

CONSMB001-G

SMB Jack PCB Through Hole Connector

The CONSMB001-G is an 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 CONSMB001-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

ORDERING INFORMATION

Part Number	Description
CONSMB001-G	SMB jack (male pin) PCB through hole connector

Available from Linx Technologies and select distributors and representatives.

ELECTRICAL SPECIFICATIONS

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)	-0.16	-0.24
VSWR (max)	1.4	1.3

PRODUCT DIMENSIONS

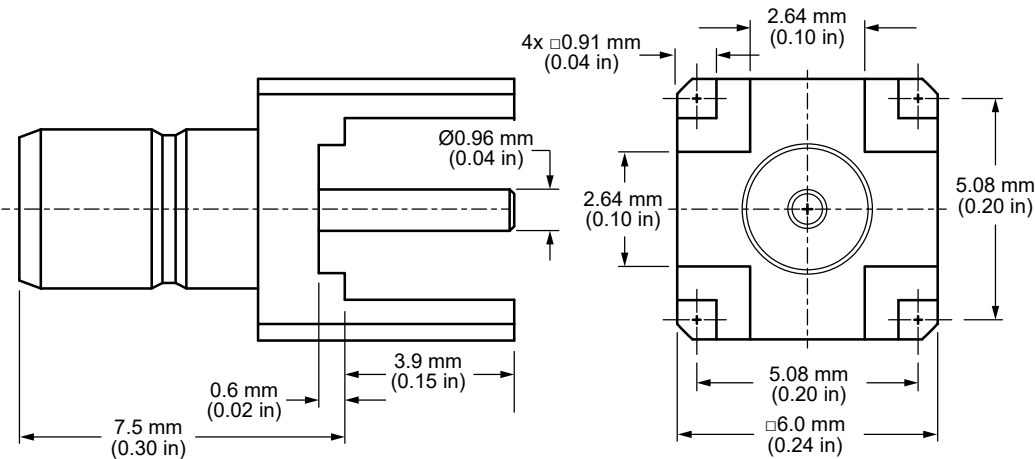


Figure 1. Product Dimensions for the CONSMB001-G Connector

CONNECTOR COMPONENTS

Model	CONSMB001-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.

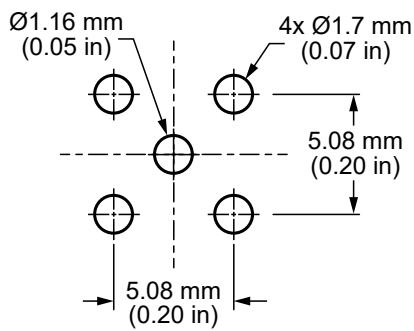


Figure 2. Recommended PCB Dimensions for the CONSMB001-G

CONNECTOR PERFORMANCE

Table 3 shows insertion loss and VSWR values for the CONSMB001-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.

INSERTION LOSS AND VSWR FOR THE CONSMB001-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)	-0.16	-0.09	-1.18	-0.24
VSWR (max)	1.4	1.5	2.2	1.3

MECHANICAL SPECIFICATIONS

Model	CONSMB001-1-G
Mounting Type	PCB Through Hole
Fastening Type	Snap-on Coupling
Interface in Accordance with	MIL-STD-348A
Connector Durability	500 cycles min.
Weight	0.8 g (0.03 oz)

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.

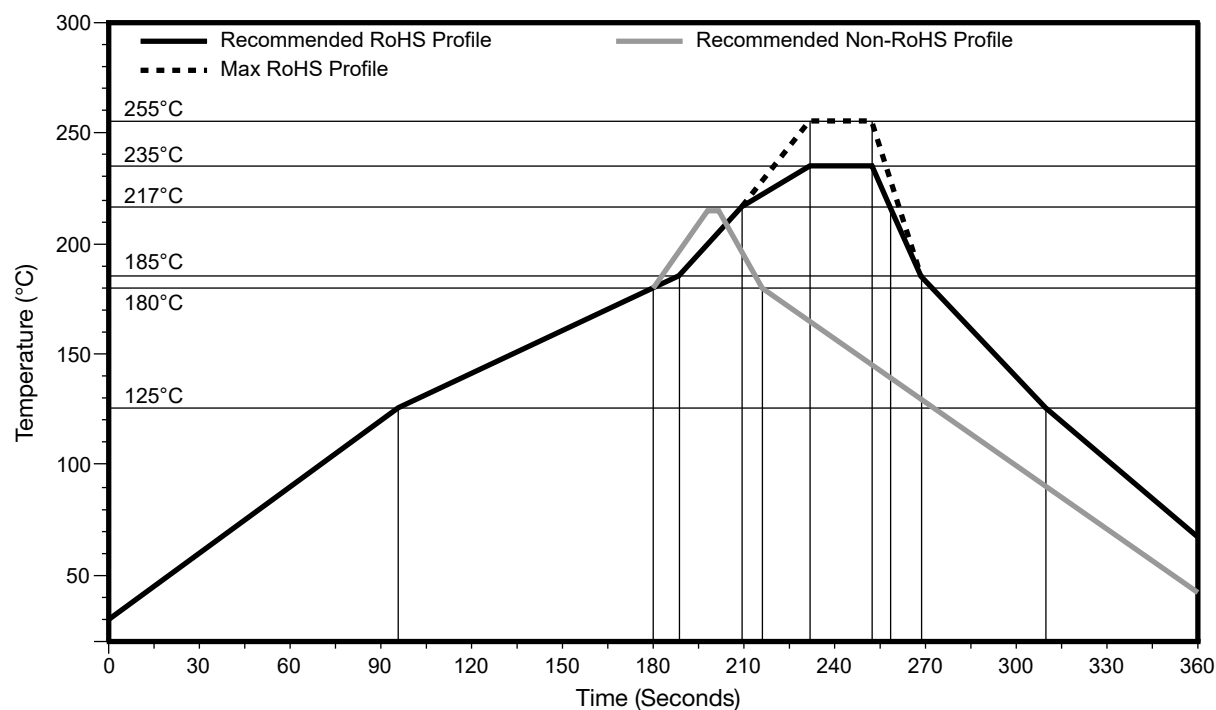


Figure 3. Recommended Reflow Solder Profile

PACKAGING INFORMATION

The CONSMB001-G connector is placed in sealed trays of 100 pcs. Trays are packaged in cartons of 2500 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 .

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

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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