泰莱微波
Talent Microwave

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# Low Noise Amplifier

## WR-08/90-140GHz/4.5dB NF/40dB Gain  Model: TMLA-090140-4045-08

TMLA-090140-4045-08 is a F-Band low noise amplifier with a typical small signal gain of 40 dB and a nominal noise figure of 4.5 dB across the frequency range of 90 to 140 GHz. The DC power requirement for the amplifier is +12 V DC/40 mA. The input and output port configuration offers an inline structure with WR-08 waveguides and UG-387/U-M anti-cocking flanges.

## Features:

- Frequency range:90-140GHz
- Gain: 40dB Typ
- Noise Figure: 4.5dB Typ
- Unconditional stability

## Applications:

- Passive Imaging
- 5G Systems

## Electrical Characteristics:

| Parameter | Min | Typ | Max | Units |
|---|---|---|---|---|
| Frequency range | 90 | | 140 | GHz |
| Small Signal Gain | | 40 | | dB |
| Gain Flatness | | ±2 | | dB |
| Noise Figure | | 4.5 | | dB |
| Output P1dB | | -2 | | dBm |
| Input VSWR | | 2.2 | | :1 |
| Output VSWR | | 2.2 | | :1 |
| DC Voltage | | 12 | | V DC |
| DC Supply Current | | 40 | | mA |

## Mechanical Specifications:

| Parameter | Value | Units |
|---|---|---|
| Input Connector | WR-08/ UG-387/U | |
| Output Connector | WR-08/ UG-387/U | |
| Power Supply Pin | Solder Pin | |
| Size | 39*30*23 | mm |

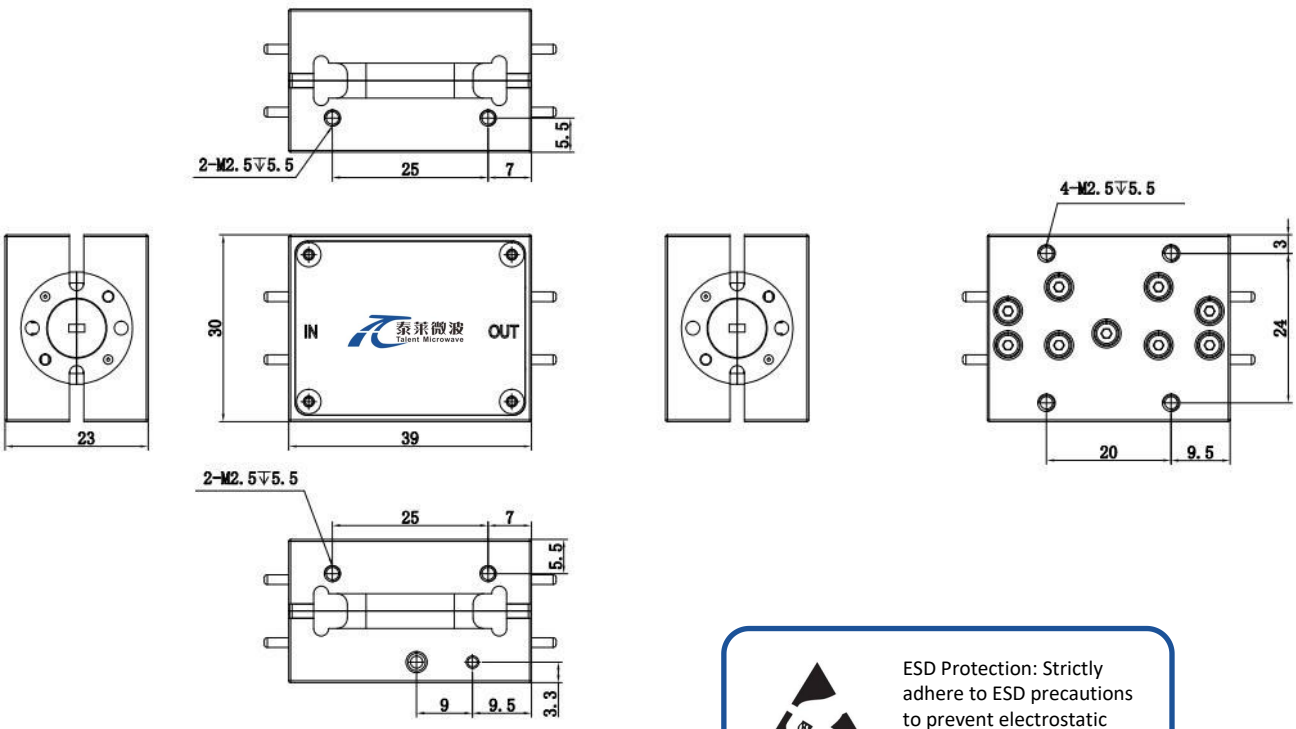
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## Absolute Maximum Ratings:

| Parameter | Value |
|---|---|
| Supply Bias Voltage | +15 V |
| RF Input Power | 5 dBm |
| ESD sensitivity (HBm) | Class 0, passed 150V |

## Outline Drawing:

Unit:mm; Tolerance:±0.1mm




ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

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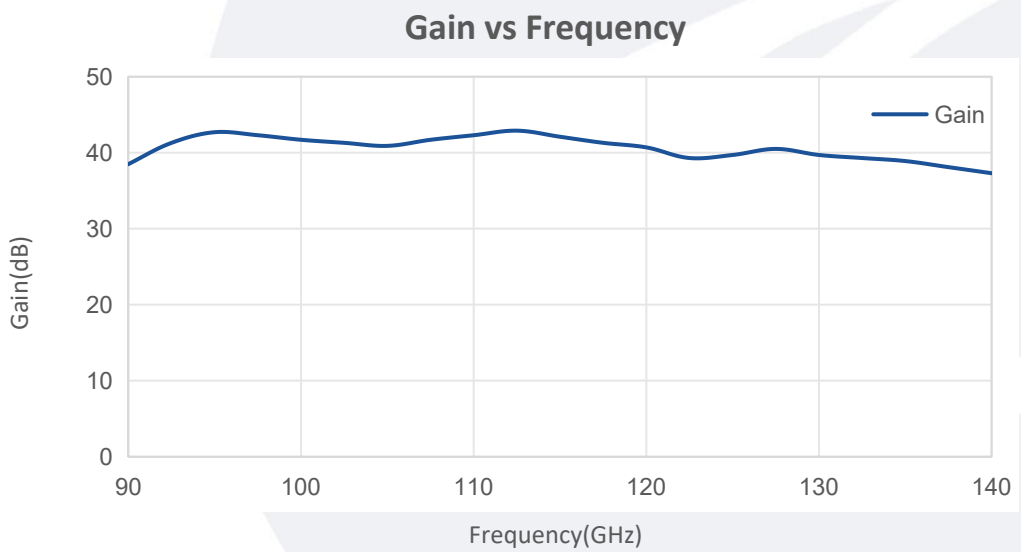
## Environmental Conditions:

| Parameter | Min | Typ | Max | Units |
|---|---|---|---|---|
| Operating Temperature | -10 | | +65 | ℃ |
| Non-operating Temperature | -45 | | +85 | ℃ |
| Relative humidity | | 95 | | % |
| Altitude | 10,000 | | | feet |
| Shock / Vibration(MIL-STD-810F) | 25g rms (15 degree 2KHz) endurance, 1 hour per axis | | | |
| Shock(non operating) | 20G for 11msc half sin wave,3 axis both directions | | | |

## Ordering Information:

| Base Number | Description | Revision |
|---|---|---|
| TMLA-090140-4045-08 | Low Noise Amplifier,90-140GHz,<br>Noise Figure:4.5dB, Gain:40dB,+12V DC,WR-08 | Rev.1.0 |

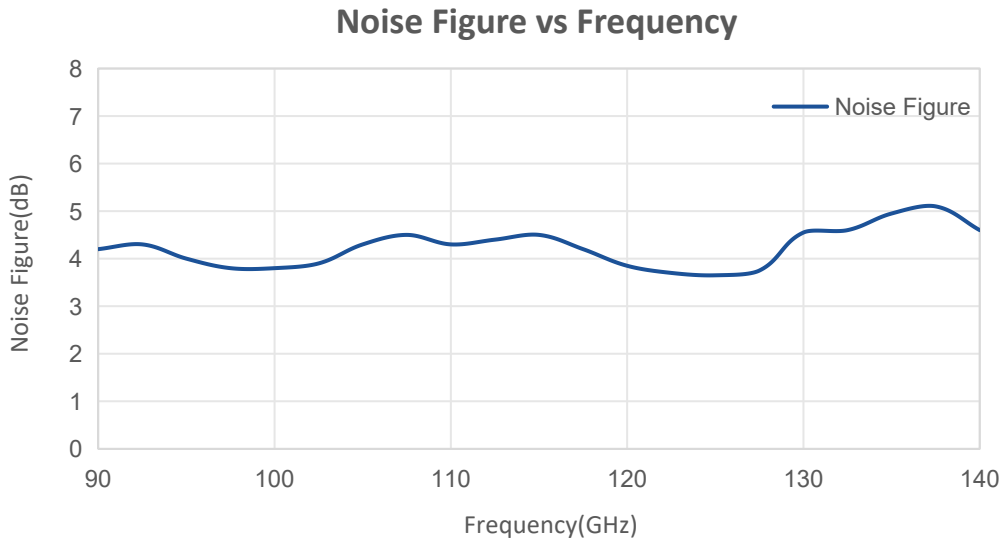
## Typical Performance Data:

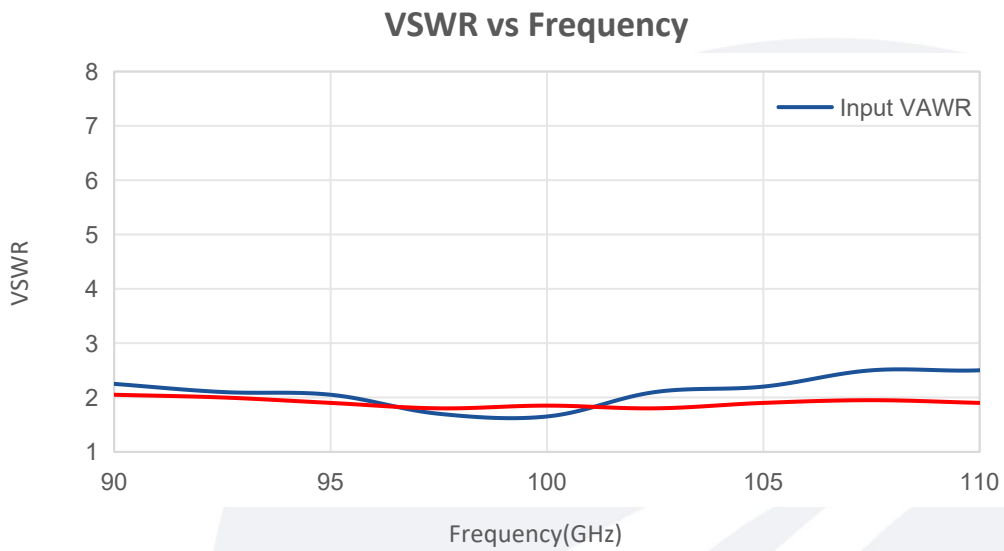



Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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