

SMB OVERVIEW

molex® SMB Connectors

Features and Benefits

- Subminiature
- Snap-on coupling
- DC to 4 GHz
- 50 and 75Ω

Molex SMB connectors are a subminiature connector series designed for applications operating to 4 GHz. This series includes a snap on interface that is controlled by industry standard specifications and is easy to connect and disconnect. Mechanical stability is provided by the SMB interface, and its relatively small size allows it to be used in applications where space is limited. Each 50Ω product has a mini 75Ω SMB counterpart which has the same external envelope as the 50Ω product. Applications for 50Ω product includes telecommunications equipment, instrumentation and commercial broadcast equipment. The mini 75Ω SMB products are typically used in data and video transmission equipment.

Engineering

Nominal Impedance	Frequency Range	Voltage Rating - Sea Level	Temperature
50Ω	dc-4 GHz	500 Vrms	-65 to +165°C
75Ω	dc-4 GHz	500 Vrms	-65 to +165°C

Mechanical

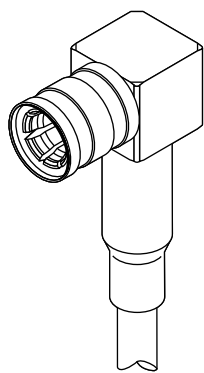
Nominal Impedance	Force to Engage - Axial Force	Force to Disengage - Axial Force	Durability	Center Contact Retention Axial Force	Cable Retention			
					Crimp		Non-Crimp	
					Cable OD	Minimum Axial Force	Cable OD	Minimal Axial Force
50Ω	62.2N (14 lb) max.	8.9N to 62.2N (2 to 14 lb)	500 cycles	17.8N (4 lb) min.	<.154 (3.93)	22N (5 lb)	177.8N (40 lb)	
					.155 (3.94) to .188 (4.80)	44N (10 lb)		
					.189 (4.81) to .229 (5.82)	88.9N (20 lb)		
					.230 (5.83) to .249 (6.33)	133.3N (30 lb)		
					>.250 (6.34)	177.8N (40 lb)		
75Ω	62.2N (14 lb) max.	8.9N to 62.2N (2 to 14 lb)	500 cycles	17.8N (4 lb) min.	<.154 (3.93)	22N (5 lb)	177.8N (40 lb)	
					.155 (3.94) to .188 (4.80)	44N (10 lb)		
					.189 (4.81) to .229 (5.82)	88.9N (20 lb)		
					.230 (5.83) to .249 (6.33)	133.3N (30 lb)		
					>.250 (6.34)	177.8N (40 lb)		

Electrical

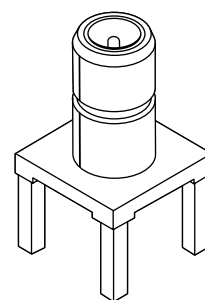
Nominal Impedance	Insulation Resistance	Dielectric Withstanding Voltage	Contact Resistance		Voltage Standing Wave Ratio
			Center Contact Initial	Outer Contact	
50Ω	1000 MΩ	1000 Vrms min.	6.0mΩ max.	4.0mΩ max.	1.30 + .001 fGHz per mated pair from DC to 4GHz
75Ω	1000 MΩ	1000 Vrms min.	6.0mΩ max.	3.0mΩ max.	1.10:1 per mated pair from dc to 1 GHz

Environmental

Nominal Impedance	Vibration: MIL-STD-202, Method 204	Thermal Shock: MIL-STD-202, Method 107	Corrosion (Salt Spray): MIL-STD-202, Method 101	Mechanical Shock: MIL-STD-202, Method 213	Moisture Resistance: MIL-STD-202, Method 106
50Ω	Test Condition B	Test Condition A	Test Condition B	Test Condition A	200MΩ
75Ω	Test Condition B	Test Condition A	Test Condition B	Test Condition A	200MΩ

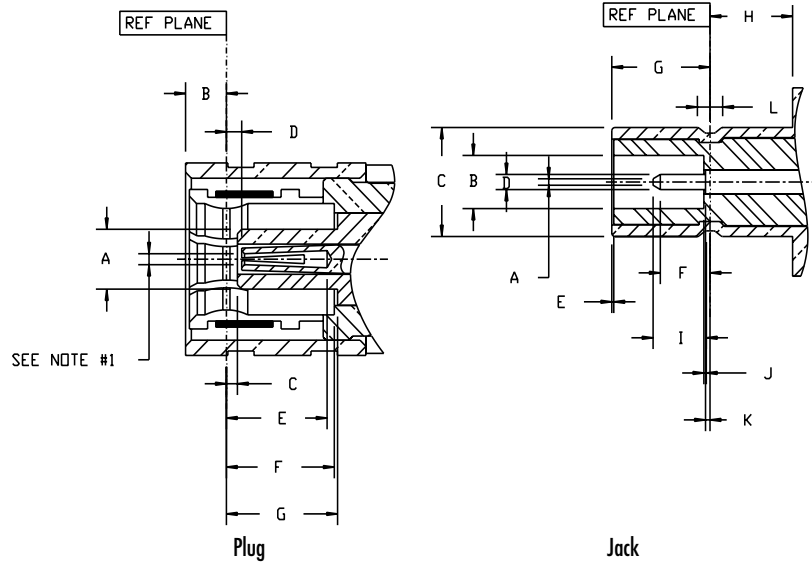


Right Angle Solder/Crimp Plug

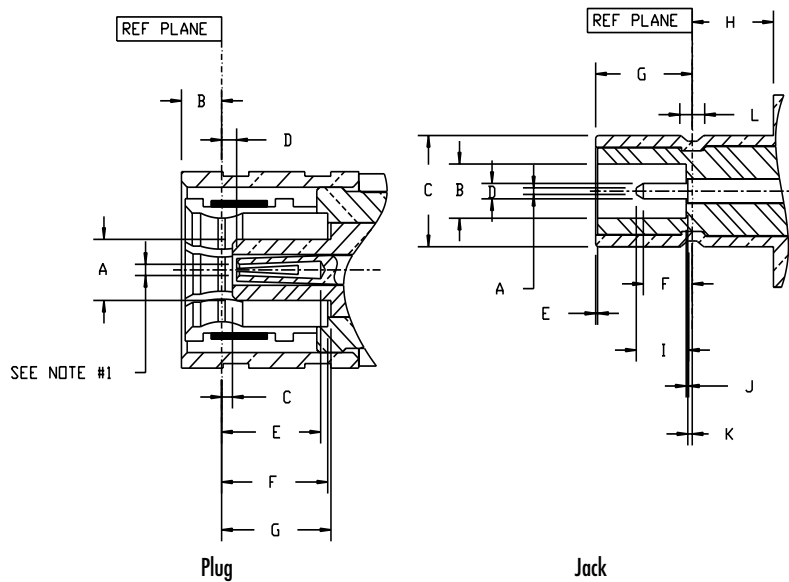


Vertical PCB Jack Receptacle

50Ω



75Ω



RF Coaxial Connectors

P

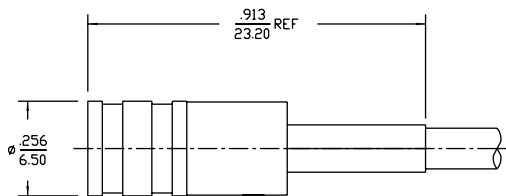
INTERFACE MATING DIMENSIONS

	Dimension							
	50 Ω				75Ω			
	Plug		Jack		Plug		Jack	
	min.	max.	min.	max.	min.	max.	min.	max.
A (dia)		2.06 (.081)		0.25 (.010)		2.06 (.081)		0.14 (.005)
B		1.63 (.064)	2.08 (.082)	2.16 (.085)		1.63 (.064)	2.08 (.082)	2.16 (.085)
C	0.18 (.007)			3.71 (.146)	0.18 (.007)			3.71 (.146)
D	0.18 (.007)	0.94 (.037)	0.48 (.019)	0.53 (.021)	0.18 (.007)	0.94 (.037)	0.36 (.014)	0.41 (.016)
E	2.97 (.117)		0.00 (.000)		2.97 (.117)		0.00 (.000)	
F	3.58 (.141)		1.32 (.052)		3.58 (.141)		1.32 (.052)	
G	3.58 (.141)		3.33 (.131)	3.58 (.141)	3.58 (.141)		3.33 (.131)	3.58 (.141)
H			1.65 (.065)				1.65 (.065)	
I				2.97 (.117)				2.97 (.117)
J				0.18 (.007)				0.18 (.007)
K				0.18 (.007)				0.18 (.007)
L			0.69 (.027)	0.94 (.037)			0.69 (.027)	0.94 (.037)

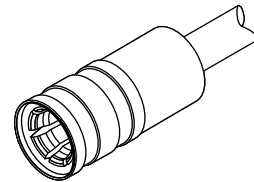
Note: ID to meet VSWR and contact resistance when mated with .508 ± .0254 (.020 ± .001) diameter pin (50Ω), .385 ± .0254 (.015 ± .001) diameter pin (75Ω)

CATALOG DRAWING (FOR REFERENCE ONLY)

- Overall Plating: Gold
- Packaging: Individual
- Center contact termination: See table



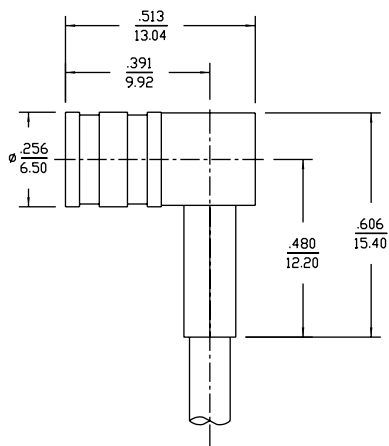
**Plug
Straight
Solder/Crimp
Cable**



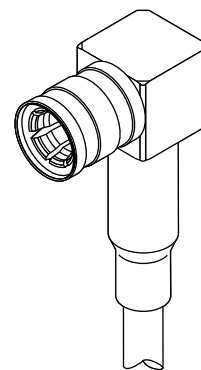
Order No.	Cable Group	Center Contact Termination	Impedance	Assembly Instructions
73100-0248	RG174, 179, 187, 188, 316	Solder	50Ω	AS-73597-0054
73100-0255	RG179	Solder or Crimp	75Ω	AS-73597-0071

CATALOG DRAWING (FOR REFERENCE ONLY)

- Overall Plating: Gold
- Center contact solder termination
- Crimp braid termination
- Packaging: Individual



**Plug
Right Angle
Solder/Crimp
Cable**

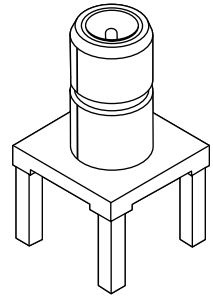
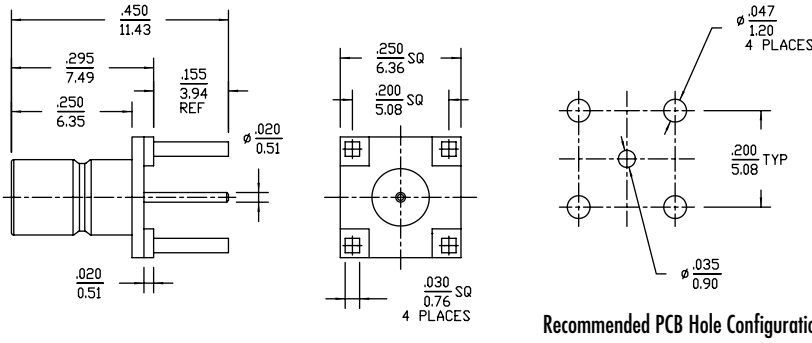


Order No.	Cable Group	Impedance	Assembly Instructions
73100-0257	RG174, 188, 316	50Ω	AS-73597-0063
73100-0256	RG179	75Ω	AS-73597-0047

CATALOG DRAWING (FOR REFERENCE ONLY)

- Overall Plating: Gold
- Body: Brass
- PCB Standoffs
- Packaging: Tray

**Jack Receptacle
Vertical
PCB**



Recommended PCB Hole Configuration

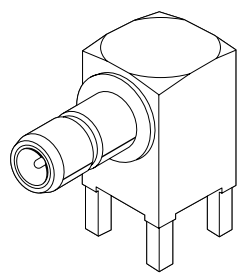
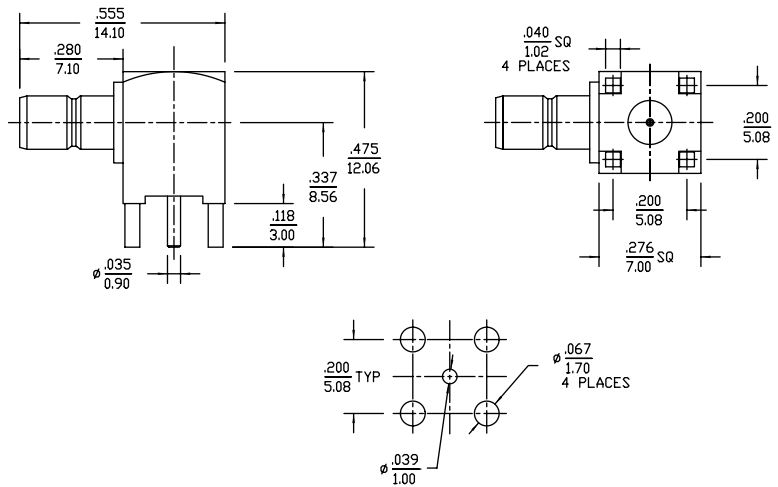
Order No.	Impedance
73100-0207	50Ω
73100-0157	75Ω

RF Coaxial Connectors

CATALOG DRAWING (FOR REFERENCE ONLY)

- Overall Plating: Gold
- Body: Brass
- PCB Standoffs
- Packaging: Tray

**Jack Receptacle
Right Angle
PCB**



Recommended PCB Hole Configuration

Order No.	Impedance
73100-0103	50Ω
73100-0259	75Ω