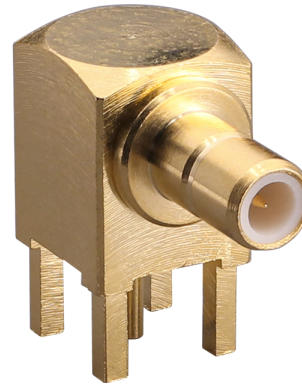


## CONSMB002-G

### SMB Jack PCB Through Hole Connector

The CONSMB002-G is a right angle SMB jack PCB through hole connector designed for reflow-solder mounting directly to a printed circuit board. Operating from 0 GHz to 4 GHz, the CONSMB002-G combines superior performance, compact size, and a convenient snap-on mating interface to provide a reliable, easy-to-use connector. Additionally, all Linx connectors meet RoHS lead free standards and are tested to meet requirements for corrosion resistance, vibration, mechanical and thermal shock.



#### Features

- 0 to 4 GHz operation
- Gold plating
  - Superior corrosion resistance
- SMB jack (male pin) connection
  - Gold plated brass center contact
- Direct PCB attachment
- Reflow- or hand-solder assembly

#### Applications

- LPWA
  - LoRaWAN®, Sigfox®, WiFi HaLow™ (802.11ah)
- Cellular IoT
  - LTE-M (Cat-M1), NB-IoT
- Cellular
  - 5G/4G LTE/3G/2G
- GNSS
  - GPS, Galileo, GLONASS, BeiDou, QZSS
- Industrial/Commercial/Enterprise
- ISM

**Table 1. Electrical Specifications**

<b>Impedance</b>	50 Ω	
<b>Frequency Range</b>	0 to 4 GHz	
<b>Voltage Rating</b>	750 V RMS	
<b>Contact Resistance</b>	Center: ≤ 6.0 mΩ Outer: ≤ 1.0 mΩ	
<b>Select Frequencies</b>	<b>400 MHz to 960 MHz</b>	<b>2.4 GHz</b>
<b>Insertion Loss (dB max)</b>	-0.21	-0.24
<b>VSWR (max)</b>	1.5	1.1

#### Ordering Information

Part Number	Description
<b>CONSMB002-G</b>	SMB jack (male pin) PCB through hole connector

Available from Linx Technologies and select distributors and representatives.

Product Dimensions

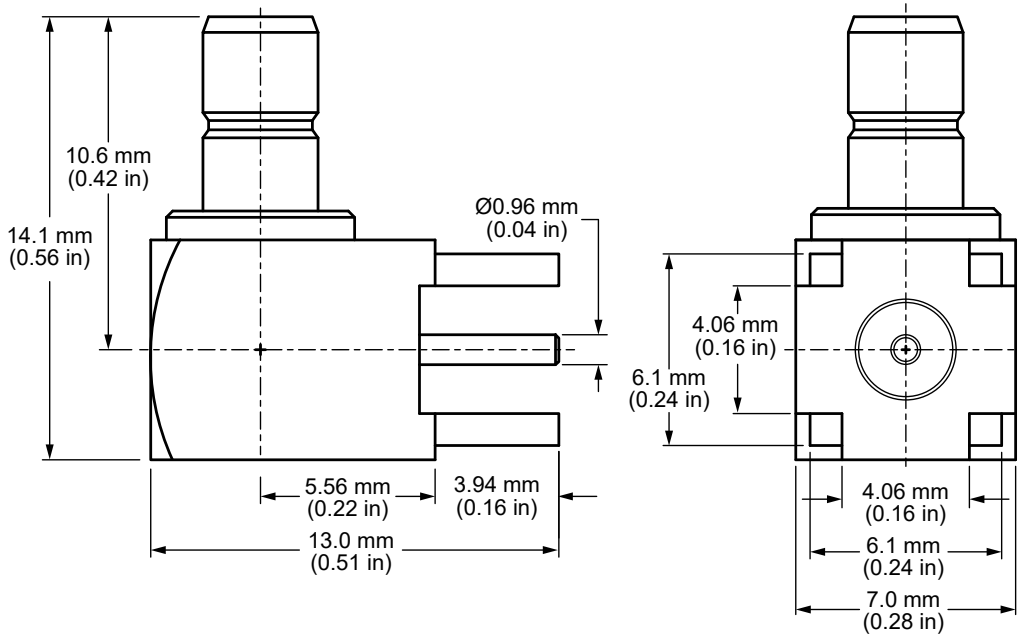


Figure 1. Product Dimensions for the CONSMB002-G Connector

Table 2. Connector Components

Model	CONSMB002-G	
Connector Part	Material	Finish
Connector Body	Brass	Gold
Center Contact (male pin)	Brass	Gold
Insulator	PTFE	-

Recommended PCB Footprint

Figure 2 shows the connectors recommended PCB footprint and through hole sizes.

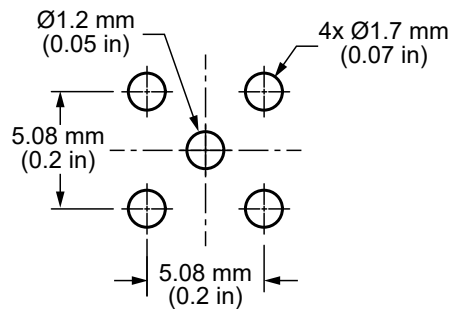


Figure 2. Recommended PCB Dimensions for the CONSMB002-G

Connector Performance

Table 3 shows insertion loss and VSWR values for the CONSMB002-G connector at commonly used frequencies.

Insertion loss is the loss of signal power (gain) resulting from the insertion of a device in a transmission line. VSWR describes how efficiently power is transmitted through the connector. A lower VSWR value indicates better performance at a given frequency.

**Table 3. Insertion Loss and VSWR for the CONSMB002-G Connector**

Band	Low-Band Cellular/ISM/LPWA	GNSS	Midband Cellular	WiFi/ISM
Frequency Range	400 MHz to 960 MHz	1164 MHz to 1609 MHz	1427 MHz to 5000 MHz	2.4 GHz
Insertion Loss (dB max)	-0.21	-0.29	-1.55	-0.24
VSWR (max)	1.5	1.6	3.0	1.1

**Table 4. Mechanical Specifications**

Model	CONSMB002-G
Mounting Type	PCB Through Hole
Fastening Type	Snap-on Coupling
Interface in Accordance with	MIL-STD-348A
Connector Durability	500 cycles min.
Weight	3.6 g (0.13 oz)

**Table 5. Environmental Specifications**

MIL-STD, Method, Test Condition	
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 B
Mechanical Shock	MIL-STD-202 Method 213 test condition I
Temperature Range	-65 °C to +165 °C
Environmental Compliance	RoHS

Reflow Solder Profile

Figure 3 shows the time and temperature data for reflow soldering the connector to a PCB.

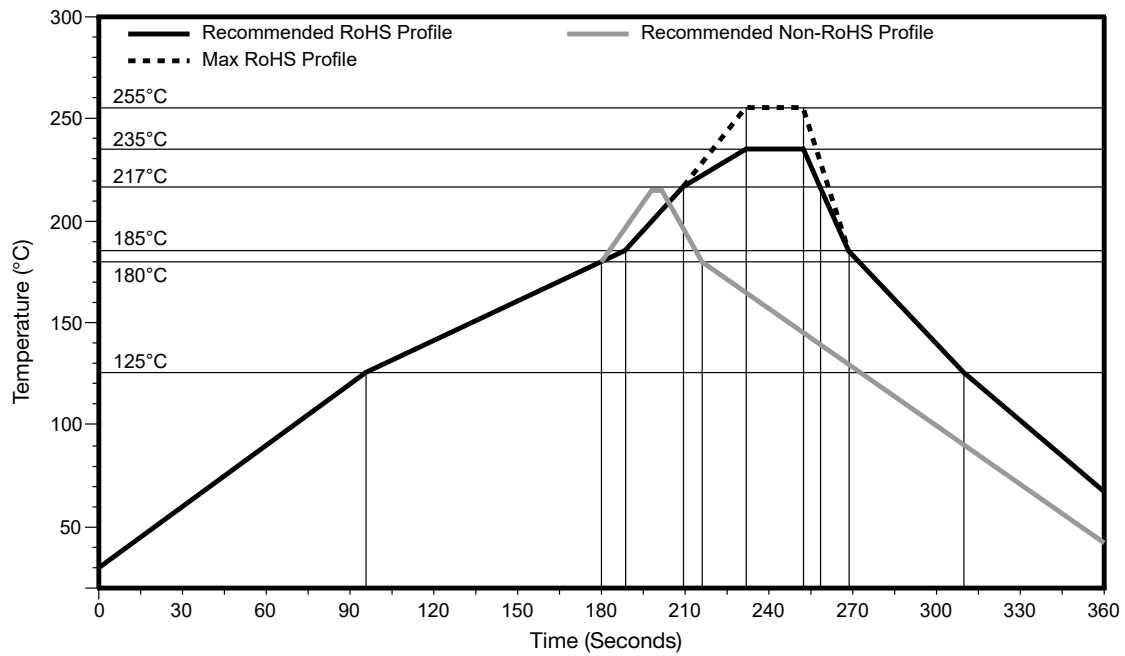


Figure 3. Recommended Reflow Solder Profile

Packaging Information

The CONSMB002-G connector is placed in sealed trays of 100 pcs. Trays are packaged in cartons of 1700 pcs. Distribution channels may offer alternative packaging options.

### Connector & Adapter Definitions and Useful Formulas

**VSWR** - Voltage Standing Wave Ratio. VSWR is a unitless ratio that describes how efficiently power is transmitted through the connector. A lower VSWR value indicates better performance at a given frequency. VSWR is easily derived from Return Loss.

$$VSWR = \frac{10^{\left[\frac{\text{Return Loss}}{20}\right]} + 1}{10^{\left[\frac{\text{Return Loss}}{20}\right]} - 1}$$

**Insertion Loss** - The loss of signal power (gain) resulting from the insertion of a device in a transmission line. Insertion loss can be derived from the power transmitted to the load before the insertion of the component  $P_T$  and the power transmitted to the load after the insertion of the component  $P_R$ .

$$\text{Insertion Loss (dB)} = 10 \log_{10} \frac{P_T}{P_R}$$

**Website:** <http://linxtechnologies.com>  
**Linx Offices:** 159 Ort Lane, Merlin, OR, US 97532  
**Phone:** +1 (541) 471-6256  
**E-MAIL:** [info@linxtechnologies.com](mailto:info@linxtechnologies.com)

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