

## CONSMB006-G

### SMB Plug PCB Through Hole Connector

The CONSMB006-G is an SMB Plug PCB through hole connector designed for reflow-solder mounting directly to a printed circuit board. Operating from 0 GHz to 4 GHz, the CONSMB006-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 Plug (female socket) connection
  - Gold plated beryllium copper 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**

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)	-0.20	-0.23
VSWR (max)	1.5	1.2

## ORDERING INFORMATION

Part Number	Description
CONSMB006-G	SMB Plug (female socket) PCB through hole connector

Available from Linx Technologies and select distributors and representatives.

## PRODUCT DIMENSIONS

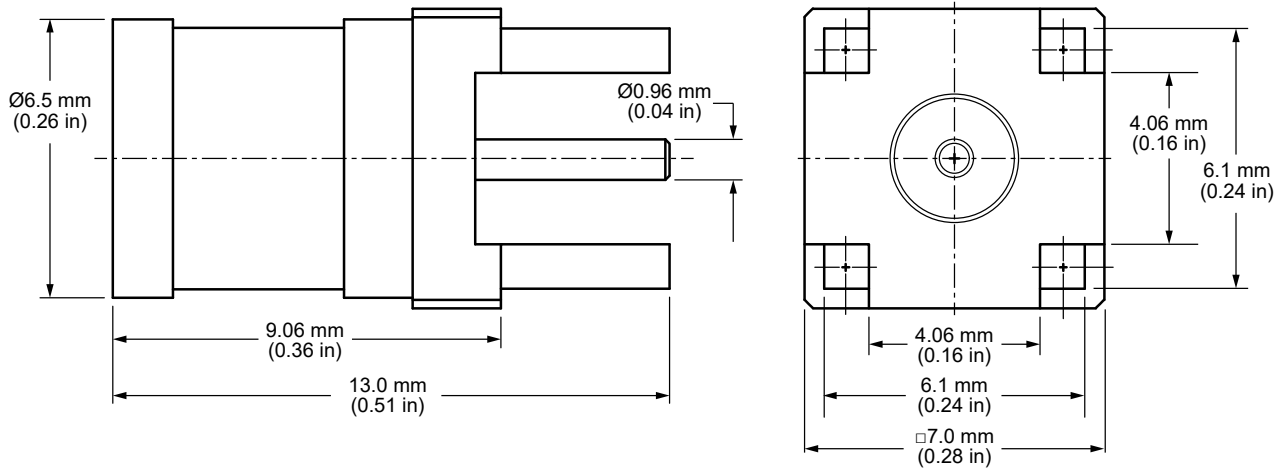


Figure 1. Product Dimensions for the CONSMB006-G Connector Table

## 2. CONNECTOR COMPONENTS

Model	CONSMB006-G	
Connector Part	Material	Finish
Connector Body	Brass	Gold
Center Contact (socket)	Beryllium Copper	Gold
Insulator	PTFE	-

## RECOMMENDED PCB FOOTPRINT

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

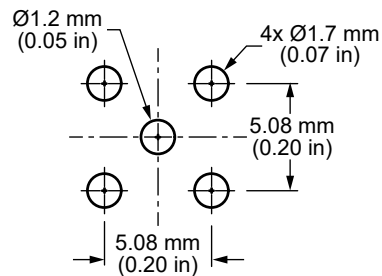


Figure 2. Recommended PCB Dimensions for the CONSMB006-G

## CONNECTOR PERFORMANCE

Table 3 shows insertion loss and VSWR values for the CONSMB006-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 CONSMB003.062-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)	-0.20	-0.28	-1.41	-0.23
VSWR (max)	1.5	1.6	2.9	1.2

**TABLE 4. MECHANICAL SPECIFICATIONS**

Model	CONSMB006-G
Mounting Type	PCB Through Hole
Fastening Type	Snap-on Coupling
Interface in Accordance with	MIL-STD-348A
Connector Durability	500 cycles min.
Weight	1.9 g (0.07 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.

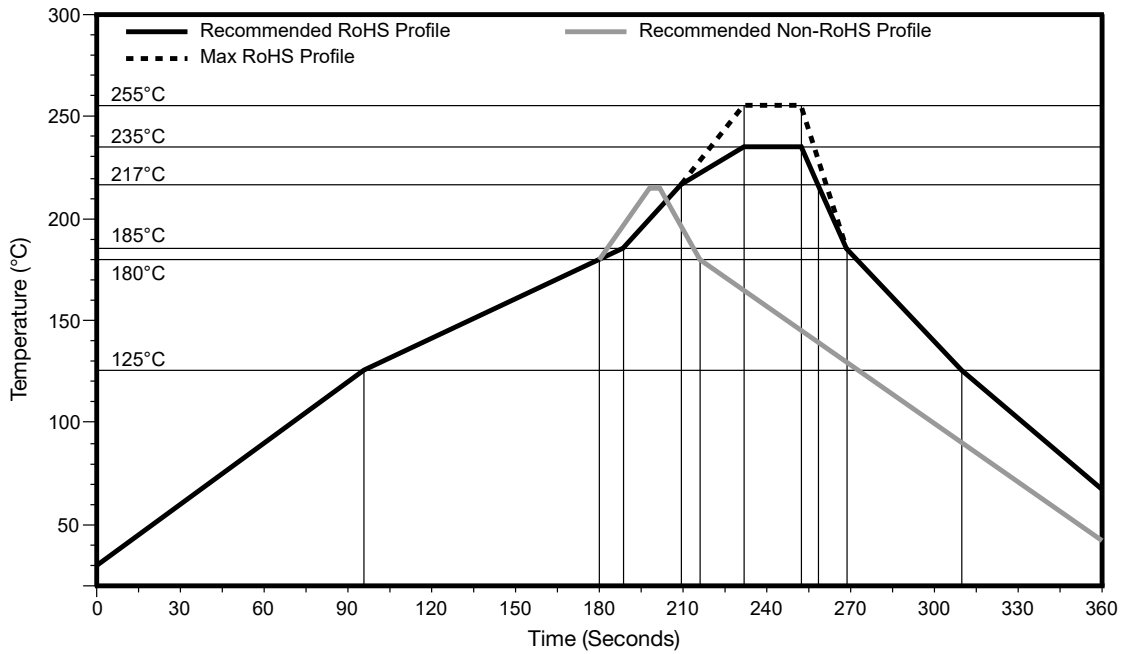


Figure 3. Recommended Reflow Solder Profile

## PACKAGING INFORMATION

The CONSMB006-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.

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## 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** - 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  $P_R$ .

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

### TE TECHNICAL SUPPORT CENTER

USA:	+1 (800) 522-6752
Canada:	+1 (905) 475-6222
Mexico:	+52 (0) 55-1106-0800
Latin/S. America:	+54 (0) 11-4733-2200
Germany:	+49 (0) 6251-133-1999
UK:	+44 (0) 800-267666
France:	+33 (0) 1-3420-8686
Netherlands:	+31 (0) 73-6246-999
China:	+86 (0) 400-820-6015

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