



# SMA Series

## SMA Series

SMA (Sub-Miniature-A) series is a very popular coaxial connector, which is supplied with a threaded coupling interface. The impedance of the SMA is controlled at 50 ohms, and this series can be used up to frequencies of over 18GHz (depending on type). This connector is suitable for the standard ranges of flexible & semi-rigid cables, and it is also available as a flange or PCB mounted version.

### Applications:

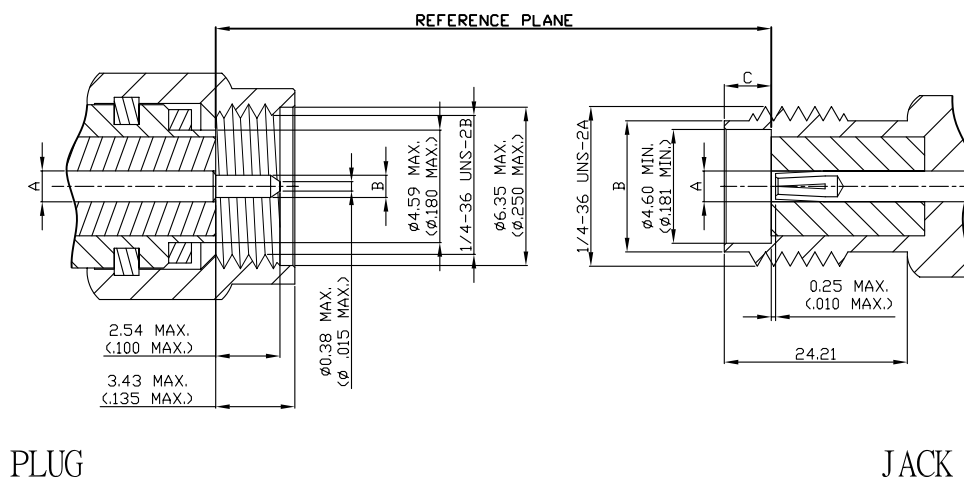
\*telecommunications \*testing equipment \*PC/LAN \*microwave components \*wireless  
\*instrumentation

### Interface dimensions conformable to the Standards:

International: IEC 169-15

USA: MIL-C-39012

SMA Interface Dimensions:



SMA Series						
PLUG			JACK			
	Minimum	Maximum		Minimum	Maximum	
A	1.24(.049)	1.30(.051)		1.24(.049)	1.30(.051)	A
B	0.90(.035)	0.94(.037)		5.28(.208)	5.49(.216)	B
				1.88(.074)	1.98(.078)	C

\*Millimeters(Inches)



Materials :

Connector part	Material	Finish
Bodies	Brass Stainless Steel	Nickel or Gold Passivated or Gold
Center Contact	Male: Brass Female: Beryllium copper	Gold
Insulator	Teflon	N/A
Crimp ferrule	Annealed Copper	Nickel or Gold

Electrical :

Electrical Data	Detail																					
Impedance	50 ohm																					
Frequency range	Flexible cable: 0~12.4GHz Semi-rigid cable: 0~18GHz																					
Working voltage	RG402 (.141") → 500 volts rms max. RG405 (.085") → 335 volts rms max. RG58, 141, 142, 223/U → 500 volts rms max. RG174, 188, 316/U → 335 volts rms max. RG178, 196/U → 250 volts rms max.																					
Insulation resistance	5,000 megohms min.																					
Dielectric withstanding voltage	RG402 (.141") → 1,000 volts rms max. RG405 (.085") → 750 volts rms max. RG58, 141, 142, 223/U → 1,000 volts rms max. RG174, 188, 316/U → 750 volts rms max. RG178, 196/U → 500 volts rms max.																					
Contact resistance	Center contact: 3.0 Milliohms max. Outer contact: 2.0 Milliohms max.																					
VSWR: f (GHz)	<table border="1"> <thead> <tr> <th></th> <th>Straight</th> <th>Right angle</th> </tr> </thead> <tbody> <tr> <td>RG178/U</td> <td></td> <td></td> </tr> <tr> <td>RG174, 316/U</td> <td>1.20+0.025f</td> <td>1.20+0.03f</td> </tr> <tr> <td>RG58, 141, 142, 223/U</td> <td>1.15+0.02f</td> <td>1.15+0.03f</td> </tr> <tr> <td>RG402 (.141")</td> <td>1.10+0.01f</td> <td>1.15+0.02f</td> </tr> <tr> <td>RG405 (.085")</td> <td>1.05+0.005f</td> <td>1.15+0.15f</td> </tr> <tr> <td></td> <td>1.05+0.005f</td> <td>1.18+0.15f</td> </tr> </tbody> </table>		Straight	Right angle	RG178/U			RG174, 316/U	1.20+0.025f	1.20+0.03f	RG58, 141, 142, 223/U	1.15+0.02f	1.15+0.03f	RG402 (.141")	1.10+0.01f	1.15+0.02f	RG405 (.085")	1.05+0.005f	1.15+0.15f		1.05+0.005f	1.18+0.15f
	Straight	Right angle																				
RG178/U																						
RG174, 316/U	1.20+0.025f	1.20+0.03f																				
RG58, 141, 142, 223/U	1.15+0.02f	1.15+0.03f																				
RG402 (.141")	1.10+0.01f	1.15+0.02f																				
RG405 (.085")	1.05+0.005f	1.15+0.15f																				
	1.05+0.005f	1.18+0.15f																				
Insertion loss	0.04 dB maximum x f GHz (straight) 0.06 dB maximum x f GHz (right angle)																					

Mechanical :

Mechanical Data	Detail
Engagement force	60 lbs min.
Disengagement force	15 inch-pound
Connector durability	500 cycles min.
Cable retention force	RG58, 141, 142, 223/U → 40 lbs min. RG174, 188, 316/U → 20 lbs min.

Environmental :

Environmental Data	Detail
Corrosion (Salt spray)	MIL-STD-202 METHOD 101 TEST CONDITION B
Thermal shock	MIL-STD-202 METHOD 107 TEST CONDITION B
Vibration	MIL-STD-202 METHOD 204 TEST CONDITION D
Mechanical shock	MIL-STD-202 METHOD 213 TEST CONDITION I
Temperature range	-65 to 165