Datasheet

CON24001-1
2.4 mm Jack PCB Compression Surface-Mount Connector

The CON24001-1 is a 2.4 mm jack (female socket) PCB solderless surface-mount connector designed for installation directly to a printed circuit board using the provided split washers and screws.

Operating from 0 Hz to 50 GHz, the CON24001-1 combines superior performance, compact size, and a convenient threaded 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 Hz to 50 GHz operation
- Passivated stainless steel body for superior corrosion resistance
- Gold plated beryllium copper center contact
- All mounting hardware provided
  - 2x split washers
  - 2x 0-80UNF-2A x 4.76 mm pan head screws
- Direct PCB attachment
- Solderless compression-mount design

Applications

- Satellite communications
- Test and measurement
- Radar
- Experimental

Table 1. Electrical Specifications

Parameter	Value
Impedance	50 Ω
Frequency Range	0 Hz to 50 GHz
Dielectric Withstanding Voltage	500 V RMS
Contact Resistance	Center: ≤ 4.0 mΩ Outer: ≤ 2.5 mΩ
Insulation Resistance	5000 MΩ min.
Insertion Loss (dB max)	0.5
VSWR (max)	1.4

Ordering Information

Part Number	Description
CON24001-1	2.4 mm jack (female socket) PCB solderless surface-mount connector with split washers and pan-head screws

Available from Linx Technologies and select distributors and representatives.

Product Dimensions

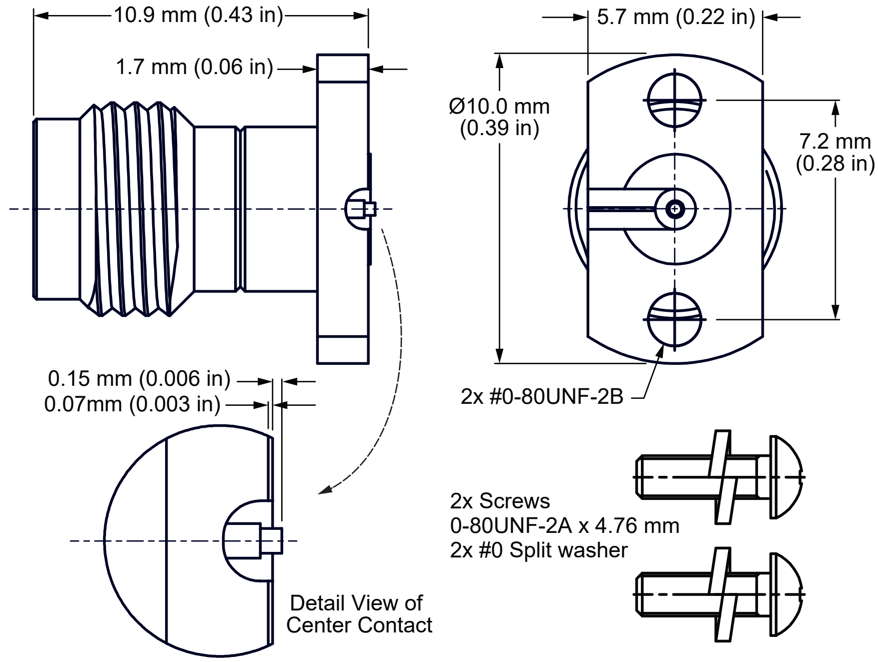

Figure 1. Product Dimensions for the CON24001-1 Connector

Table 2. Connector Components

Model	CON24001-1	
Connector Part	**Material**	**Finish**
Connector Body	Stainless Steel	Passivated
Center Contact (female socket)	Beryllium Copper	Gold
Split Washer (2x)	Stainless Steel	Passivated
Screw, PHP (2x) 0-80UNF-2A	Stainless Steel	Passivated

Recommended PCB Footprint

Figure 2 shows the connectors recommended PCB footprint and mounting requirements. The provided split washers and screws should be tightened to a torque setting not to exceed 0.09N:m (12 in-oz).

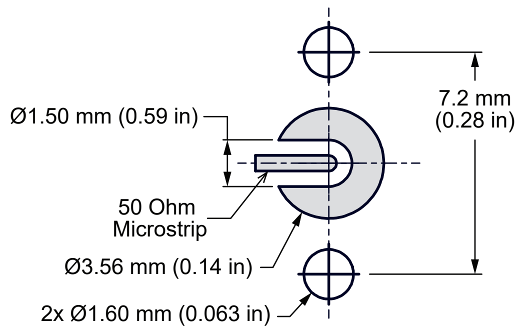

Figure 2. Recommended PCB Dimensions for the CON24001-1

Table 3. Mechanical Specifications

Model	CON24001-1
Mounting Type	Solderless PCB Surface-Mount design
Fastening Type	Type IAW M7 Threaded Coupling
Interface in Accordance with	MIL-STD-348B
Connector Durability	500 cycles min.
Recommended torque	8.0 in. -lbs
Weight	2.2 g (0.08 oz)

Insertion Loss

Figure 3 shows the Insertion Loss for the CON24001-1 connector. Insertion loss is the loss of signal power (gain) resulting from the insertion of a device in a transmission line.

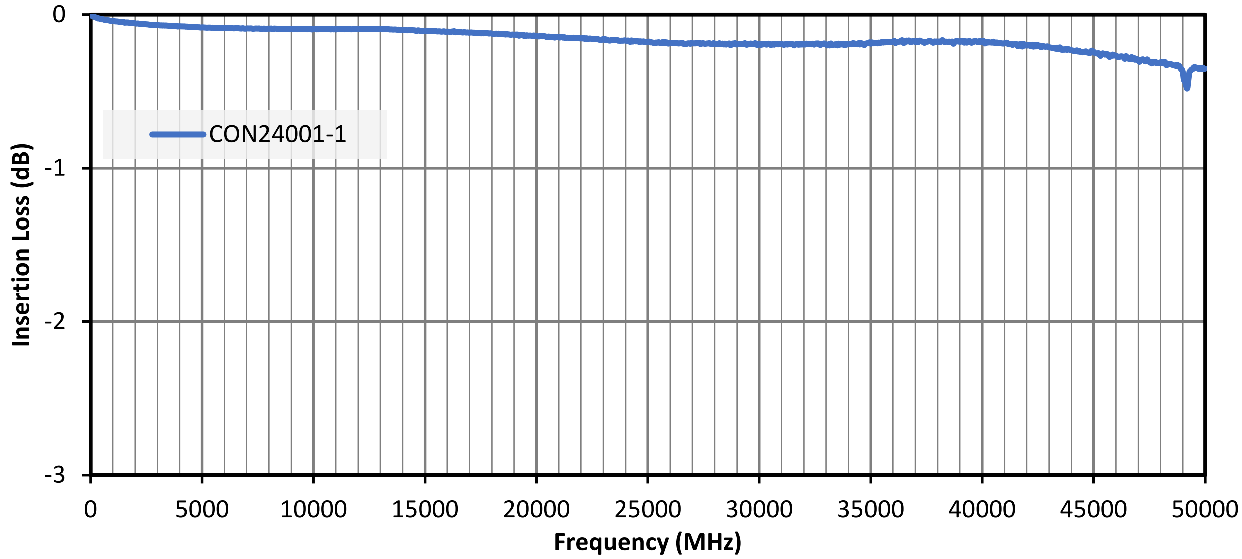

Figure 3. Insertion Loss for the CON24001-1 Connector

VSWR

Figure 4 provides the voltage standing wave ratio (VSWR) across the adapter's bandwidth for the CON24001-1 connector. VSWR describes how efficiently power is transmitted. A lower VSWR value indicates better performance at a given frequency.

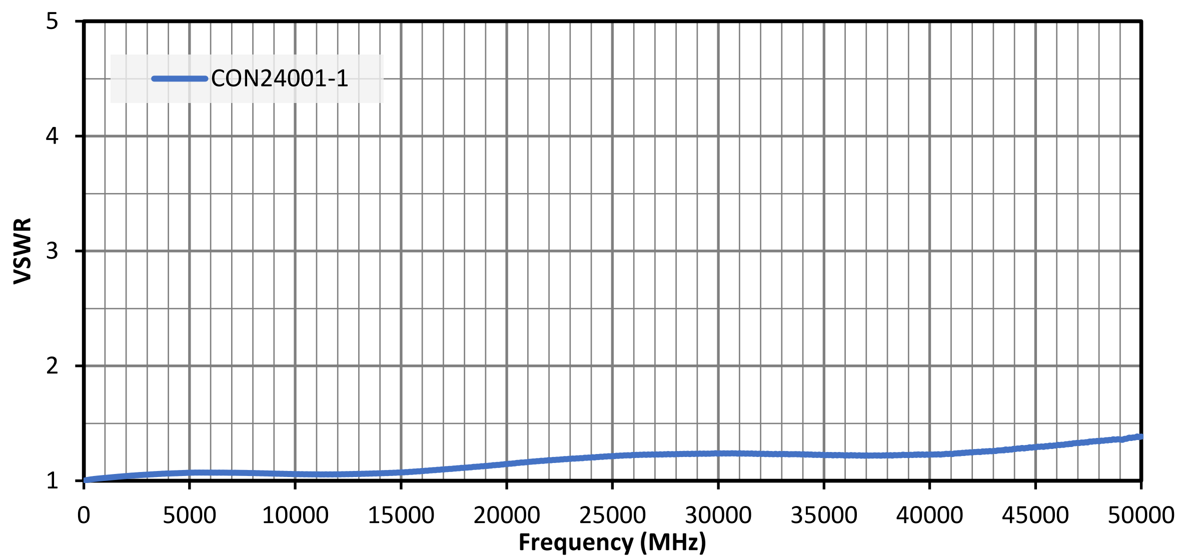

Figure 4. VSWR for the CON24001-1 Connector

Packaging Information

The CON24001-1 connector is individually placed in a clear anti-static polyethylene bag. 25 pcs are packaged in a larger anti-static polyethylene bag. 100 pcs are packaged in a shipping carton (370 mm x 330 mm x 240 mm). 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 - 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.

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

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Doc# DS22320-282CON