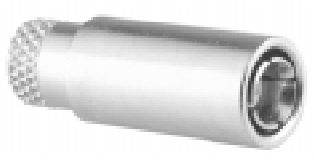
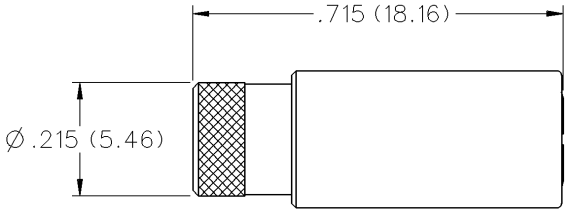
# SMB
# Plug Dummy Load - 50 Ohm and 75 Ohm

INCHES (MILLIMETERS)
CUSTOMER DRAWINGS AVAILABLE UPON REQUEST






| FREQ. RANGE | GOLD PLATED | NICKEL | RESISTANCE |
|---|---|---|---|
| 0-1 GHz | 131-3801-811 | 131-3801-816 | 50 ohm |
| 0-1 GHz | 131-3801-821 | 131-3801-826 | 75 ohm |



Please read our datasheet & drawing disclaimer here.

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# SMB - 50 Ohm Connectors

Specifications

JOHNSON Components™

INCHES (MILLIMETERS)
CUSTOMER DRAWINGS AVAILABLE UPON REQUEST

**ELECTRICAL RATINGS**

**Impedance:** 50 ohms

**Frequency Range:** Connectors ..... 0-4 GHz
Dummy loads ..... 0-1 GHz

**VSWR:** (f = GHz)

| | Straight Cabled | Right Angle Cabled |
|---|---|---|
| RG-178 cable | 1.30 + .04f | 1.45 + .06f |
| RG-316, RG-58, and .086 semi-rigid cable | 1.25 + .04f | 1.35 + .04f |
| Adapters | 1.20 + .04f | |
| Uncabled receptacles, dummy loads | N/A | |

**Working Voltage:** (Vrms maximum)†

| Connectors for Cable Type | Sea Level | 70K Feet |
|---|---|---|
| RG-178 | 250 | 60 |
| RG-316, RG-58, .086 semi-rigid uncabled receptacles, adapters | 335 | 85 |
| Dummy loads | N/A | |

**Dielectric Withstanding Voltage:** (VRMS minimum at sea level)†
- Connectors for RG-178 ..... 750
- Connectors for RG-316, RG-58, .086 semi-rigid, uncabled receptacles, adapters ..... 1000
- Dummy loads ..... N/A

**Corona Level:** (Volts minimum at 70,000 feet)†
- Connectors for RG-178 ..... 185
- Connectors for RG-316, RG-58, .086 semi-rigid ..... 250
- Uncabled receptacles, adapters, dummy loads ..... N/A

**Insertion Loss:** (dB maximum, tested at 1.5 GHz)
- Straight cable connectors ..... 0.30 dB
- Right angle cable connectors ..... 0.60 dB
- Uncabled receptacles, adapters and dummy loads ..... N/A

**Insulation Resistance:** 1000 megohms minimum

**Contact Resistance:** (milliohms maximum)

| | Initial | After Environmental |
|---|---|---|
| Center contact (straight cabled connectors and uncabled receptacles) | 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 and dummy loads ..... N/A

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

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

**RF High Potential Withstanding Voltage:** (Vrms minimum, tested at 4 and 7 MHz)†
- Connectors for RG-178 ..... 500
- Connectors for RG-316, RG-58 ..... 700
- Uncabled receptacles and adapters ..... 600
- Dummy loads ..... N/A

**Power Rating (Dummy Load):** 0.5 watt @ +25°C, derated to 0.25 watt @ +125° C

**MECHANICAL RATINGS**

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

**Engagement/Disengagment Force:** 2 pounds min to 14 pounds maximum axial force

**Contact Retention:** 4 lbs. min axial force (captivated contacts)
1 inch-ounce min torque (uncabled receptacles)

| Cable Retention: | Axial Force* (pounds) | Torque (in-oz) |
|---|---|---|
| Connectors for RG-178 | 10 | N/A |
| Connectors for RG-316 | 20 | N/A |
| Connectors for RG-58 | 40 | 16 |
| Connectors for .086 semi-rigid | 30 | 16 |

* 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:** Connectors ..... - 65°C to + 165°C
Dummy loads ..... - 65°C to + 125°C

**Thermal Shock:** MIL-STD-202, Method 107, Condition B (N/A dummy loads)

**Corrosion:** MIL-STD-202, Method 101, Condition B (N/A dummy loads)

**Shock:** MIL-STD-202, Method 213, Condition B (N/A dummy loads)

**Vibration:** MIL-STD-202, Method 204, Condition B (N/A dummy loads)

**MATERIAL SPECIFICATIONS**

**Bodies:** Brass per QQ-B-626 or zinc per ASTM B86-71, gold plated** per MIL-G-45204 .00001 min or nickel plated per QQ-N-290

**Contacts:** Male - brass per QQ-B-626, gold plated per MIL-G-45204 .00003" min.
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 OR Teflon PFA 340

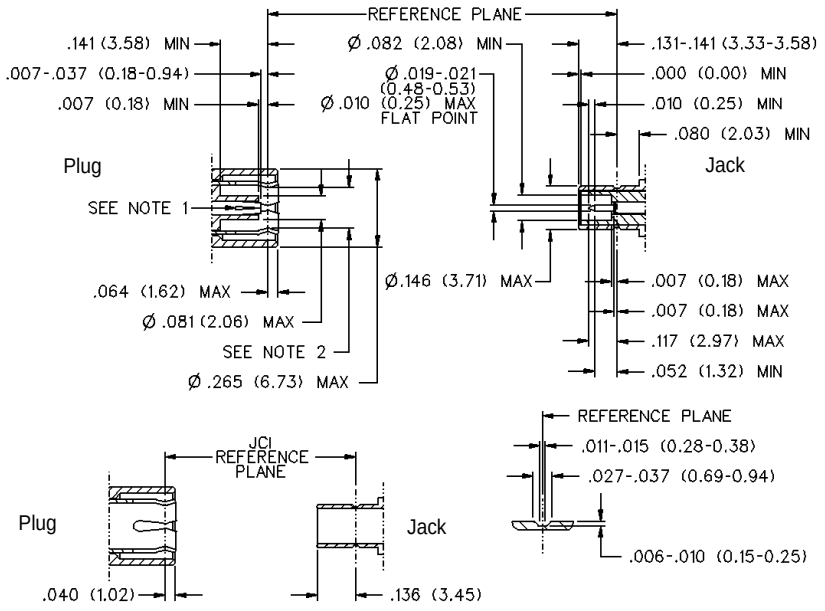
**Expansion Caps:** Brass per QQ-B-613, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290

**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

**Cover Rings:** Phosphor Bronze per QQ-B-750, gold plated per MIL-G-45204 .00001 min. or nickel plated per QQ-N-290.

**MATING ENGAGEMENT FOR SMB SERIES PER MIL-C-39012**




**Notes**

1. ID of contact to meet VSWR mating characteristics and connector durability when mated with a dia .019 /0.53 male contact.
2. Must meet the force to engage and disengage when mated with mating part.



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