





## **CONSMA003.042-L-G**

**SMA Jack PCB Edge-Mount Connector** 

The CONSMAOO3.042-L-G is an SMA jack (female socket) PCB edge-mount connector designed for reflow-solder mounting directly to a printed circuit board. Operating from 0 GHz to 18 GHz, the CONSMAOO3.042-L-G combines superior performance, compact size, and a convenient threaded 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 18 GHz operation
- Gold plating
  - Superior corrosion resistance
- SMA jack (female socket) connection
  - Gold plated beryllium copper center contact
- Brass hex nut and washer provided
- 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	Va	lue
Impedance	50 Ω	
Frequency Range	0 to 1	3 GHz
Voltage Rating	500 V RMS	
Contact Resistance	Center: ≤ 2.0 mΩ Outer: ≤ 2.0 mΩ	
Select Frequencies	400 MHz to 960 MHz	2.4 GHz
Insertion Loss (dB max)	0.10	0.13
VSWR (max)	1.0	1.1

#### **ORDERING INFORMATION**

Part Number	Description
CONSMA003.042-L-G	SMA jack (female socket) PCB edge-mount connector with washer and hex nut

Available from Linx Technologies and select distributors and representatives.

#### **PRODUCT DIMENSIONS**

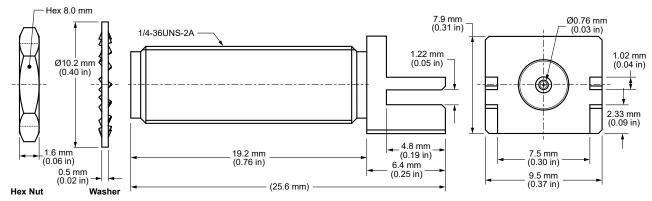


Figure 1. Product Dimensions for the CONSMA003.042-L-G Connector Table

### 2. CONNECTOR COMPONENTS

Model	CONSMA003.042-L-G	
Connector Part	Material	Finish
Connector Body	Brass	Gold
Center Contact (female socket)	Beryllium Copper	Gold
Insulator	PTFE	-
Washer	Brass	Gold
Hex Nut	Brass	Gold

#### RECOMMENDED PCB FOOTPRINT

Figure 2 shows the recommended PCB footprint for the CONSMA003.042-L-G connector.

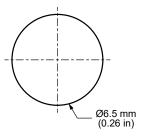


Figure 2. Recommended Mounting for the CONSMA003.042-L-G  $\,$ 

#### RECOMMENDED PCB FOOTPRINT

Figure 3 shows the connectors recommended PCB footprint.

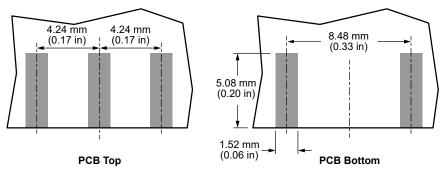


Figure 3. Recommended PCB Dimensions for the CONSMA003.042-L-G

#### **CONNECTOR PERFORMANCE**

Table 3 shows insertion loss and VSWR values for the CONSMA003.042-L-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 CONSMA003.042-L-G CONNECTOR

Band	Low-Band Cellular/ ISM/LPWA	GNSS	Midband Cellular	WiFi/ISM
Frequency Range	400 MHz to 960 MHz	1.1 GHz to 5 GHz	2.4 GHz	5 GHz to 7.125 GHz
Insertion Loss (dB max)	0.10	0.16	0.13	0.23
VSWR (max)	1.0	1.1	1.1	1.3

#### **TABLE 4. MECHANICAL SPECIFICATIONS**

Model	CONSMA003.042-L-G
Mounting Type	PCB Surface-Mount
Fastening Type	1/4"-36UNS Threaded Coupling
Recommended Torque	0.57 N·m (5.0 in·lbs)
Interface in Accordance with	MIL-STD-348A
Connector Durability	500 cycles min.
Weight	4.3 g (0.15 oz)

#### **TABLE 5. ENVIRONMENTAL SPECIFICATIONS**

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

#### **REFLOW SOLDER PROFILE**

Figure 4 shows the time and temperature data for reflow soldering the connector to a PCB.

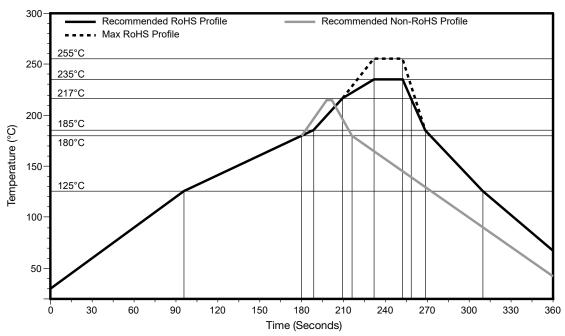


Figure 4. CONSMA003.042-L-G Recommended Reflow Solder Profile

#### **PACKAGING INFORMATION**

The CONSMA003.042-L-G connector is placed in sealed trays of 90 pcs. 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.

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

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 PT and the power transmitted to the load after the insertion of the component  $PR_p$ .

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

#### TE TECHNICAL SUPPORT CENTER

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