

## CONMHF4-SMD-G

### MHF4 Jack PCB Surface-Mount Connector

The CONMHF4-SMD is an MHF4-type jack (male pin) PCB surface-mount connector designed for reflow-solder mounting directly to a printed circuit board. Operating from 0 Hz to 6 GHz, the CONMHF4-SMD combines superior performance, compact size, and a convenient snap-on 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 6 GHz operation
- Gold plating
  - Superior corrosion resistance
- MHF4-type jack (male pin) connection
  - Gold plated brass center contact
- 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, BeiDou, QZSS
- Industrial/Commercial/Enterprise
- ISM

**TABLE 1. ELECTRICAL SPECIFICATIONS**

|                         |                                                              |       |
|-------------------------|--------------------------------------------------------------|-------|
| Impedance               | 50 $\Omega$                                                  |       |
| Frequency Range         | 0 Hz to 6 GHz                                                |       |
| Voltage Rating          | 60 V RMS                                                     |       |
| Contact Resistance      | Center: $\leq 20.0$ m $\Omega$ Outer: $\leq 20.0$ m $\Omega$ |       |
| Insulation Resistance   | 500 M $\Omega$ min.                                          |       |
| Select Frequencies      | 2.4 GHz                                                      | 5 GHz |
| Insertion Loss (dB max) | 0.58                                                         | 1.57  |
| VSWR (max)              | 1.1                                                          | 1.8   |

## ORDERING INFORMATION

| Part Number     | Description                                                                                          |
|-----------------|------------------------------------------------------------------------------------------------------|
| CONMHF4-SMD-G-T | MHF4-type gold plated jack (male pin) PCB surface-mount connector in tape and reel (10,000 per reel) |

Available from Linx Technologies and select distributors and representatives.

## PRODUCT DIMENSIONS

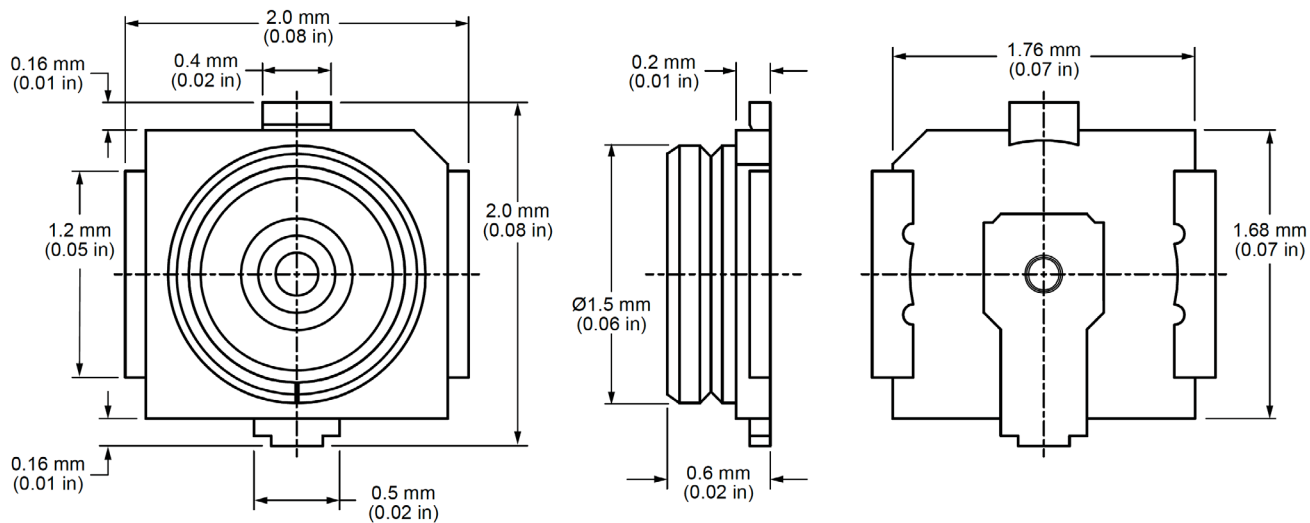


Figure 1. Product Dimensions for the CONMHF4-SMD-G Connector

## TABLE 2. CONNECTOR COMPONENTS

| Model                     | CONMHF4-SMD-G   |        |
|---------------------------|-----------------|--------|
| Connector Part            | Material        | Finish |
| Connector Body            | LCP, UL94V-0    | -      |
| Outer Contact             | Brass           | Gold   |
| Center Contact (male pin) | Brass           | Gold   |
| Signal Contact            | Phosphor Bronze | Gold   |
| Ground Contact            | Phosphor Bronze | Gold   |

## RECOMMENDED PCB FOOTPRINT

Figure 2 shows the connectors recommended PCB footprint.

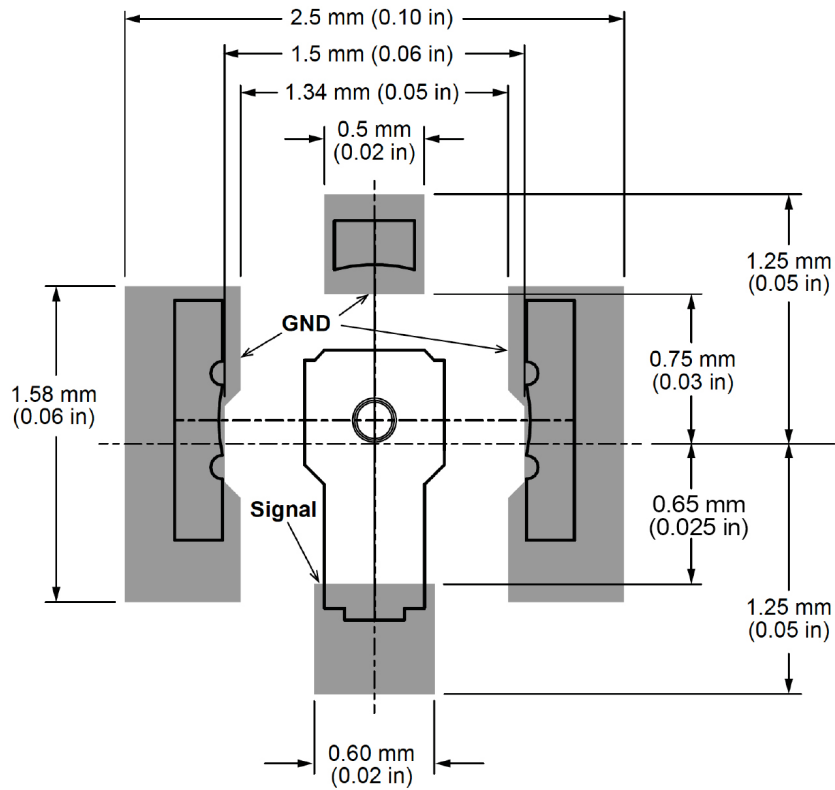


Figure 2. Recommended PCB Dimensions for the CONMHF4-SMD

## CONNECTOR PERFORMANCE

Table 3 shows insertion loss and VSWR values for the CONMHF4-SMD-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 CONMHF4-SMD-G CONNECTOR**

| Band                    | Low-Band Cellular/ISM/LPWA | GNSS                 | Midband Cellular     | WiFi/ISM |
|-------------------------|----------------------------|----------------------|----------------------|----------|
| Frequency Range         | 400 MHz to 960 MHz         | 1164 MHz to 1609 MHz | 1427 MHz to 5000 MHz | 2.4 GHz  |
| Insertion Loss (dB max) | 0.33                       | 0.43                 | 1.60                 | 0.58     |
| VSWR (max)              | 1.1                        | 1.8                  | 1.1                  | 1.1      |

**TABLE 4. MECHANICAL SPECIFICATIONS**

| Model                        | CONMHF4-SMD-G      |
|------------------------------|--------------------|
| Mounting Type                | PCB Surface-Mount  |
| Fastening Type               | Snap-on Coupling   |
| Interface in Accordance with | EIA-364            |
| Connector Durability         | 30 cycles min.     |
| Weight                       | 0.01 g (0.0004 oz) |

**TABLE 5. ENVIRONMENTAL SPECIFICATIONS**

| STD, Test Condition      |                   |
|--------------------------|-------------------|
| Corrosion (Salt spray)   | EIA 364-26        |
| Thermal Shock            | EIA 364-32        |
| Vibration                | EIA 364-28        |
| Mechanical Shock         | EIA 364-27        |
| Temperature Range        | -40 °C to +90 ° C |
| Environmental Compliance | RoHS              |

## REFLOW SOLDER PROFILE

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

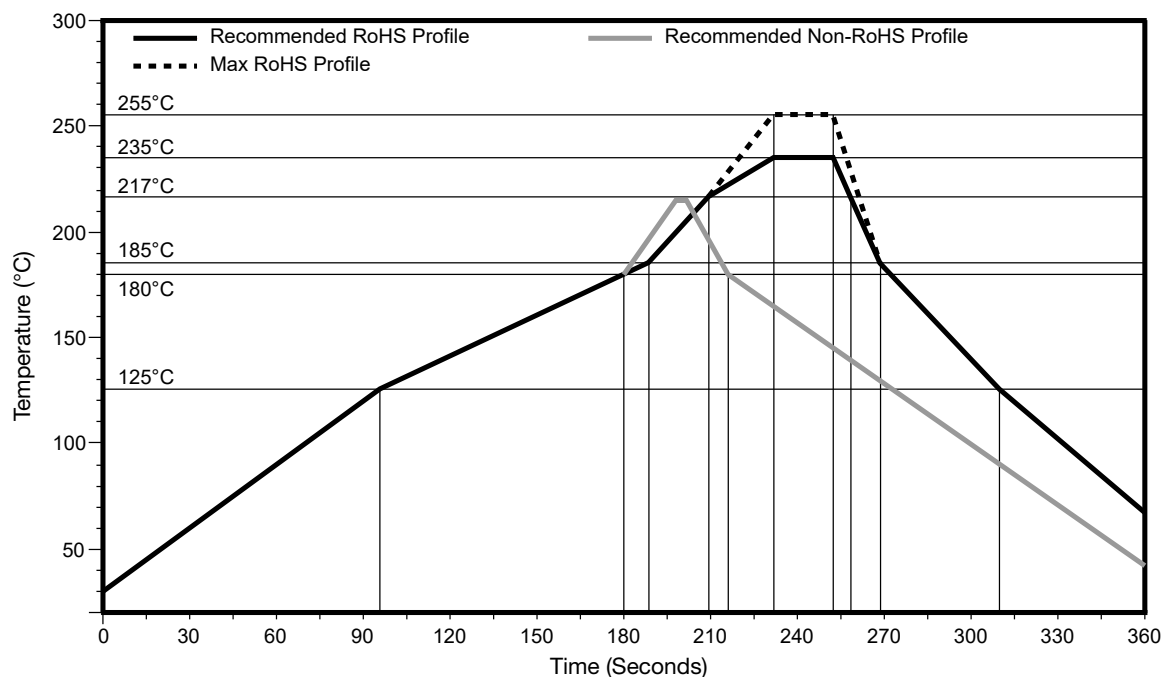


Figure 3. CONMHF4-SMD Recommended Reflow Solder Profile

PACKAGING INFORMATION

Figure 4 shows the tape dimensions for the CONMHF4-SMD connector. The reel specifications are provided in Figure 5.

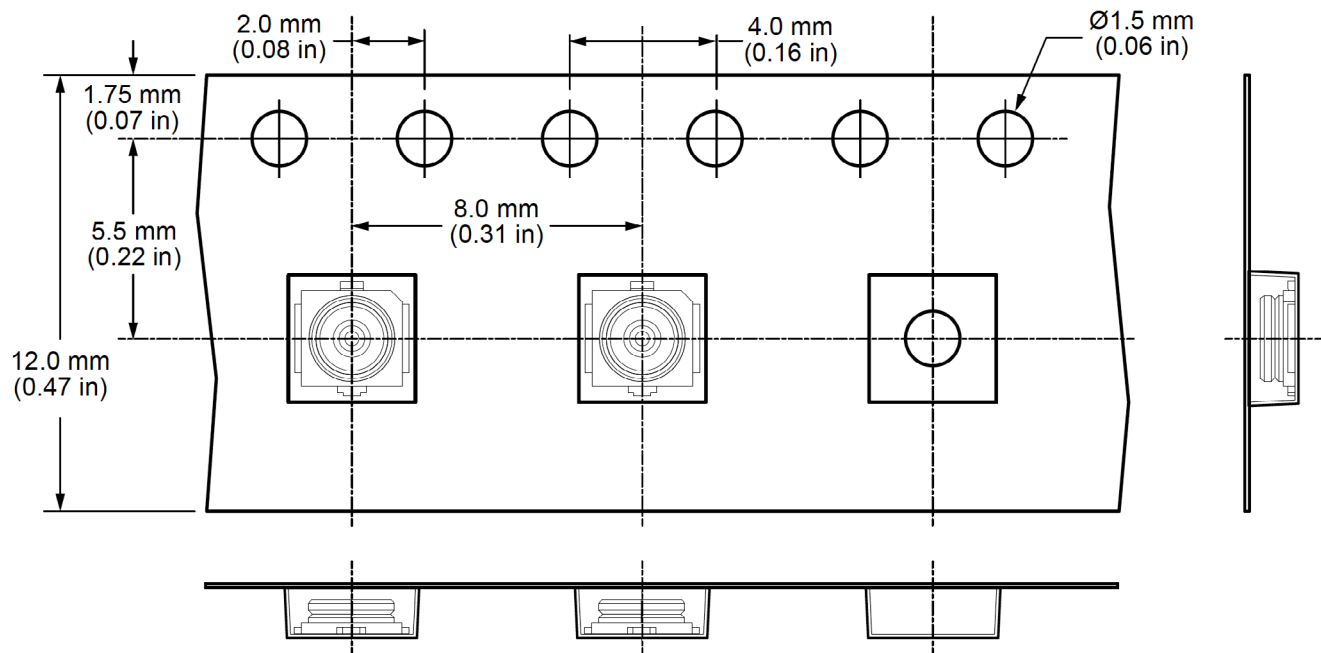
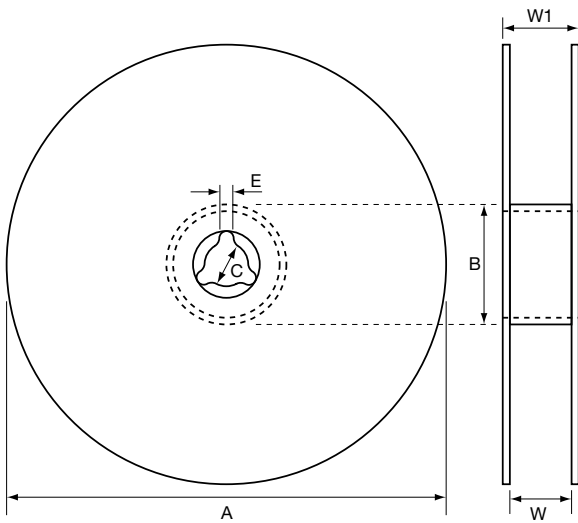


Figure 4. Tape Specifications for the CONMHF4-SMD Connector

PACKAGING INFORMATION (CONTINUED)



| Reel Dimensions |              |      |
|-----------------|--------------|------|
| Symbol          | Qty          | Unit |
| QTY per reel    | 10,000       | pcs  |
| Tape width      | 12.00        | mm   |
| A               | Ø 330 ±1     | mm   |
| B               | Ø 100 ±0.5   | mm   |
| C               | Ø 13.00 ±0.2 | mm   |
| E               | 2.2 ±0.5     | mm   |
| W               | 12 ±0.5      | mm   |
| W1              | 16.4 ±0.2    | mm   |

Figure 5. Reel Specifications for the CONMHF4-SMD Connector

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## TE TECHNICAL SUPPORT CENTER

|                   |                       |
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