Datasheet

CONBNC001
BNC Jack PCB Through-Hole Connector

The CONBNC001 is a BNC jack PCB through-hole connector designed for reflow-solder mounting directly to a printed circuit board. The CONBNC001 combines superior performance, compact size, and a convenient bayonet-style (push-twist) mating interface to provide a reliable, easy-to-use connector. Additionally, all Linx connectors meet RoHS and REACH lead free standards and are tested to meet requirements for corrosion resistance, vibration, mechanical and thermal shock.

Features

- BNC jack (female socket) connection
  - Gold plated brass center contact
  - Bayonet-style (push-twist) connection
- Direct PCB attachment
- Reflow- or hand-solder assembly

Applications

- Audio/Video
- Broadcasting
- Test Equipment
- Surveillance Systems
- Ethernet
- Industrial, Commercial, Enterprise

Ordering Information

Part Number	Description
CONBNC001	BNC jack (female socket) PCB through-hole connector

Available from Linx Technologies and select distributors and representatives.

Performance

Table 1 shows the electrical specifications, insertion loss and VSWR values for the CONBNC001 connector at commonly used frequencies.

Table 1. Electrical Specifications

Band	Sub-1 GHz	1GHz
Frequency Range	0 Hz to 1 GHz	1 GHz to 3 GHz
Insertion Loss (dB max.)	0.09	0.38
VSWR (max.)	1.1	1.7
Impedance	50 Ω	

Insertion loss is the loss of signal power (gain) resulting from the insertion of a device in a transmission line (Figure 1). VSWR (Figure 2) describes how efficiently power is transmitted through the connector. A lower VSWR value indicates better performance at a given frequency.

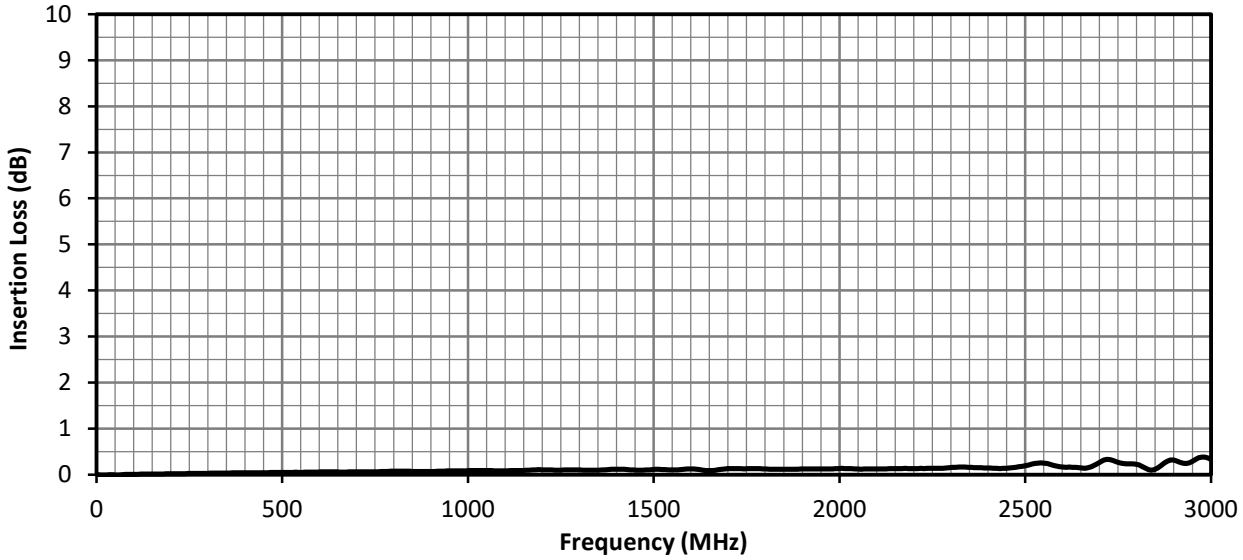

Figure 1. Insertion Loss for CONBNC001 Connector

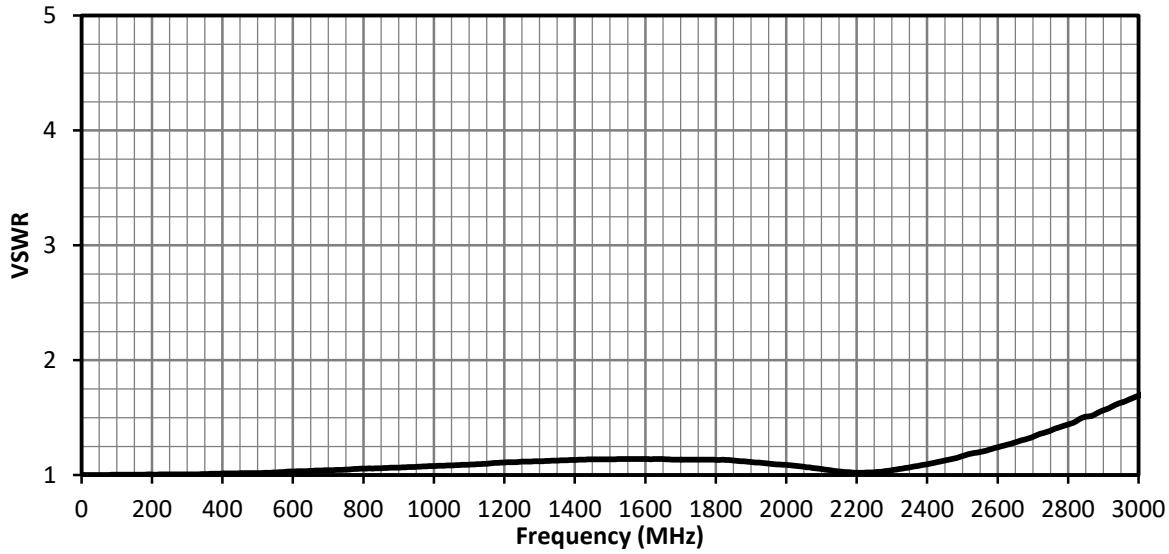

Figure 2. VSWR for the CONBNC001 Connector

Table 2. Mechanical Specifications

Parameter	Value
Mounting Type	PCB Through-Hole
Fastening Type	Bayonet-style Coupling (Push/Twist)
Interface in Accordance with	MIL-STD-348B
Weight	4.10 g (0.14 oz)

Table 3. 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 +165 °C
Environmental Compliance	RoHS, REACH

Product Dimensions

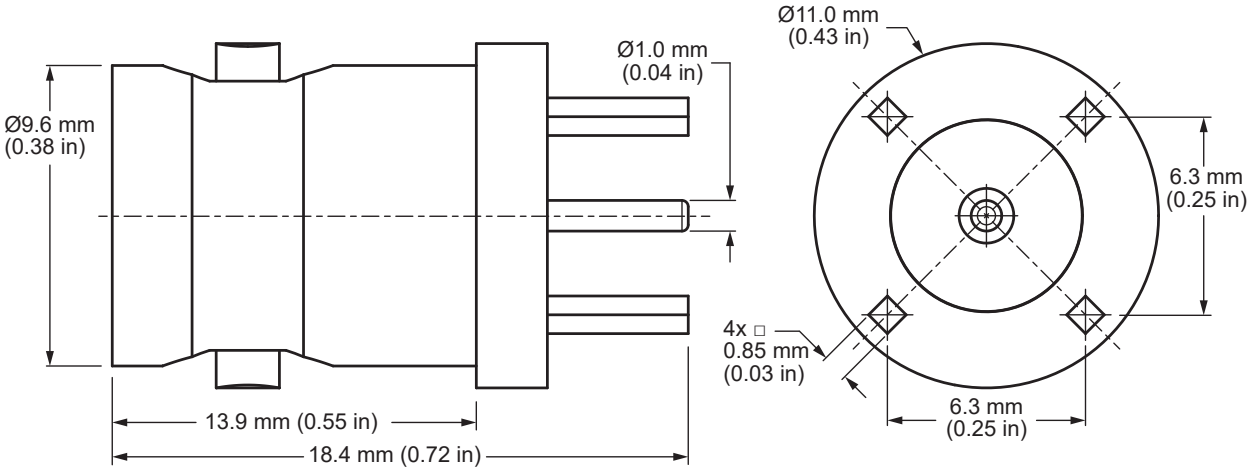

Figure 3. Product Dimensions for the CONBNC001 Connector

Table 4. Connector Components

Model	CONBNC001	
Connector Part	Material	Finish
Connector Body	Brass	Nickel
Washer	Brass	Nickel
Center Contact (female socket)	Brass	Gold
Insulator	PTFE	–

Recommended PCB Footprint

Figure 4 shows the connectors recommended PCB footprint and through-hole sizes.

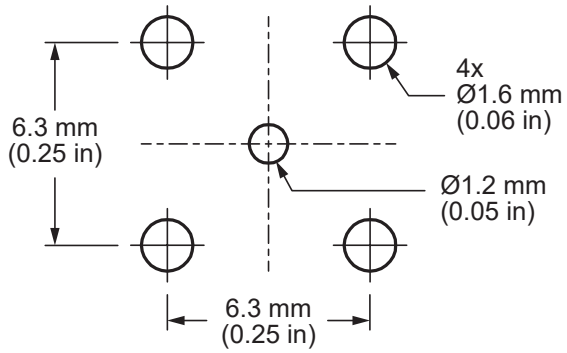

Figure 4. Recommended PCB Dimensions for the CONBNC001

Reflow Solder Profile

Figure 5 shows the time and temperature data for reflow soldering the connector to a PCB.

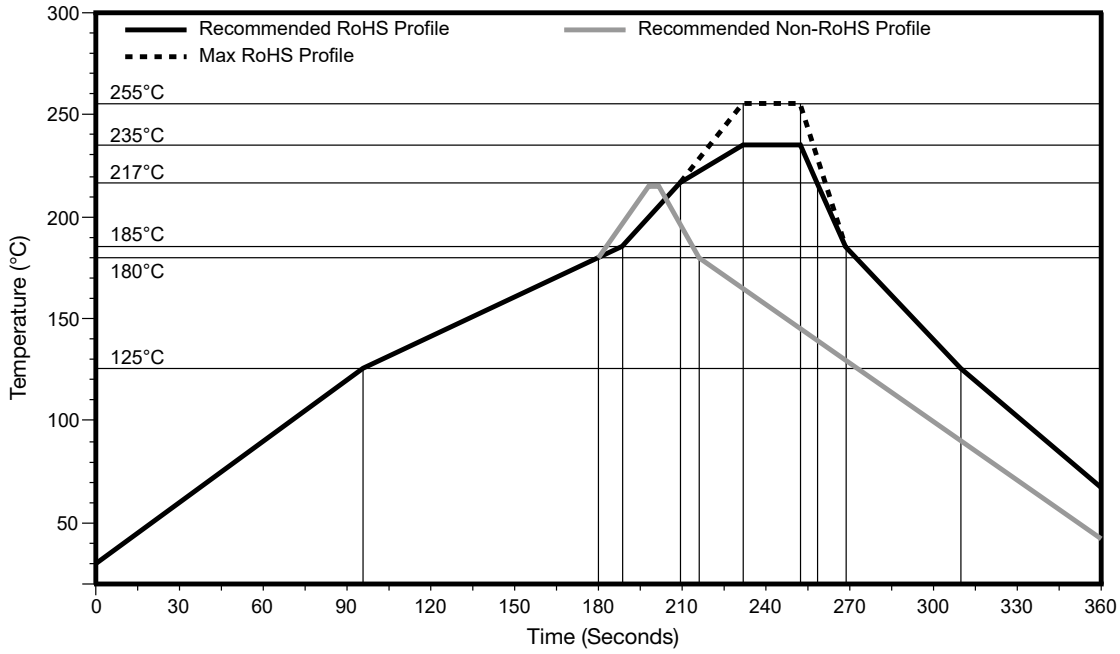

Figure 5. Recommended Reflow Solder Profile

Packaging Information

The CONBNC001 connector is packaged in plastic trays of 100 pcs, 1500 Pcs per carton. 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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