



**Focus on the future** **Waveguide Low Noise Amplifier**  
**MM-MLN-140220-20-70**  
**140 to 220 GHz**

**General Description:**

MM-MLN-140220-20-70 is a Waveguide Low Noise Amplifier that operates over the frequency range of 140 to 220 GHz. This model provides a typical gain of 20 dB and a typical noise figure of 7.0 dB. It provides an OP1dB of 0 dB typical and operates on +5 VDC with a typical current draw of 30 mA.

**Features:**

- Ultra Wide Band: 140-220 GHz
- Gain: 20 dB
- Internally regulated
- Unconditionally stable

**Applications:**

- Radar Systems
- Communication Systems
- Receivers Systems

**Electrical Specifications (23° C):**

| Parameter           | Value |     |     | Units |
|---------------------|-------|-----|-----|-------|
|                     | Min   | Typ | Max |       |
| Frequency Range     | 140   |     | 220 | GHz   |
| Gain                |       | 20  |     | dB    |
| Gain Flatness       |       | -   |     | dB    |
| Noise Figure        |       | 7.0 |     | dB    |
| Output Power (P1dB) |       | -   |     | dBm   |
| Psat                |       | -   |     | dBm   |
| Input VSWR          |       | -   |     | :1    |
| Output VSWR         |       | -   |     | :1    |
| DC Voltage          |       | +5  |     | V     |
| DC Current          |       | 30  |     | mA    |

**Absolute Maximum Ratings:**

| Condition               | Value                |
|-------------------------|----------------------|
| DC Voltage              | +5V                  |
| Maximum Input Power(CW) | -25 dBm              |
| ESD sensitivity (HBm)   | Class 0, passed 150V |

**Mechanical Specifications:**

| Parameter    | Value        |
|--------------|--------------|
| Length       | 43.5 mm      |
| Width        | 19 mm        |
| Height       | 19 mm        |
| RF Connector | WR5.1/UG-387 |



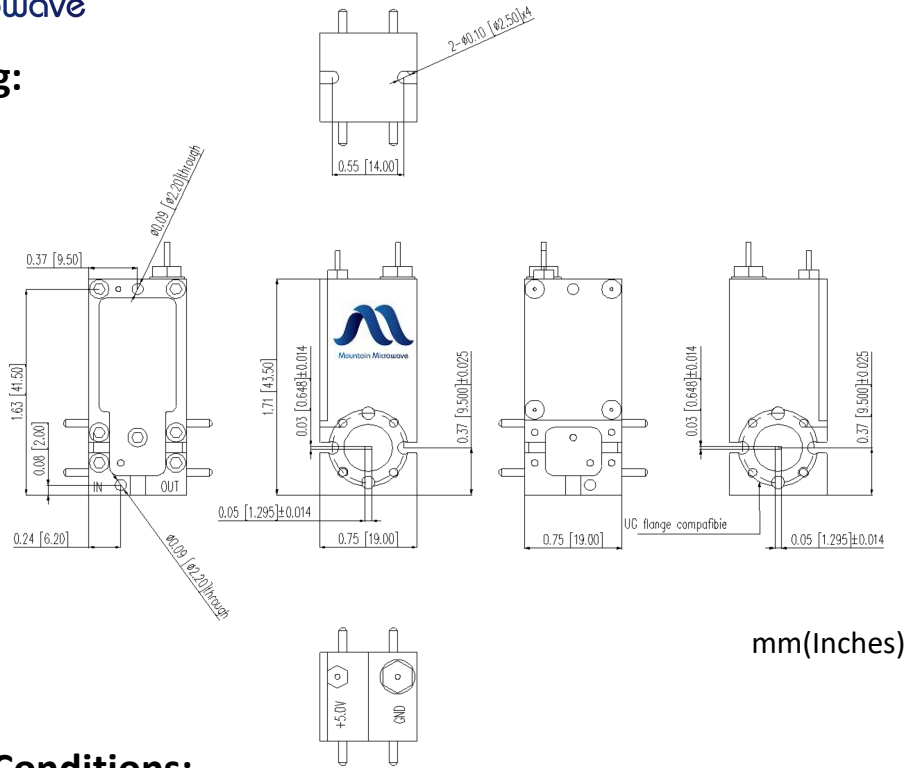
Mountain Microwave

# Focus on the future Waveguide Low Noise Amplifier

MM-MLN-140220-20-70

140 to 220 GHz

## Outline Drawing:



mm(Inches)

## Environmental Conditions:

| Parameter               | Standard                            | Description                   |
|-------------------------|-------------------------------------|-------------------------------|
| Operational Temperature |                                     | -10°C~+65°C                   |
| Storage Temperature     |                                     | -45°C~+125°C                  |
| Random Vibration        | MIL-STD-883K, Method 2026, Cond. IB | 50 - 2000 Hz, 7.3 Grms        |
| Humidity                | MIL-STD-202, Method 103B, Cond. B   | 100% RH at 35c, 95%RH at 40°C |
| Altitude                | MIL-STD-883K, Method 1001, Cond. C  | 50,000 feet                   |

## Caution:

- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- Heat Sink required during operation.

Please note, all information contained in this data sheet is subject to change without notice.

ver 2.0 0318