

# 75 Ohm SMB

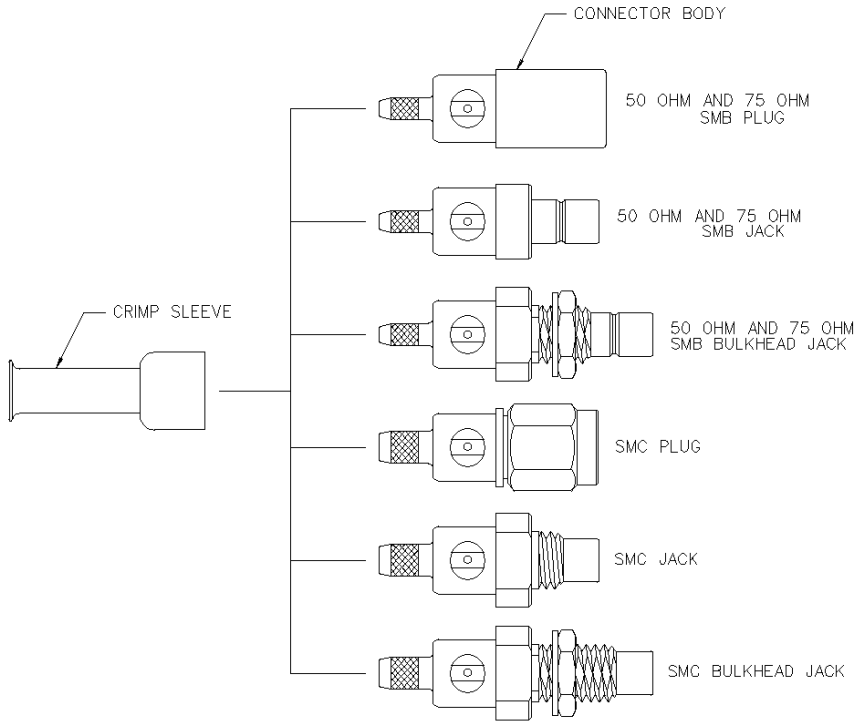
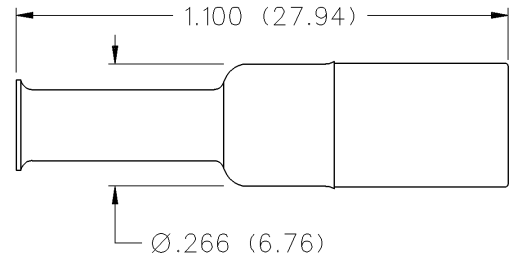
## Straight Crimp Type Plug - Solder or Crimp Captivated Contact



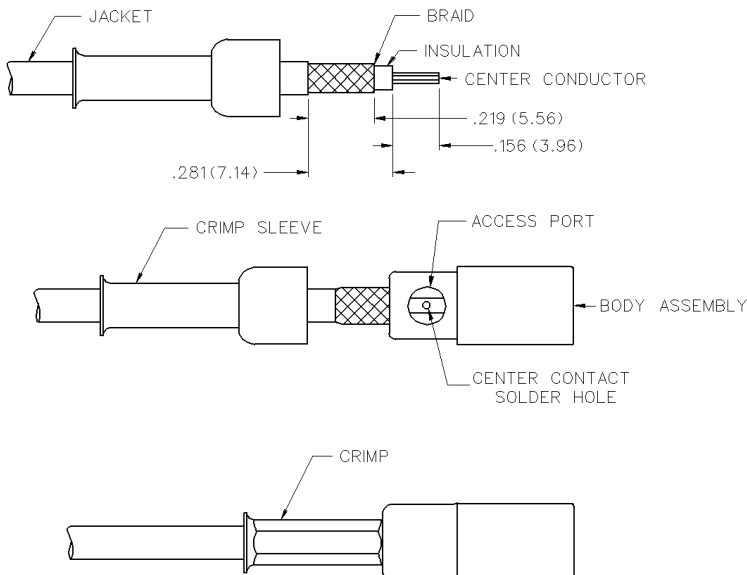
INCHES (MILLIMETERS)  
CUSTOMER DRAWINGS AVAILABLE UPON REQUEST



CABLE TYPE	GOLD PLATED	NICKEL PLATED
RG-179, 187	131-8403-001	131-8403-006



CABLE GROUP	PART NUMBER	CRIMP HEX
RG-179/u, 187, 316, 161, 174, 188	131-8403-001/006	.128 (3.25)



1. Identify connector parts. (2 piece parts - except bulkhead)
2. Strip cable to dimensions shown. Do not nick braid or center conductor. A wire stripper of correct size is recommended for this step. Twist stranded center conductor into tight bundle and tin. Slide crimp sleeve onto cable as shown.
3. Flare braid and slide cable into body making certain that the cable insulation bottoms in center contact.

**Solder Attachment:** Solder center conductor to contact through the side access ports and hole in center contact. Use a minimum amount of solder for a full fillet joint. **.020 (0.51) diameter solder is recommended.** Crimp 50 Ohm connector contacts with 141-0000-911 die set in 144-900 tool frame. Crimp 75 Ohm connector contacts with 141-0000-924 die set in 144-0000-900 tool frame.

# Mini-75 Ohm SMB Connectors



## Specifications

INCHES (MILLIMETERS)  
CUSTOMER DRAWINGS AVAILABLE UPON REQUEST

### ELECTRICAL RATINGS

**Impedance:** 75 ohms

**Frequency Range:** 0-2 GHz

**VSWR:** f = GHz

RG-179, RG-59, Belden 735A cable:

Straight cabled connectors .....	1.25 + .04f
Right angle cabled connectors .....	1.35 + .04f
Adapters .....	1.20 + .04f
Type N Adapters .....	1.05 + .01f
Matching pad 50 ohm/75 ohm .....	1.05 + .1f
Loads .....	1.05 + .01f
Uncabled receptacles, opens, shorts .....	N/A

**Working Voltage:** (Vrms maximum)†

Connectors for Cable Type	Sea Level	70K Feet
RG-179, RG-59, Belden 735A, uncabled receptacles, adapters .....	335	85
Open, shorts, loads, matching pad .....	N/A	N/A

**Dielectric Withstanding Voltage:** (VRMS minimum at sea level)†

Connectors for RG-179, RG-59, Belden 735A, uncabled receptacles, adapters .....	1000
Open, shorts, loads, matching pad .....	N/A

**Corona Level:** (Volts minimum at 70,000 feet)†

Connectors for RG-179, RG-59, Belden 735A .....	250
Uncabled receptacles, adapters, open, shorts, loads, matching pad:	N/A

**Electrical Length:** Open ± 1.5° (± 5.2° relative to short)

Short ± 1.5° (± 5.2° relative to open)

Adapters ± 5.2° (N/A for Jack-Bulkhead Jack and N Types)

**Insertion Loss:** (dB maximum, tested at 1.5 GHz)

Straight cable connectors .....	0.30 dB
Right angle cable connectors .....	0.60 dB
Matching pad .....	6 dB nominal
Uncabled receptacles, adapters, opens, shorts, loads .....	N/A

**Insulation Resistance:** 1000 megohms minimum

**Contact Resistance:** (milliohms maximum)

	Initial	After Environmental
Center contact (straight cabled connectors, uncabled receptacles, opens, shorts, loads) .....	6.0	8.0
Center contact (right angle cabled connectors and adapters) .....	12.0	16.0
Outer contact (gold plated connectors) .....	1.0	1.5
Outer contact (nickel plated connectors) .....	2.5	3.5
Braid to body (gold plated connectors) .....	1.0	N/A
Braid to body (nickel plated connectors) .....	2.5	N/A

**RF Leakage:** (dB minimum tested at 2.5 GHz)

Cable connectors .....	-55 dB
Uncabled receptacles, adapters opens, shorts, loads, matching pad .....	N/A

**RF High Potential Withstanding Voltage:** (Vrms minimum, tested at 4 and 7 MHz)†

Connectors for RG-179, RG-59, Belden 735A .....	700
Uncabled receptacles and adapters .....	600
Opens, shorts, loads, matching pad .....	N/A

**Power Rating:** (Loads and matching pad only) 1.0 watt at +25°C derated linearly to .5 watt at +125°C

### MECHANICAL RATINGS

**Engagement Design:** MIL-C-39012, Series SMB

**Engagement/Disengagement Force:** 2 pounds minimum to 14 pounds maximum axial force

**Contact Retention:** 4 lbs. minimum axial force (captivated contacts)

1 inch-ounce minimum torque (uncabled receptacles)

**Cable Retention:**

	Axial Force*	Torque
	(pounds)	(in-oz)

Connectors for RG-179, Belden 735A .....

Connectors for RG-59 .....

\* or cable breaking strength whichever is less.

**Durability:** 500 cycles minimum

### ENVIRONMENTAL RATINGS (Meets or exceed the applicable paragraph of MIL-C-39012)

**Temperature Range:** - 65°C to +165°C -- Connectors and adapters

- 65°C to +125°C -- Loads, matching pad

20°C to 26°C -- Opens, shorts

**Thermal Shock:** MIL-STD-202, Method 107, Condition B

(N/A opens, shorts, loads, matching pad)

**Corrosion:** MIL-STD-202, Method 101, Condition B

(N/A opens, shorts, loads, matching pad)

**Shock:** MIL-STD-210, Method 213, Condition B

(N/A opens, shorts, loads, matching pad)

**Vibration:** MIL-STD-202, Method 204, Condition B

(N/A opens, shorts, loads, matching pad)

**Temperature Coefficient:** (Loads only) ± 300 ppm/°C

### MATERIAL SPECIFICATIONS

**Bodies:** Brass per QQ-B-626, gold plated\*\* per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

N type adapters stainless steel per QQ-S-763, passivated per MIL-F-14072

**Contacts:** Male & Female - beryllium copper per QQ-C-530, gold plated per MIL-G-45204 .00003" min.

**Insulators:** PTFE fluorocarbon per ASTM D 1710 and ASTM D 1457

**Expansion Caps:** Brass per QQ-B-613, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

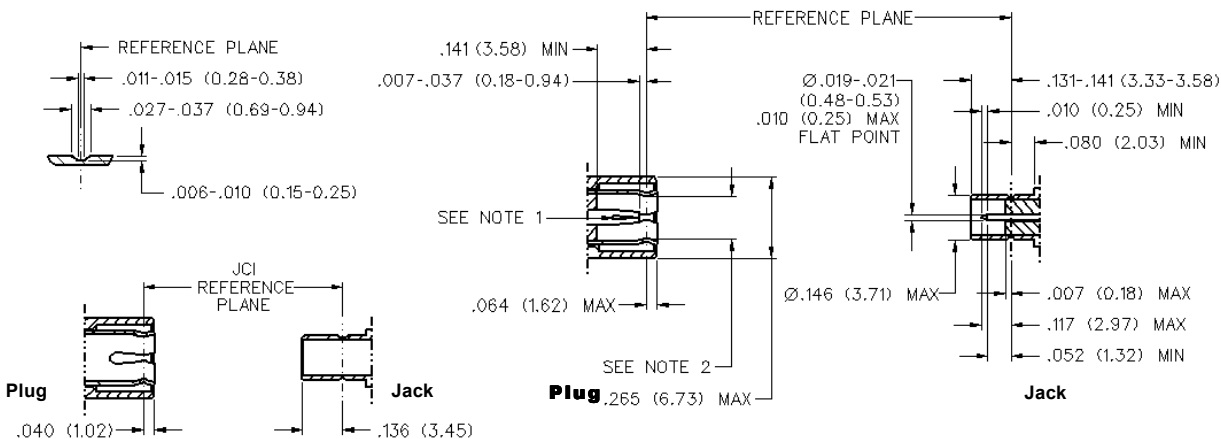
**Crimp Sleeves:** Copper per WW-T-799, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

**Mounting Hardware:** Brass (nuts) per QQ-B-626 or phosphor bronze (lockwashers) QQ-B-750, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

\*\* All gold plated parts include a .00005" min. nickel underplate barrier layer.

Avoid user injury due to misapplication. See safety advisory definitions inside front cover.

### MATING ENGAGEMENT FOR MINI-75 OHM SMB SERIES (INTERMATEABLE WITH STANDARD 50 OHM SMB)



- NOTES:
1. ID of contact to meet VSWR, mating characteristics and connector durability when mated with a dia .019-.021 (0.48/0.53) male contact.
  2. Must meet the force to engage and disengage when mated with mating part.