泰莱微波
Talent Microwave

Suzhou Talent Microwave,Inc
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# D-Band Fundamental Mixer

## RF:110-170 GHz/LO:110-170 GHz/IF:DC-30 GHz  Model: TLBM-110170-30-06

TLBM-110170-30-06 is a D-Band Fundamental mixer. The mixer supports the full waveguide band operation for LO and RF frequency from 110 to 170 GHz with an extremely broad IF output from DC to 30 GHz. The mixer offers a conversion loss of 9dB@IF=1GHz maximum and LO input power of 10 dBm typical. The D-band,X12 multiplier of Talent model TMAM-110170-1208-06 can be used as the LO driver for this mixer.

## Features:

- RF Frequency range: 110-170GHz
- LO Frequency range: 110-170GHz
- IF Frequency range: DC-30GHz
- Low LO Power Requirement
- Suggested LO drive model: TMAM-110170-1208-06

## Applications:

- Radar Systems
- Communication Systems
- Test Equipment

## Electrical Characteristics:

| Parameter | Min | Typ | Max | Units |
|---|---|---|---|---|
| RF Frequency | 110 | | 170 | GHz |
| LO Frequency | 110 | | 170 | GHz |
| IF Frequency | DC | | 30 | GHz |
| LO Input Power | 7 | | 12 | dBm |
| Conversion Loss@IF=1GHz | | 9 | | dB |
| Conversion Loss@LO=110GHz | | 10 | | dB |
| Input 1dB Gain Compression Point | | 3 | | dBm |
| Output 1dB Gain Compression Point | | -6 | | dBm |
| Bias Voltage | -1.2 | -1 | -0.8 | V DC |

## Mechanical Specifications:

| Parameter | Value | Units |
|---|---|---|
| RF Connector | WR-6.5/UG-387/U | |
| LO Connector | WR-6.5/UG-387/U | |

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## Mechanical Specifications:

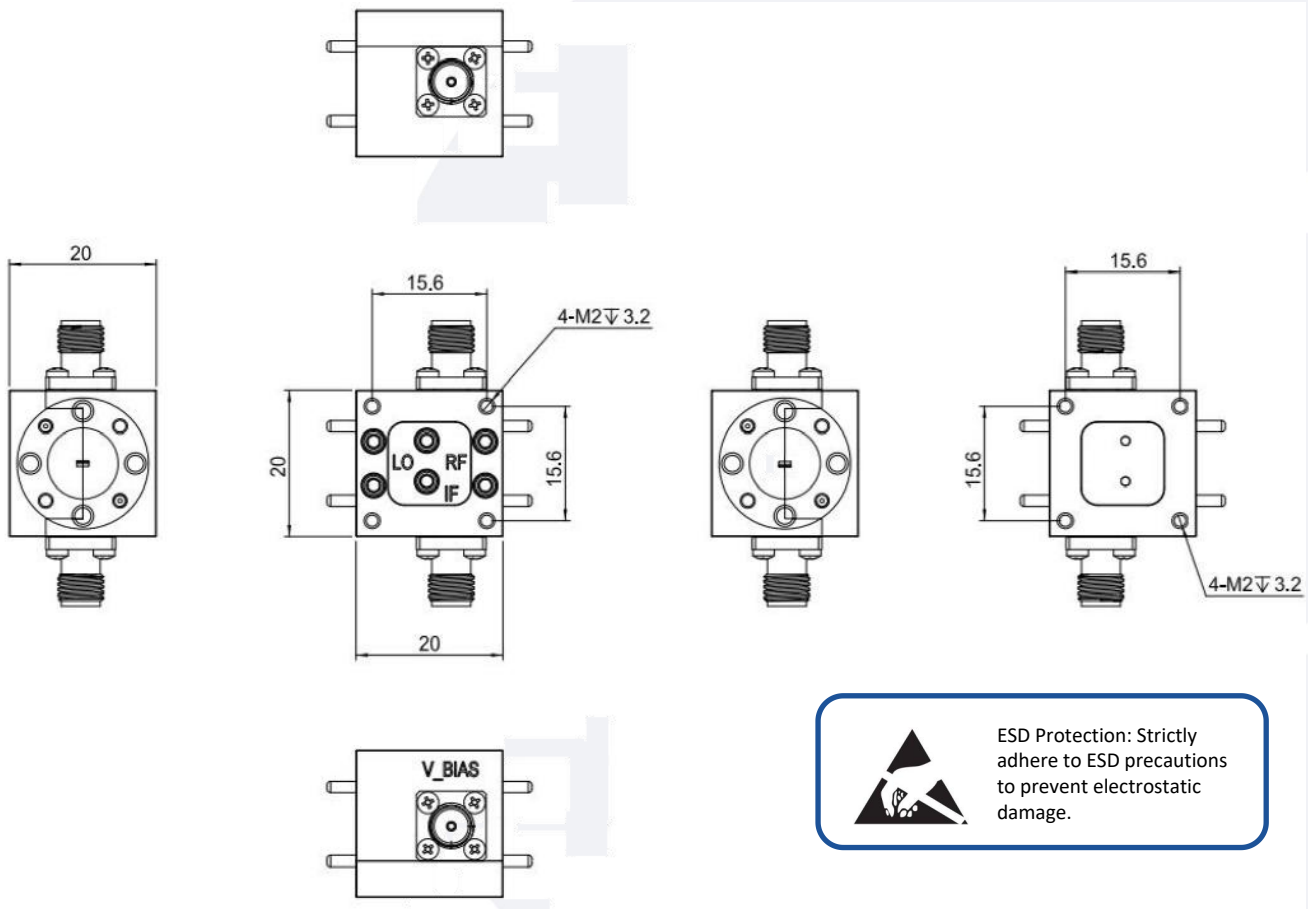
| Parameter | Value | Units |
|---|---|---|
| IF Connector | 2.92mm Female | |
| Bias Connector | SMA Female | |

## Absolute Maximum Ratings:

| Parameter | Value |
|---|---|
| RF Input Power | 13 dBm |
| IF Input Power | 13 dBm |
| LO Input Power | 13 dBm |
| Bias Voltage | -2V~0V |
| 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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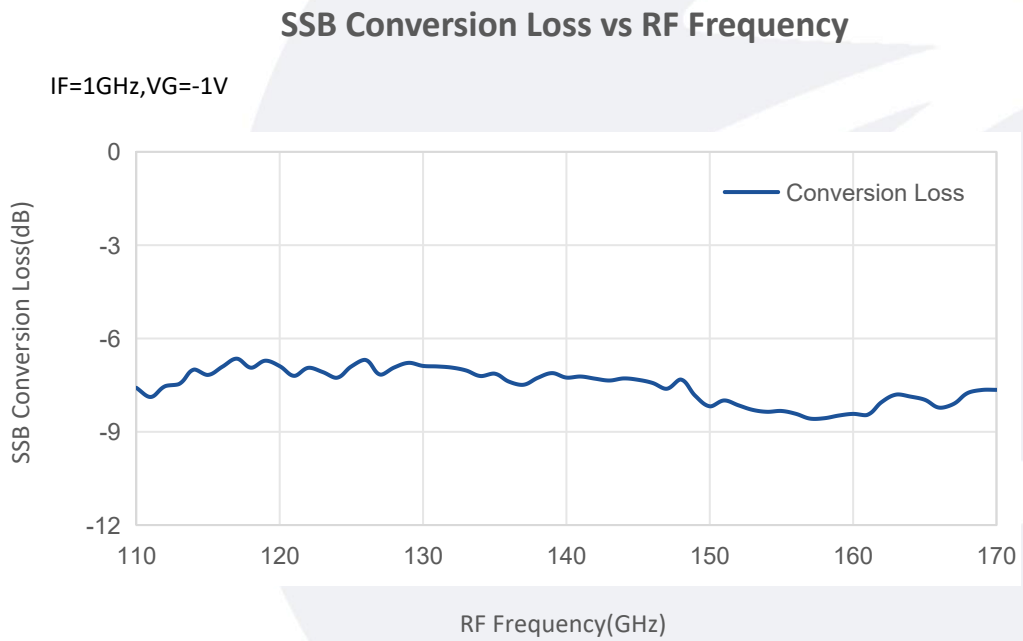
## Environmental Conditions:

| 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 |
|---|---|---|
| TLBM-110170-30-06 | D-Band Fundamental Mixer<br>RF:110-170GHz,LO:110-170GHz,IF:DC-30GHz | Rev.1.1 |

## 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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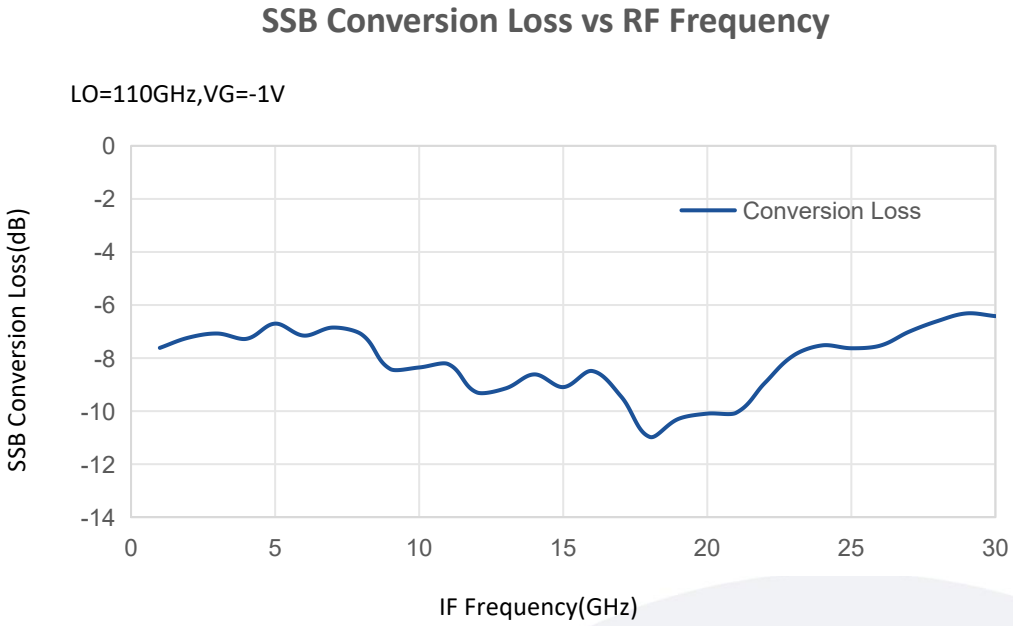


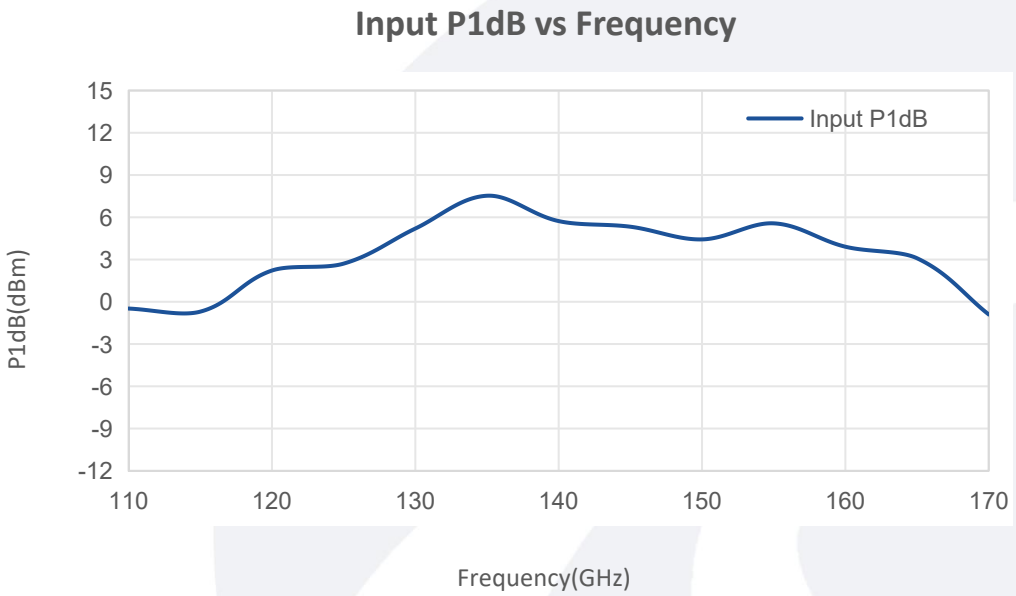


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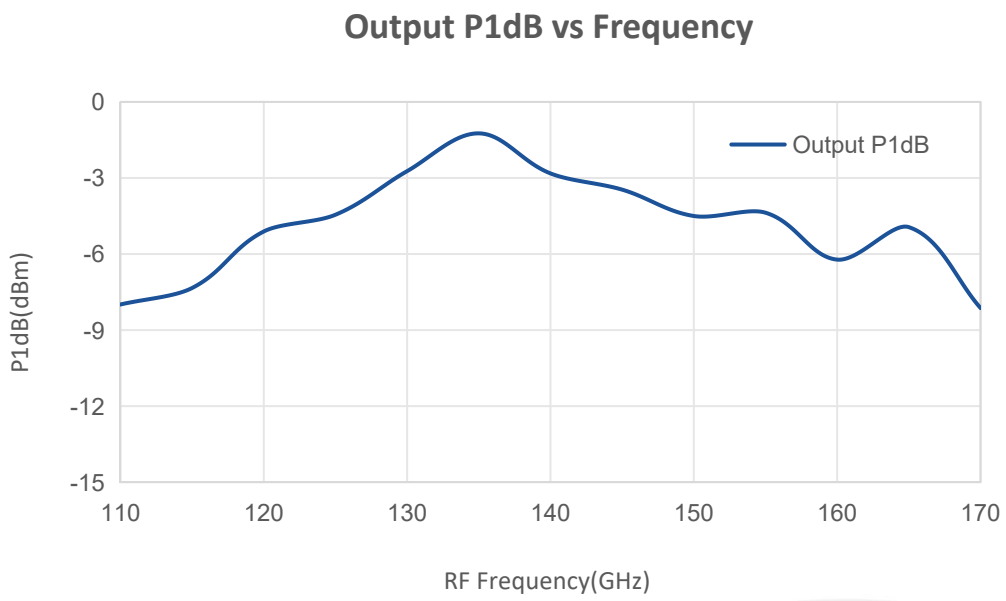
## 典型曲线 Typical Performance Data:

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