

### CONBNC001

#### BNC Jack PCB Through-Hole Connector

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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 $\Omega$   |                |

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.

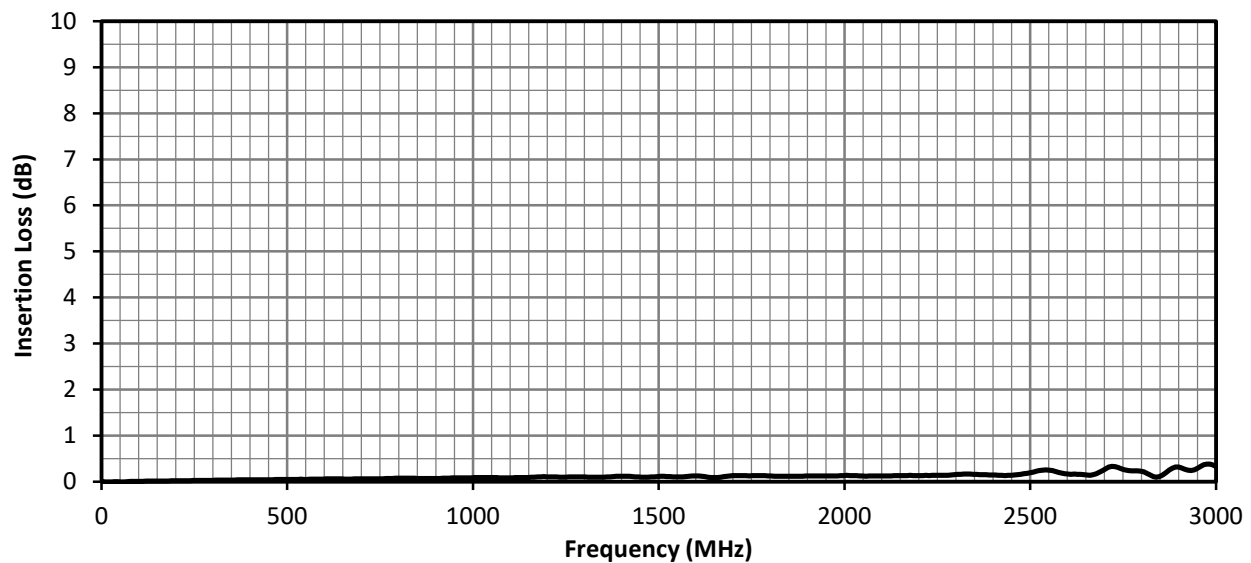


Figure 1. Insertion Loss for CONBNC001 Connector

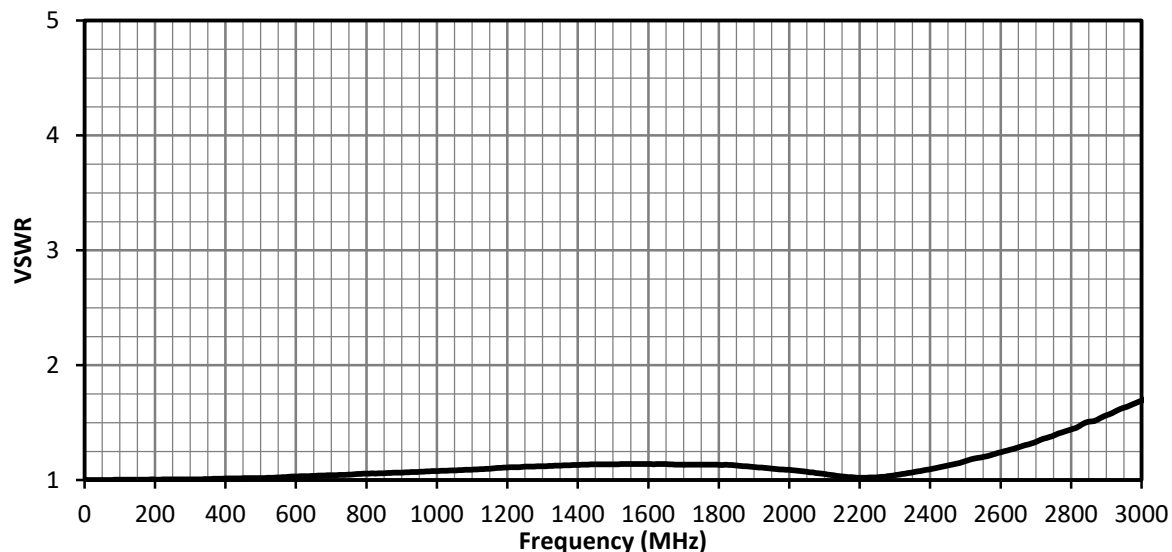


Figure 2. VSWR for the CONBNC001 Connector

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

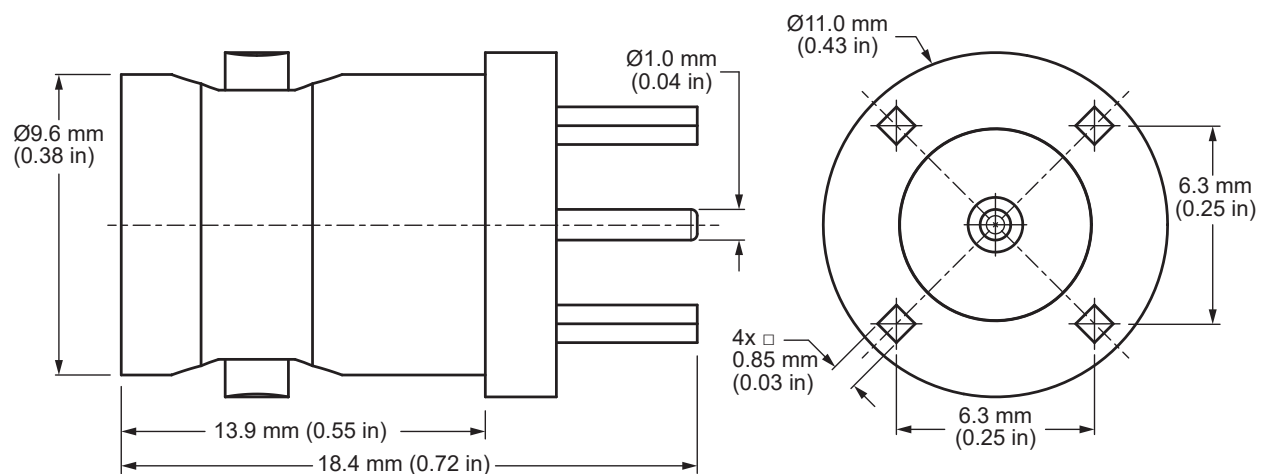


Figure 3. Product Dimensions for the CONBNC001 Connector

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.

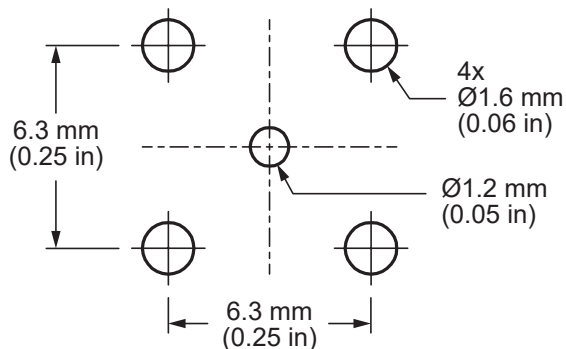


Figure 4. Recommended PCB Dimensions for the CONBNC001

### Reflow Solder Profile

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

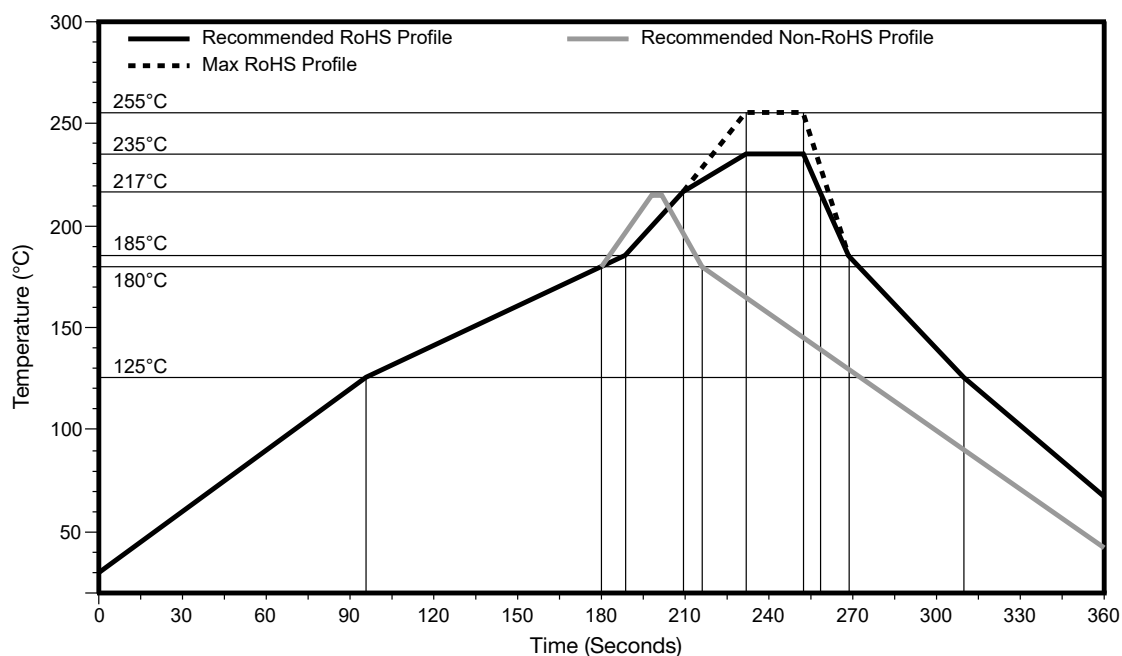


Figure 5. Recommended Reflow Solder Profile

### 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.

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

**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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