

CONMHF1-SMD

U.FL-Type Jack PCB Surface-Mount Connector

The CONMHF1-SMD is an U.FL-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 CONMHF1-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
- MHF1/U.FL-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, GLONASS, BeiDou, QZSS
- Industrial/Commercial/Enterprise
- ISM

TABLE 1. ELECTRICAL SPECIFICATIONS

| | | |
|-------------------------|--|-------|
| Impedance | 50 Ω | |
| Frequency Range | 0 Hz to 6 GHz | |
| Voltage Rating | 60 V RMS | |
| Contact Resistance | Center: $\leq 6.0 \text{ m}\Omega$ Outer: $\leq 1.0 \text{ m}\Omega$ | |
| Insulation Resistance | 500 $\text{M}\Omega$ min. | |
| Select Frequencies | 2.4 GHz | 5 GHz |
| Insertion Loss (dB max) | 0.10 | 0.81 |
| VSWR (max) | 1.1 | 2.0 |

ORDERING INFORMATION

| Part Number | Description |
|-----------------|---|
| CONMHF1-SMD-T | MHF1/U.FL-type nickel plated jack (male pin) PCB surface-mount connector in tape and reel (4500 per reel) |
| CONMHF1-SMD-G-T | MHF1/U.FL-type gold plated jack (male pin) PCB surface-mount connector in tape and reel (4500 per reel) |

Available from Linx Technologies and select distributors and representatives.

PRODUCT DIMENSIONS

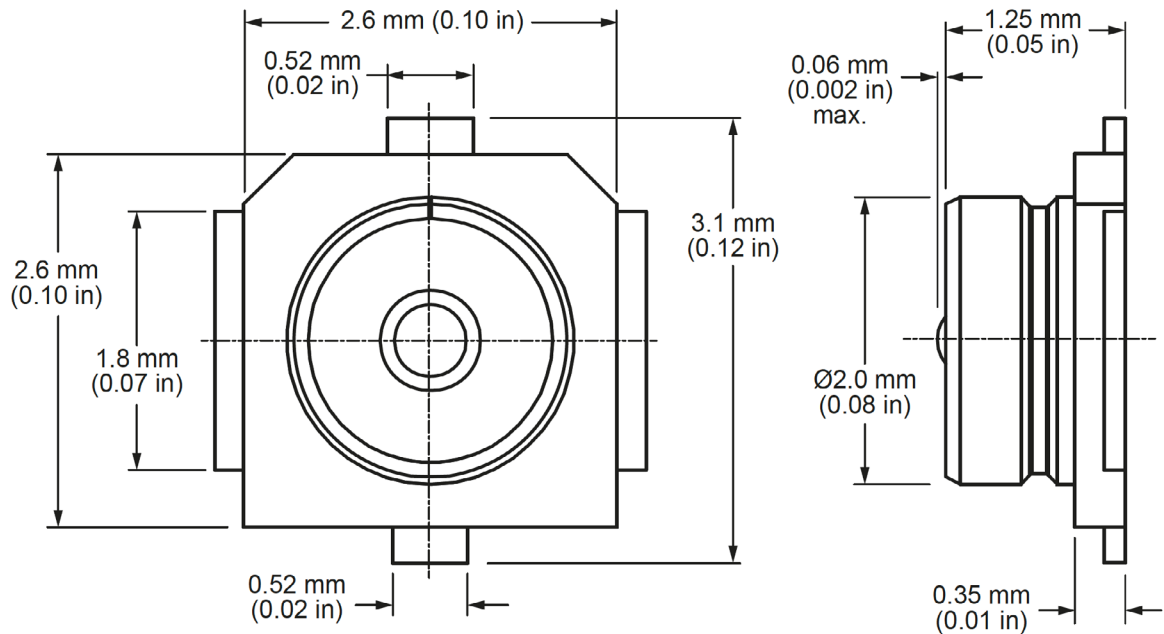


Figure 1. Product Dimensions for the CONMHF1-SMD Connector

TABLE 2. CONNECTOR COMPONENTS

| Model | CONMHF1-SMD | | CONMHF1-SMD-G | |
|---------------------------|-----------------|--------|-----------------|--------|
| Connector Part | Material | Finish | Material | Finish |
| Connector Body | LCP, UL94V-0 | - | LCP, UL94V-0 | - |
| Outer Contact | Brass | Nickel | Brass | Gold |
| Center Contact (male pin) | Brass | Gold | Brass | Gold |
| Signal Contact | Phosphor Bronze | Gold | Phosphor Bronze | Gold |
| Ground Contact | Phosphor Bronze | Gold | Phosphor Bronze | Gold |

RECOMMENDED PCB FOOTPRINT

Figure 2 shows the connectors recommended PCB footprint for the CONMHF1-SMD connector.

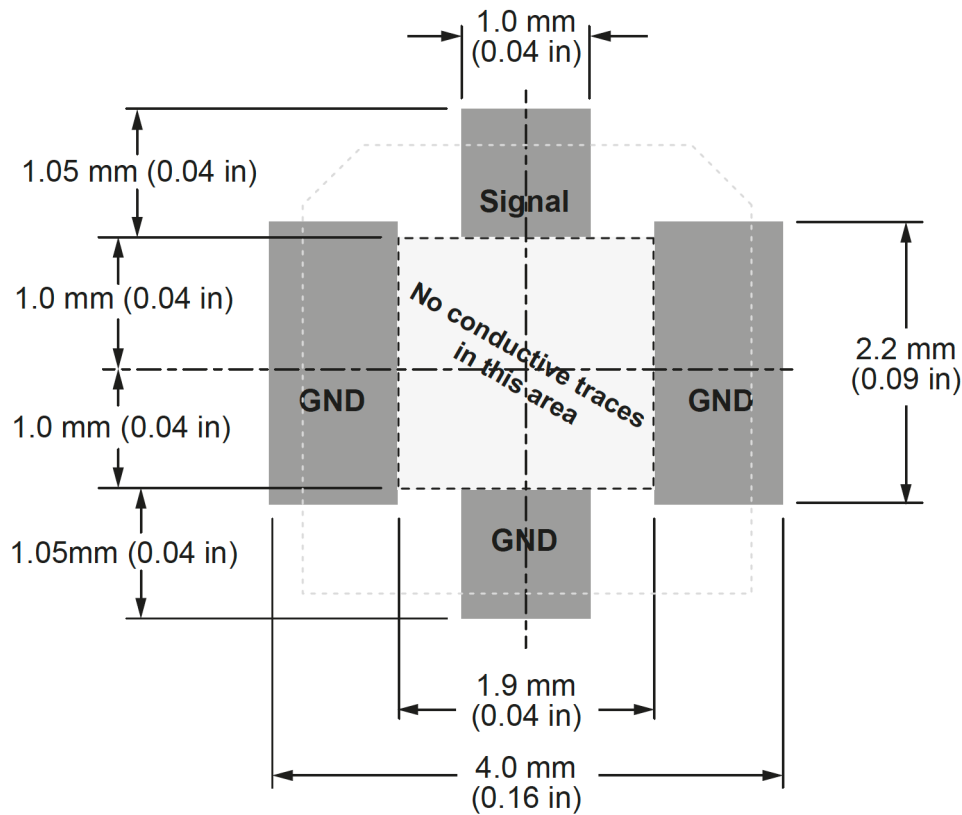


Figure 2. Recommended PCB Dimensions for the CONMHF1-SMD

CONNECTOR PERFORMANCE

Table 3 shows insertion loss and VSWR values for the CONMHF1-SMD 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 CONMHF1-SMD 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) | 0.04 | 0.07 | 0.85 | 0.10 |
| VSWR (max) | 1.1 | 1.1 | 2.0 | 1.1 |

TABLE 4. MECHANICAL SPECIFICATIONS

| Model | CONMHF1-SMD |
|------------------------------|---------------------|
| Mounting Type | PCB Surface-Mount |
| Fastening Type | Snap-on Coupling |
| Interface in Accordance with | EIA-364 |
| Connector Durability | 30 cycles min. |
| Weight | 0.017 g (0.0006 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.

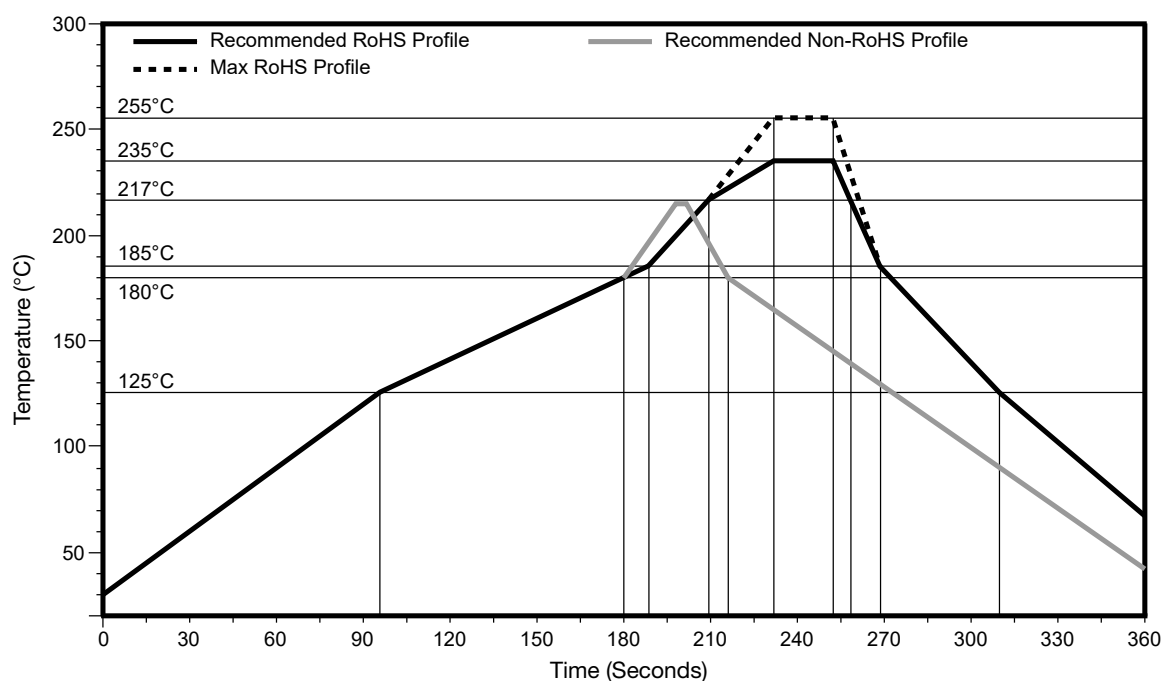


Figure 3. CONMHF1-SMD Recommended Reflow Solder Profile

PACKAGING INFORMATION

Figure 4 shows the tape dimensions for the CONMHF1-SMD connector. The reel specifications are provided in Figure 5.

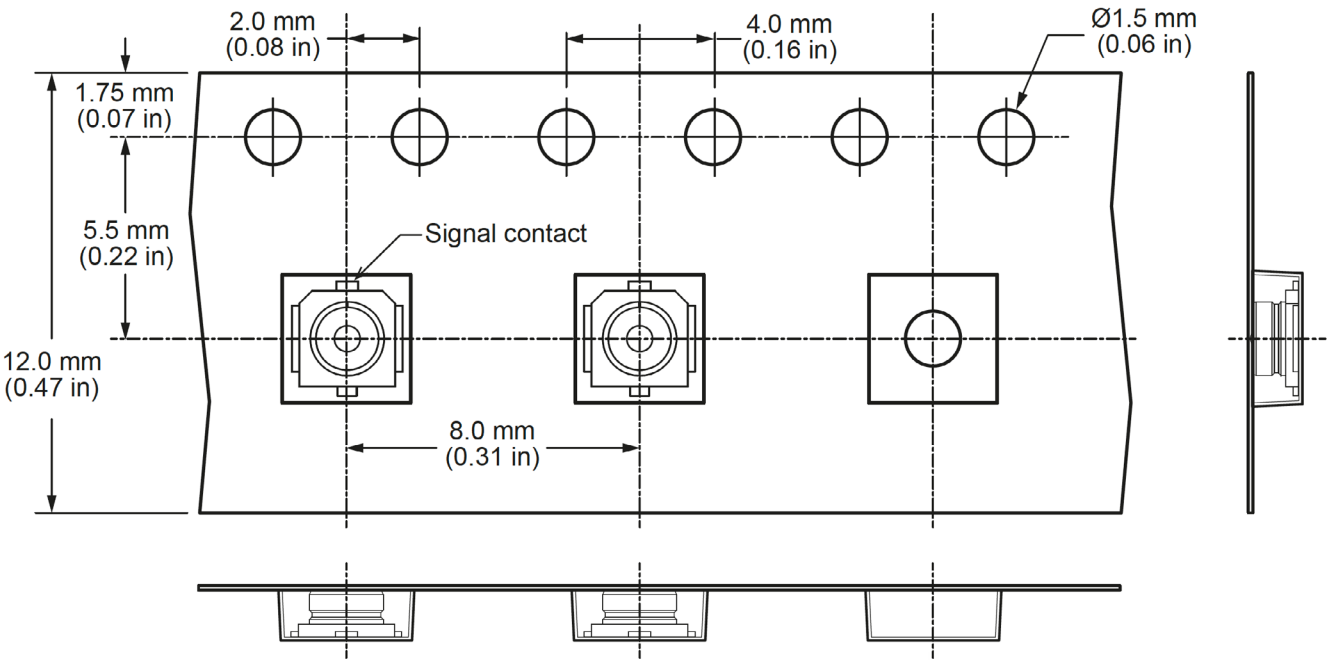
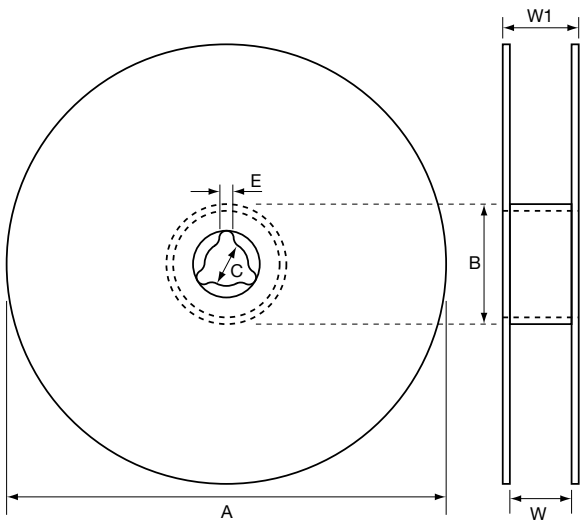


Figure 4. Tape Specifications for the CONMHF1-SMD Connector

PACKAGING INFORMATION (CONTINUED)



| Reel Dimensions | | |
|-----------------|--------------|------|
| Symbol | Qty | Unit |
| QTY per reel | 4,500 | 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 CONMHF1-SMD Connector

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| | |
|-------------------|-----------------------|
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