

## W-Band Power Amplifier

**WR-10/75-110GHz /30dB Gain/21 dBm Psat****Model: TMPA-075110-3021-10**

TMPA-075110-3021-10 is a W-Band power amplifier with a typical small signal gain of 30 dB and a Psat of 21 dBm across the frequency range of 75 to 110 GHz. The DC power requirement for the amplifier is +12 VDC/290mA. The input and output port configuration offers an inline structure with WR-10 waveguides and UG-387/U-M antickocking flanges.

### Features:

- Ultra Wide Band: 75-110GHz
- Gain: 30dB Typ
- Output Power Psat: 21dBm Min
- 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    | 75-110 |     |     | GHz      |
| 小信号增益 Small Signal Gain |        | 30  |     | dB       |
| 饱和输出功率 Output Psat      | 21     |     |     | dBm      |
| 输入驻波 Input VSWR         |        |     | 2   | :1       |
| 输出驻波 Output VSWR        |        | 2   |     | :1       |
| 直流电压 DC Voltage         |        | 12  |     | V DC     |
| 直流电流 DC Current         |        | 290 |     | mA       |

## 机械特性 Mechanical Specifications:

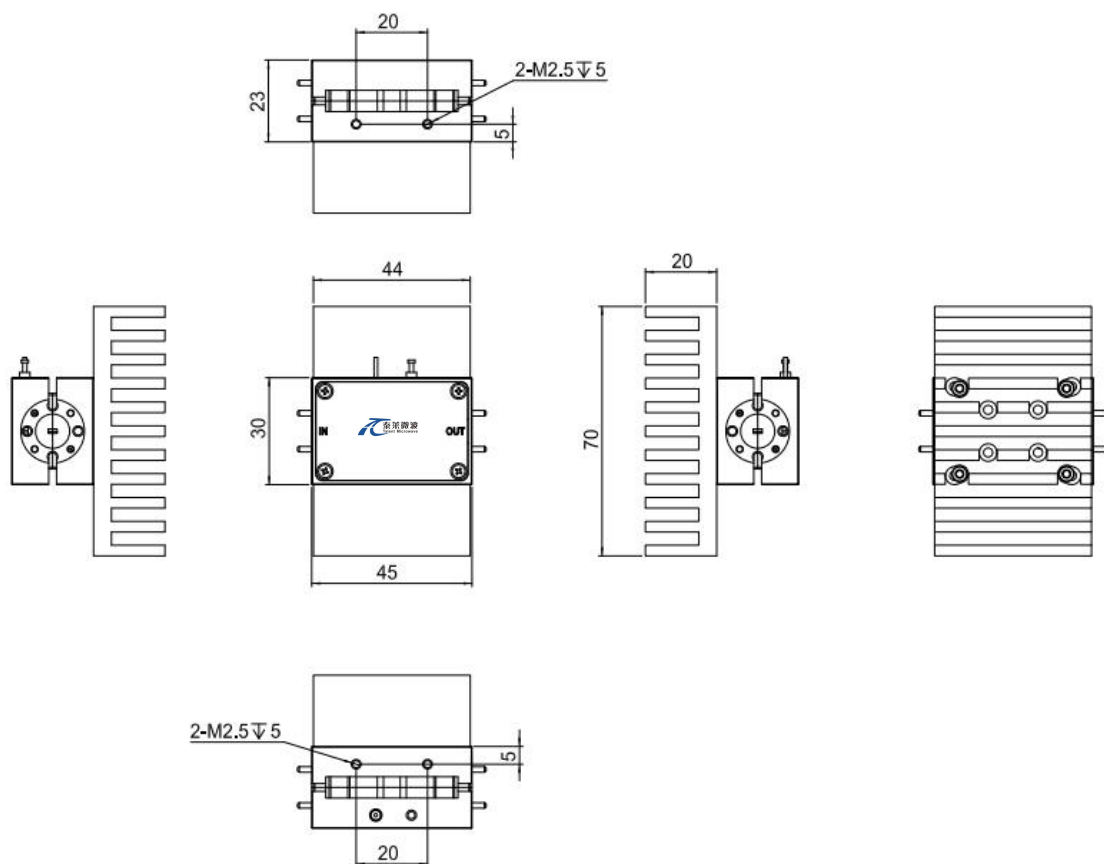
| 参数 Parameter                    | 指标 Value                                              | 单位 Units |
|---------------------------------|-------------------------------------------------------|----------|
| 输入/输出接口 Input /Output Connector | WR-10/UG-387/U                                        |          |
| 直流偏置 DC Bias                    | Solder Pin                                            |          |
| 尺寸 Size                         | 45*30*23(Without Heatsink)<br>45*70*43(With Heatsink) | mm       |

## 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          | +15 dBm              |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |

## 外形图 Outline Drawing:

Unit:mm



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

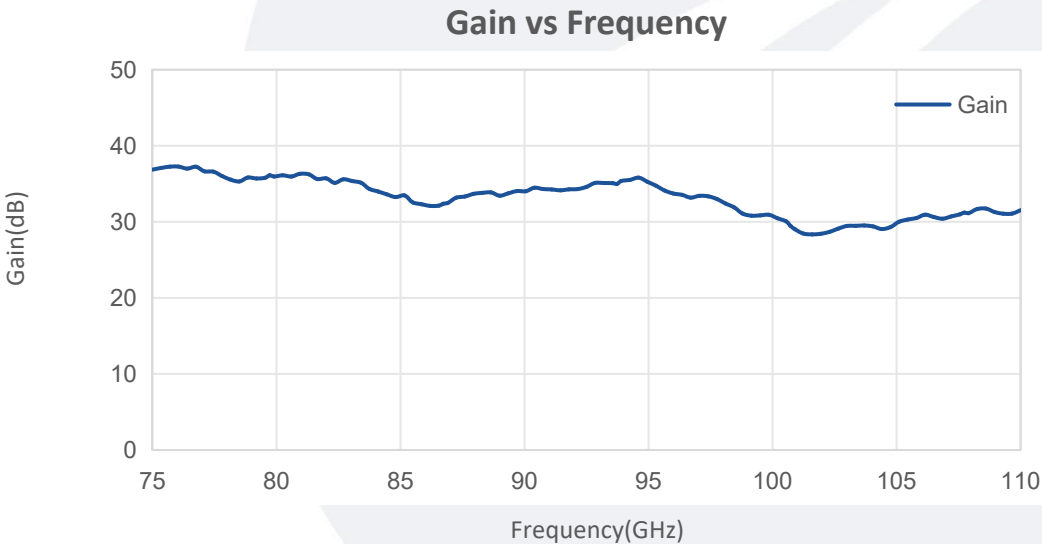
温度环境 Environmental Conditions:

| 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-075110-3021-10    | Power Amplifier, 75-110 GHz, Gain:30 dB Type, Psat:21 dBm Type, +12V DC,WR-10,Without Heatsink | Rev.1.1      |
| TMPA-075110-3021-10-HS | Power Amplifier, 75-110 GHz, Gain:30 dB Type, Psat:21 dBm Type, +12V DC,WR-10,With Heatsink    | Rev.1.1      |

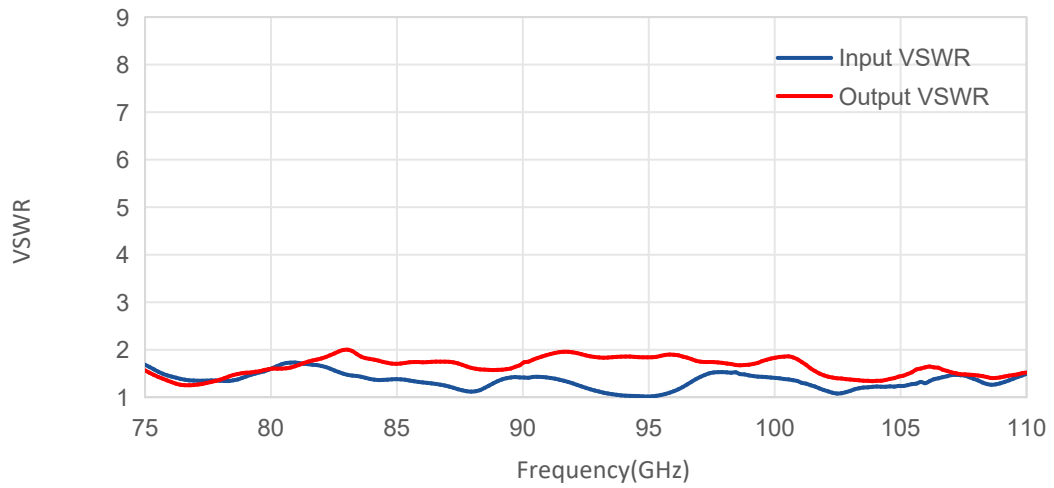
典型曲线 Typical Performance Data:



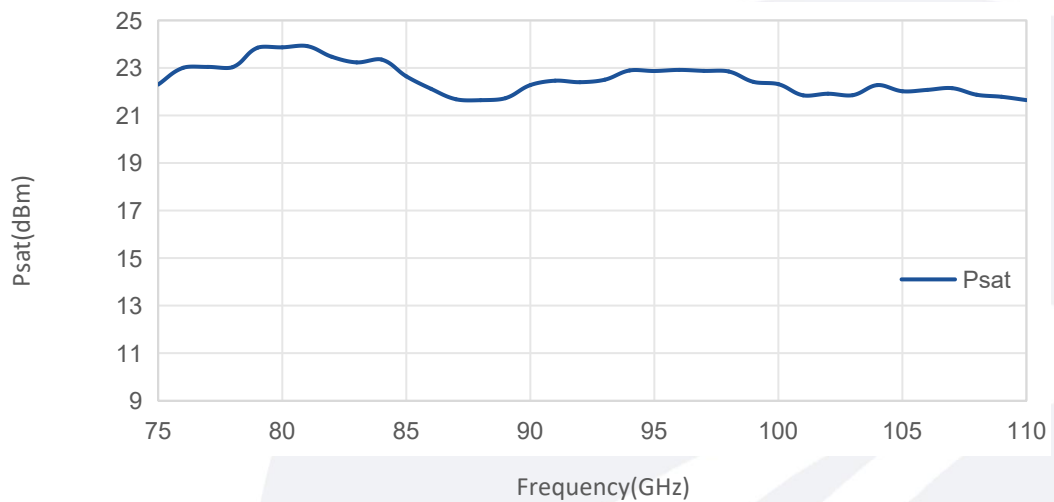
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## 典型曲线 Typical Performance Data:

### VSWR vs Frequency



### Psat vs Frequency



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..