泰莱微波
Talent Microwave

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# G-Band Power Amplifier

## WR-5.1/140-220GHz/12dB Gain/13dBm Psat  Model: TMPA-140220-2013-05

TMPA-140220-2013-05 is a G-Band power amplifier with a typical small signal gain of 12 dB and a nominal Psat of 13 dBm across the frequency range of 140 to 220 GHz. The DC power requirement for the amplifier is +12 VDC/360mA. The input and output port configuration offers an inline structure with WR-5.1 waveguides and UG-387/U-M anticocking flanges.

### Features:

- Frequency range: 140-220GHz
- Gain: 12dB Typ
- Output Power Psat: 13dBm Typ
- Good Power and Gain Flatness

### Applications:

- Passive Imaging
- Communication Systems
- Radar Systems

### 电气特性 Electrical Characteristics:

| 参数 Parameter | Min | Typ | Max | 单位 Units |
|---|---|---|---|---|
| 频率范围 Frequency range | 140 | | 220 | GHz |
| 小信号增益 Small Signal Gain | | 12 | | dB |
| 功率增益 Power Gain | | 9 | | dB |
| 饱和输出功率 Output Psat | | 13 | | dBm |
| 驻波 VSWR | | 3 | | :1 |
| 直流电压 DC Voltage | | 12 | | V DC |
| 直流电流 DC Supply Current | | 360 | | mA |

### 机械特性 Mechanical Specifications:

| 参数 Parameter | 指标 Value | 单位 Units |
|---|---|---|
| 输入/输出接口 Input /Output Connector | WR-5.1/UG-387/U | |
| 直流偏置 DC Bias | Solder Pin | |
| 尺寸 Size | 35.2*30*23(Without heatsink)<br>35.2*70*43(With heatsink) | mm |

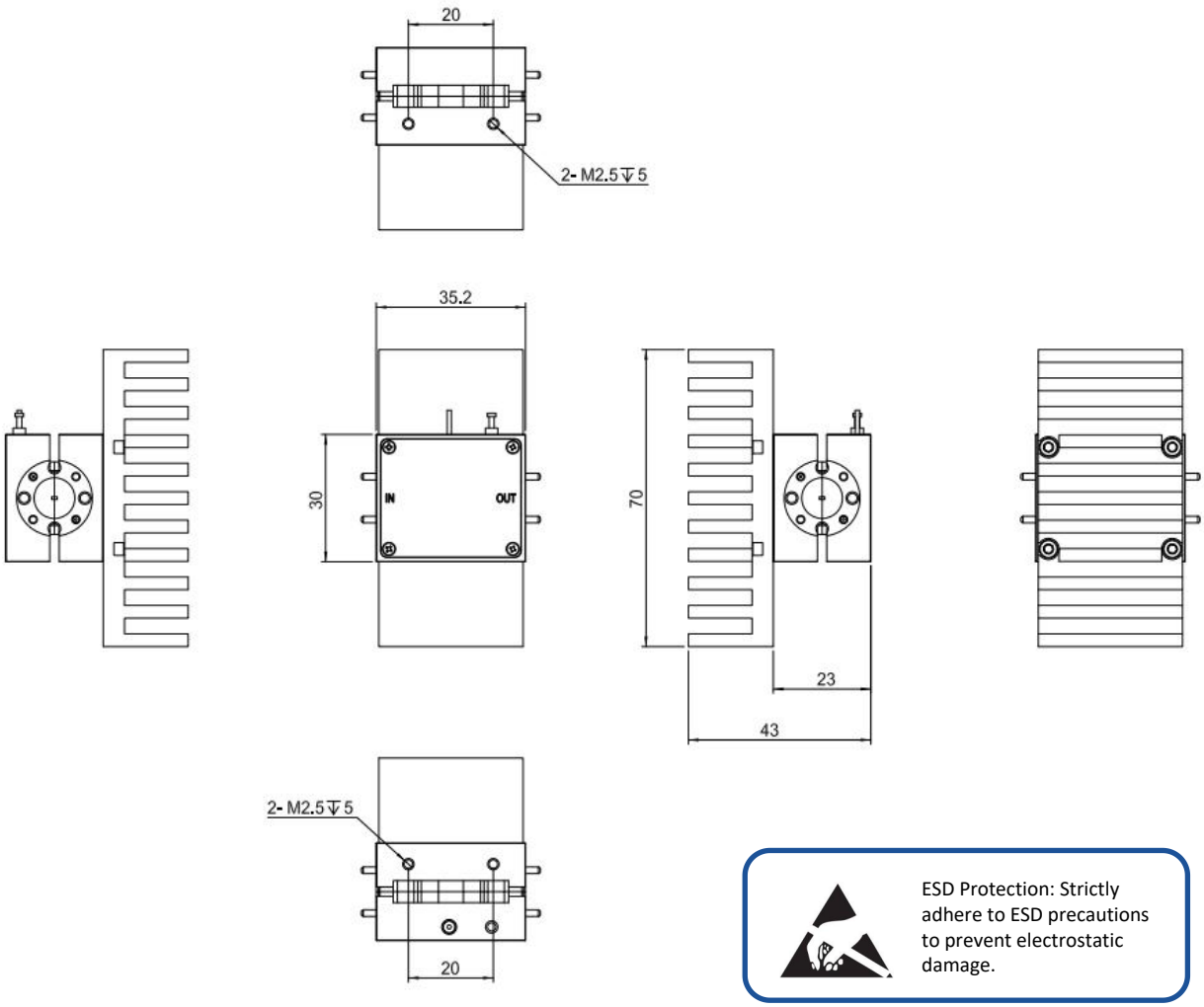
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## 绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter | 指标 Value |
|---|---|
| 供电偏置电压 Supply Bias Voltage | +15 V |
| 输入功率 RF Input Power | +10 dBm |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |

## 外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm




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

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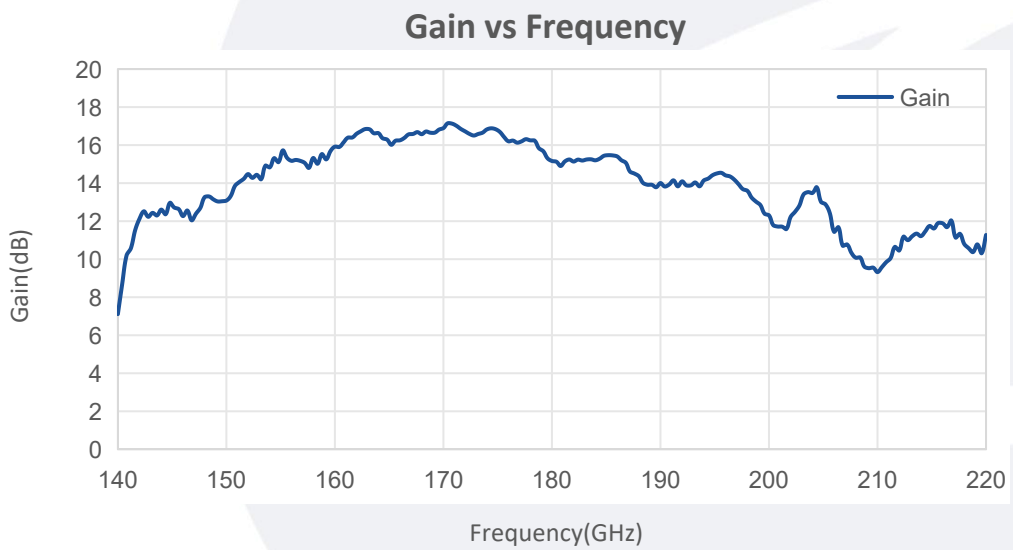
## 温度环境 Environmental Conditions:

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

## 订货信息 Ordering Information:

| 标准型号 Base Number | 描述 Description | 版本号 Revision |
|---|---|---|
| TMPA-140220-2013-05 | Power Amplifier, 140-220GHz, Gain: 12dB Type, Psat: 13dBm Type, +12V DC,WR-5.1 | Rev.1.1 |

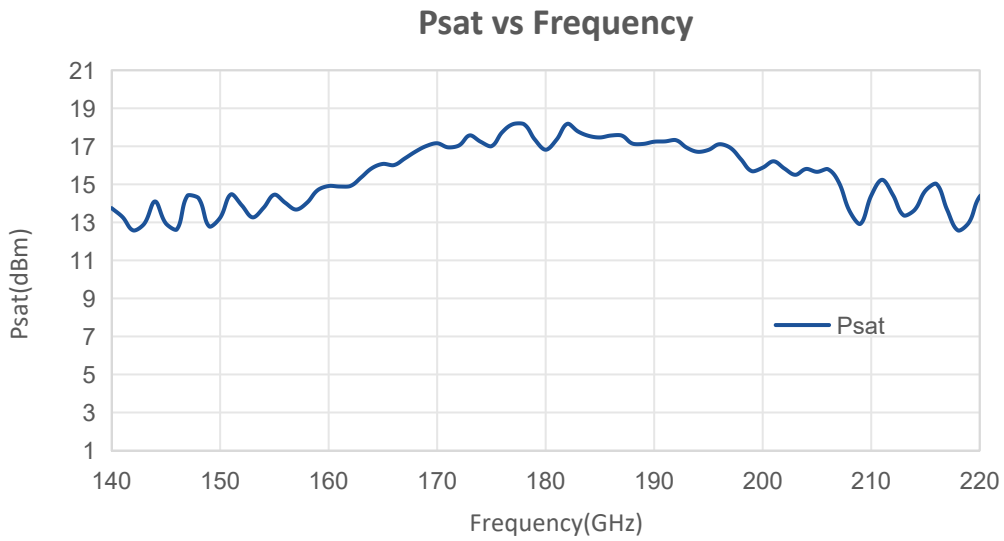
## 典型曲线 Typical Performance Data:

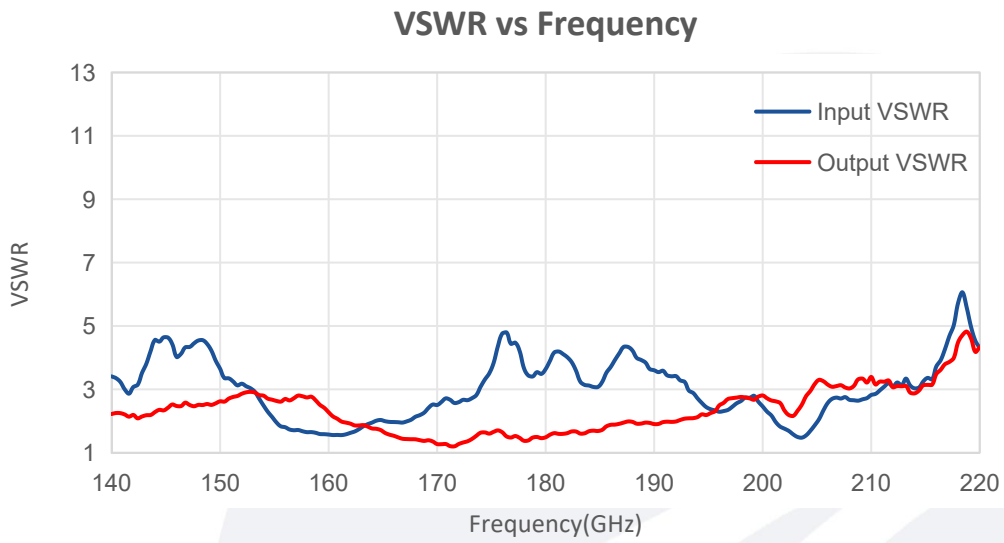



Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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