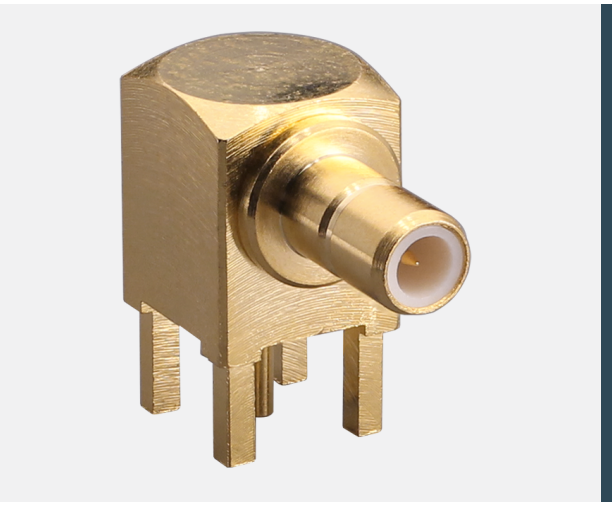

CONSMB002-G

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 matinginterface 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, BeiDou, QZSS
- Industrial/Commercial/Enterprise
- ISM

TABLE 1. ELECTRICAL SPECIFICATIONS

Parameter	Value	
Impedance	50 Ω	
Frequency Range	0 to 4 GHz	
Voltage Rating	750 V RMS	
Contact Resistance	Center: ≤ 6.0 mΩ Outer: ≤ 1.0 mΩ	
Select Frequencies	400 MHz to 960 MHz	2.4 GHz
Insertion Loss (dB max)	-0.21	-0.20
VSWR (max)	1.5	1.1

ORDERING INFORMATION

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

Available from Linx Technologies and select distributors and representatives.

PRODUCT DIMENSIONS

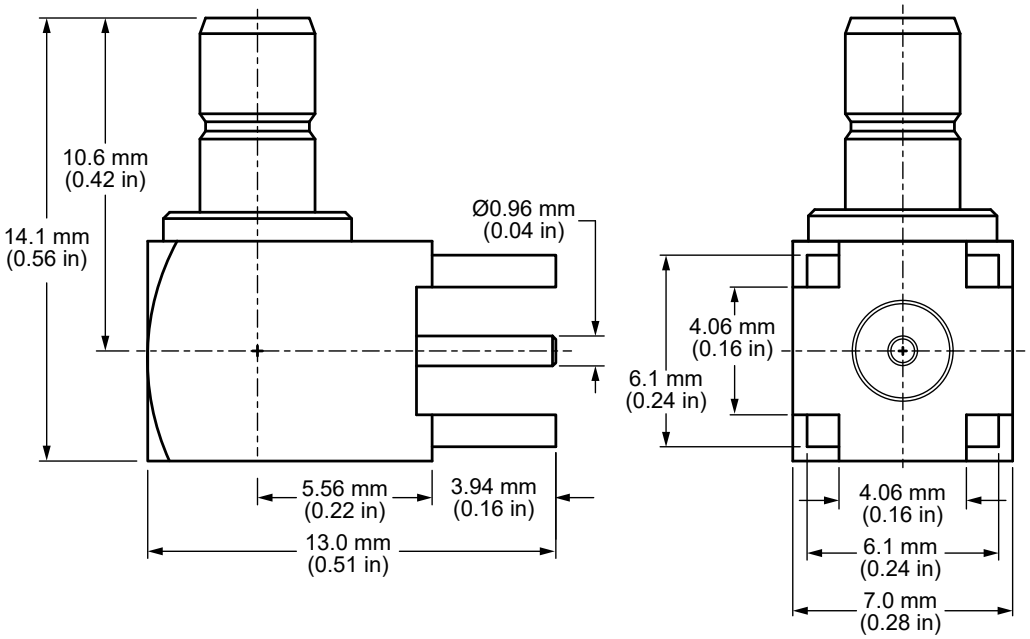

Figure 1. Product Dimensions for the CONSMB002-G Connector Table

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.

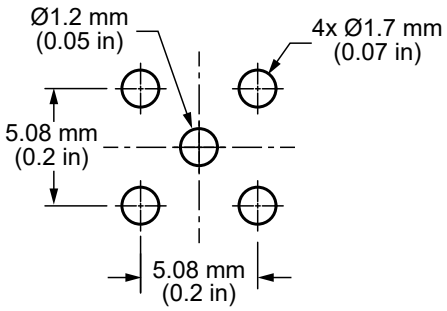

Figure 2. Recommended PCB Dimensions for the CONSMB002-G

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.

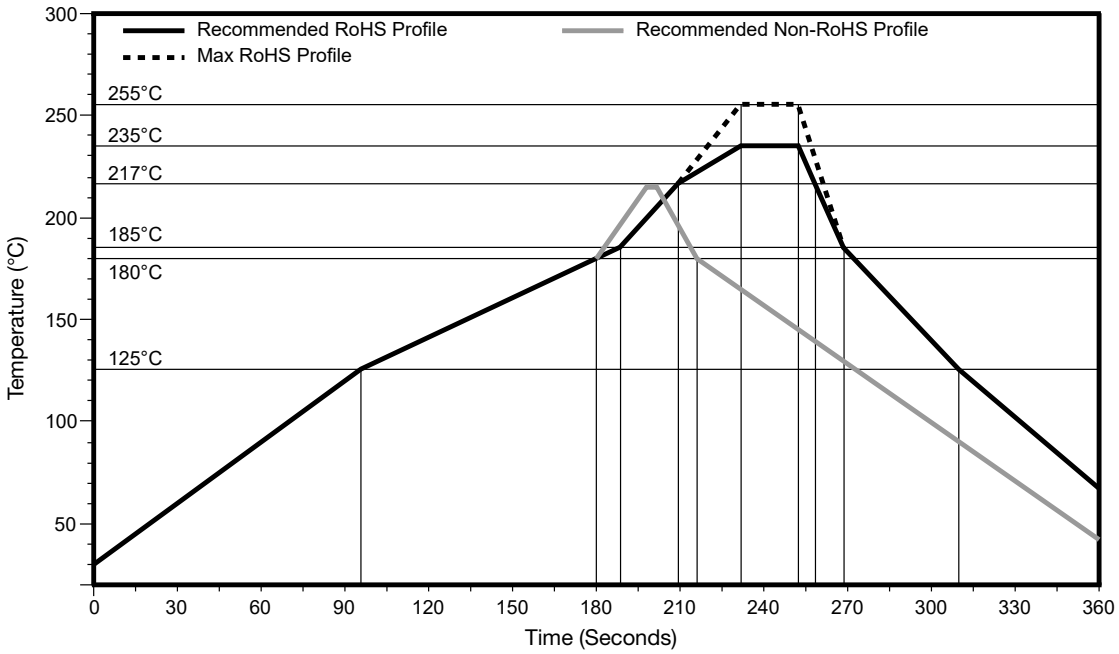

Figure 3. Recommended Reflow Solder Profile

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.

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

Insertion Loss - 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 PT and the power transmitted to the load after the insertion of the component P_R.

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

TE TECHNICAL SUPPORT CENTER

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