



CONSMA020.042-G

SMP Plug PCB Through-Hole Connector

The CONSMP001-2-G is an SMP plug limited detent PCB through-hole connector designed for reflow- solder mounting directly to a printed circuit board.

Operating from 0 GHz to 40 GHz, the CONSMP001- 2-G combines superior performance, compact size, and a convenient snap-on mating interface to provide a reliable, easy-to-use connector. Linx SMP connectors are ideal for making board-to-board connections. 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 40 GHz operation
- SMP plug (male pin) connection
 - Gold plated beryllium copper center contact
 - Limited detent
- Ideal for board-to-board connections
- Direct PCB attachment
- Reflow- or hand-solder assembly

APPLICATIONS

- Cellular IoT
 - LTE-M (Cat-M1), NB-IoT
- Cellular
 - 5G/4G LTE/3G/2G
- WiFi/WLAN
 - WiFi 6/6E
- GNSS
 - GPS, Galileo, GLONASS, BeiDou, QZSS
- Radar, Satellite Communications, Experimental
- Industrial, Commercial, Enterprise

TABLE 1. ELECTRICAL SPECIFICATIONS

| Parameter | Value | |
|--------------------------|--|--------------------|
| Impedance | 50 Ω | |
| Frequency Range | 0 to 40 GHz | |
| Voltage Rating | 500 V RMS | |
| Contact Resistance | Center: $\leq 6.0 \text{ m}\Omega$ Outer: $\leq 2.0 \text{ m}\Omega$ | |
| Select Frequencies | 0 GHz to 26.5 GHz | 26.5 GHz to 40 GHz |
| Insertion Loss (dB max.) | 1.07 | 1.22 |
| VSWR (max.) | 1.5 | 1.4 |

ORDERING INFORMATION

| Part Number | Description |
|---------------|---|
| CONSMPO01-2-G | SMP plug (male pin) limited detent PCB through-hole connector |

Available from Linx Technologies and select distributors and representatives.

PRODUCT DIMENSIONS

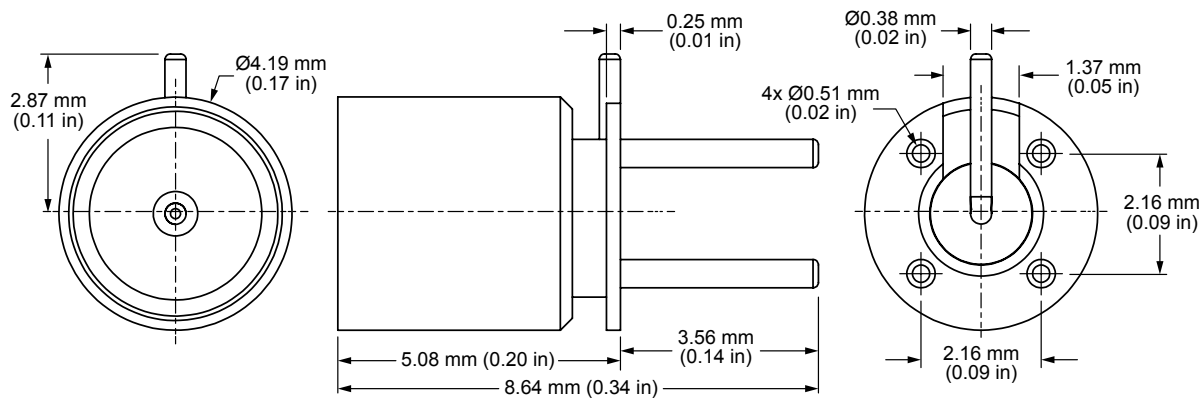


Figure 1. Product Dimensions for the CONSMPO01-2-G Connector Table

2. CONNECTOR COMPONENTS

| Model | CONSMPO01-2-G | |
|---------------------------|------------------|--------|
| Connector Part | Material | Finish |
| Connector Body | Beryllium Copper | Gold |
| Base | Beryllium Copper | Gold |
| Center Contact (male pin) | Beryllium Copper | Gold |
| Insulator | Torlon | - |

RECOMMENDED PCB FOOTPRINT

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

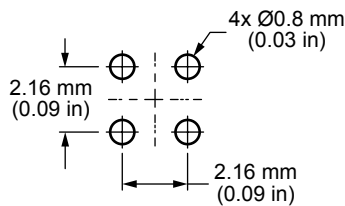


Figure 2. Recommended PCB Dimensions for the CONSMPO01-2-G

CONNECTOR PERFORMANCE

Table 3 shows insertion loss and VSWR values for the CONSMP001-2-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 CONSMP001-2-G CONNECTOR

| Band | Low-Band Cellular/ ISM/LPWA | GNSS, Midband Cellular, Wifi, WiFi 6E | Ku | Ka |
|--------------------------|--------------------------------|---|------------------|--------------------|
| Frequency Range | 400 MHz to 960 MHz | 1.1 GHz to 7.125 GHz | 12 GHz to 18 GHz | 26.5 GHz to 40 GHz |
| Insertion Loss (dB max.) | 0.15 | 0.41 | 0.79 | 1.22 |
| VSWR (max.) | 1.0 | 1.1 | 1.3 | 1.4 |

TABLE 4. MECHANICAL SPECIFICATIONS

| Model | CONSMP001-2-G |
|------------------------------|------------------|
| Mounting Type | PCB Through-Hole |
| Fastening Type | Snap-on Coupling |
| Interface in Accordance with | MIL-STD-348B |
| Connector Durability | 100 cycles min. |
| Weight | 0.35 g (0.01 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 C |
| Vibration | MIL-STD-202 Method 204 test condition B |
| Mechanical Shock | MIL-STD-202 Method 213 test condition B |
| Moisture Resistance | MIL-STD-202 Method 106 test condition D |
| Temperature Range | -65 °C to +155 °C |
| Environmental Compliance | RoHS |

REFLOW SOLDER PROFILE

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

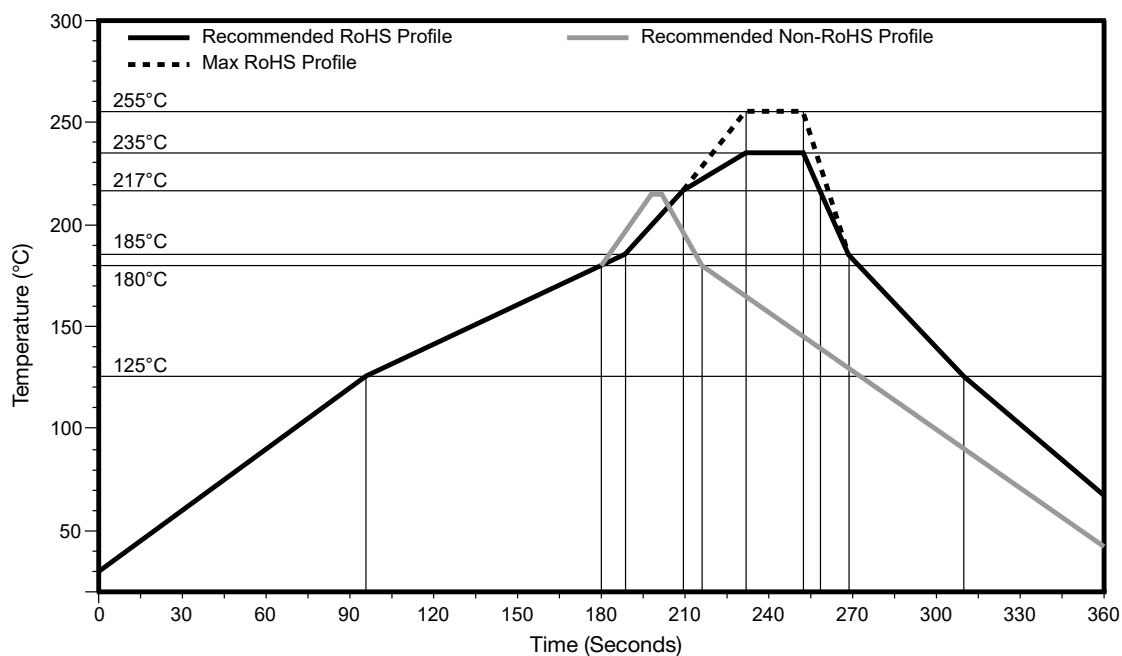


Figure 3. Recommended Reflow Solder Profile

PACKAGING INFORMATION

The CONSMP001-2-G connector is packaged in plastic trays of 150 pcs, 9000 Pcs per carton. Distribution channels may offer alternative packaging options.

CABLE ASSEMBLY DEFINITIONS AND USEFUL FORMULAS

VSWR - Voltage Standing Wave Ratio. VSWR is a unitless ratio that describes how efficiently power is transmitted through the cable assembly. 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 .

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

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