disconnect snap on mating.
- 50 and 75 ohm impedance.
- Various plating options.
- Braid crimp cable attachment and solder center pin.
- Automated assembly and inspection.
- Especially designed for subminiature packaging needs where snap-on mating is an advantage.
- Interface according to IEC 169-10, CECC 22130, MIL-C-39012 SMB, MIL-STD-348A/311

## Specification

### SMB 50 ohm 0-4 GHz

SMB connectors are semi - precision, subminiature devices that provide repeatable electrical performance to 4 GHz. The SMB family of connectors provide a means of quick-connect and disconnect through a snap-on type coupling. Its smaller physical size and snap-on coupling make the SMB an ideal general purpose connector where packaging density, ease of mating / unmating and economy are prerequisites. Crimp, clamp and receptacle types are available in right angle , printed circuit board and straight body styles. Typical applications for SMB connectors are telecommunications, test equipment, instrumentation and GPS .

## Interface Mating Dimensions



- Note :
- 1.Method of Slotting of Inner Contact Optional.
  - 2.Must Meet the Longitudinal Force Requirements of Force to Engage and Disengage when Mated with Its Mating Gauge.
  - 3.This Interface shall Meet the Gauge Requirements as Specified in MIL-C-39012/67

- Note :
- 1.This Interface shall meet the gauge requirements as Specified in MIL-C-39012/68.
  - 2.Clearance for Mating Connector Coupling Nut.

### PLUG

Letter	Millimeters (inches)	
	Minimum	Maximum
A	—	2.06(.081)
B	3.58(.141)	—
C	3.58(.141)	—
D	0.18(.007)	—
L	0.18(.007)	0.94(.037)
I	2.97(.117)	—
G	—	1.63(.064)
H	3.05(.120)nom	

### JACK

Letter	Millimeters (inches)	
	Minimum	Maximum
a	—	0.25(.010)
b	0.48(.019)	0.53(.021)
c	2.08(.082)	—
d	3.66(.144)	3.71(.146)
e	0.00(.000)	—
f	3.33(.131)	3.58(.141)
g	—	0.18(.007)
h	—	0.18(.007)
j	1.65(.065)	—
k	0.69(.027)	0.94(.037)
m	0.05(.002)	0.15(.006)
n	—	0.13(.005)
p	0.28(.011)	0.38(.015)
q	0.25(.010)	—
r	1.32(.052)	—
s	—	2.97(.117)
t	0.15(.006)	0.25(.010)
u	3.05(.120)nom	





## Crimp Termination for Flexible Cable

### SMB Straight Crimp Plug

	SB101		Hand Tool	See Appendix B
			Cable	RG58/U, 174/U, 179/U, 316/U
			Cable Assembly Instruction	See Appendix A Code E

### SMB R/A Crimp Plug

	SB103		Hand Tool	See Appendix B
			Cable	RG174/U, 178/U, 179/U, 316/U
			Cable Assembly Instruction	See Appendix A Code H

### SMB Straight Crimp Jack

	SB201		Hand Tool	See Appendix B
			Cable	RG174/U, 178/U, 316/U
			Cable Assembly Instruction	See Appendix A Code E

### SMB Bulkhead Crimp Jack

	SB202		Hand Tool	See Appendix B
			Cable	RG174/U, 178/U, 316/U
			Cable Assembly Instruction	See Appendix A Code E

### SMB R/A Crimp Jack

	SB204		Hand Tool	See Appendix B
			Cable	RG174/U, 178/U, 316/U
			Cable Assembly Instruction	See Appendix A Code H

### Electrical

Impedance	50Ω / 75Ω
Frequency Range	0 to 4 GHz
VSWR	≤1.3 (straight connector) ≤1.45 (right angle connector)
RF Leakage	≥55 dB
Dielectric Withstanding Voltage	750 V rms
Voltage Rating	250 V rms (depending on cable)
Center Contact Resistance	≤5 mΩ
Outer Contact Resistance	≤2.5 mΩ
Insulation Resistance	≥1 GΩ

### Mechanical

Mating	Snap-on Coupling
Connector Durability	≥500 Cycles (for beryllium copper female contact only)
Engagement Force	≤14.2 lbs
Disengagement Force	1.8 lbs ~ 14.2 lbs
Cable Retention Force	≥7.3 lbs (for RG178) ≥12.1 lbs (for RG316)

### Environmental

Temperature Range	-65° C to 165° C
Corrosion (Salt Spray)	MIL-STD-202, Method 101, Cond. B
Vibration	MIL-STD-202, Method 204, Cond. D
Thermal Shock	MIL-STD-202, Method 107, Cond. B
Mechanical Shock	MIL-STD-202, Method 213, Cond. B

### Material

Parts Name	Material	Plating
Body	Brass	Nickel or Gold
Center Contact	Male : Brass Female : Phosphor Bronze Beryllium Copper	Gold
Insulator	PTFE	None
Gasket	Silicone Rubber	None
Crimp Ferrule	Annealed Copper	Same as Body

Note: Other Material/Finish is Available on Request.