

## Power Amplifier

**WR-12/55-90GHz/20dB Gain/19dBm Psat****Model: TMPA-055090-2019-12**

TMPA-055090-2019-12 is a power amplifier with a typical small signal gain of 20 dB and a nominal Psat of 19 dBm across the frequency range of 55 to 90 GHz. The DC power requirement for the amplifier is +5 VDC/280 mA. The input and output port configuration offers an inline structure with WR-12 waveguides and UG-387/U-M anticocking flanges.

### Features:

- Frequency range: 55-90GHz
- Gain: 20dB Typ
- Output Power Psat: 19dBm 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    | 55  |     | 90  | GHz      |
| 小信号增益 Small Signal Gain |     | 20  |     | dB       |
| 饱和输出功率 Output Psat      |     | 19  |     | dBm      |
| 输入驻波 Input VSWR         |     | 2   |     | :1       |
| 输出驻波 Output VSWR        |     | 2   |     | :1       |
| 直流电压 DC Voltage         |     | 5   |     | V DC     |
| 直流电流 DC Supply Current  |     | 280 |     | mA       |

### 机械特性 Mechanical Specifications:

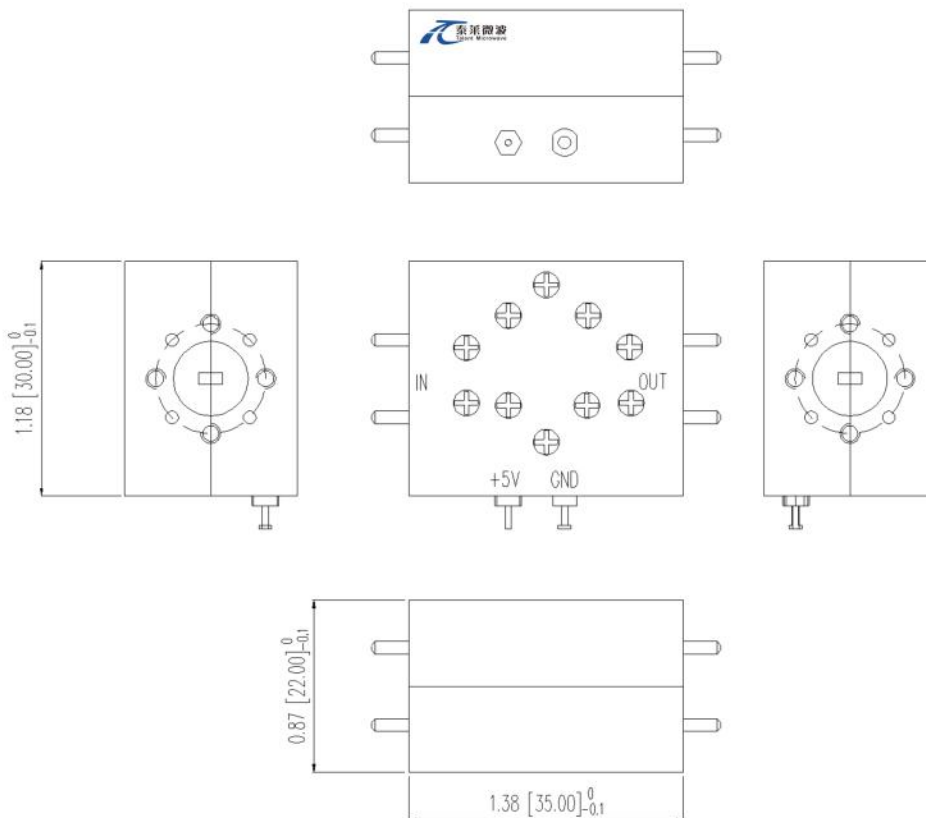
| 参数 Parameter                    | 指标 Value       | 单位 Units |
|---------------------------------|----------------|----------|
| 输入/输出接口 Input /Output Connector | WR-12/UG-387/U |          |
| 直流偏置 DC Bias                    | Solder Pin     |          |
| 尺寸 Size                         | 35*22*30       | 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          | +10 dBm              |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |

## 外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm



**\*\*\*Heat Sink Required During Operation**



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

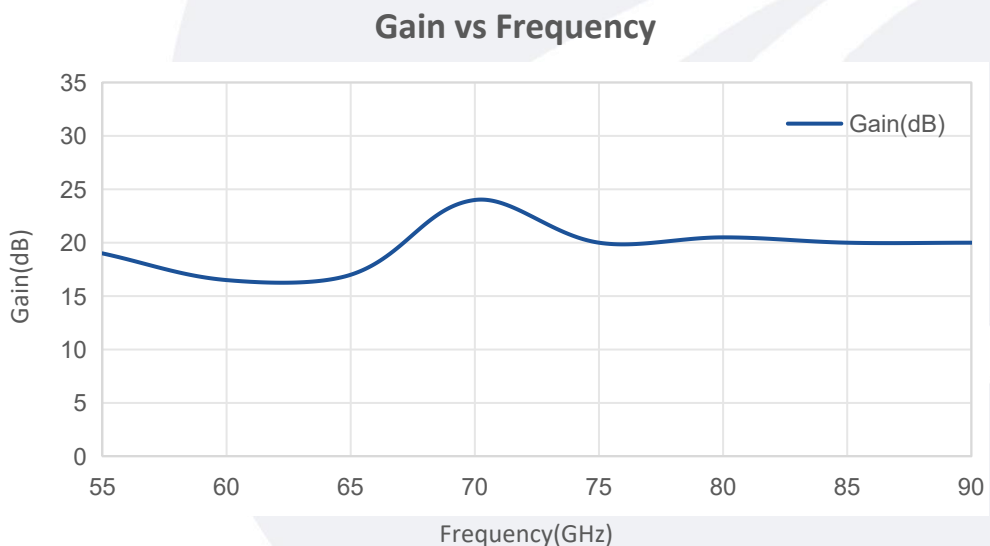
## 温度环境 Environmental Conditions:

| 参数 Parameter                       | Min                                                 | Typ | Max | 单位 Units |
|------------------------------------|-----------------------------------------------------|-----|-----|----------|
| 操作温度 Operating Temperature         | -10                                                 |     | +65 | °C       |
| 存储温度 Non-operating Temperature     | -45                                                 |     | +85 | °C       |
| 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-055090-2019-12    | Power Amplifier, 55-90GHz, Gain: 20dB Type, Psat: 19dBm Type, +5V DC,WR-12, Without heatsink | Rev.1.0      |
| TMPA-055090-2019-12-HS | Power Amplifier, 55-90GHz, Gain: 20dB Type, Psat: 19dBm Type, +5V DC,WR-12, With heatsink    | Rev.1.0      |

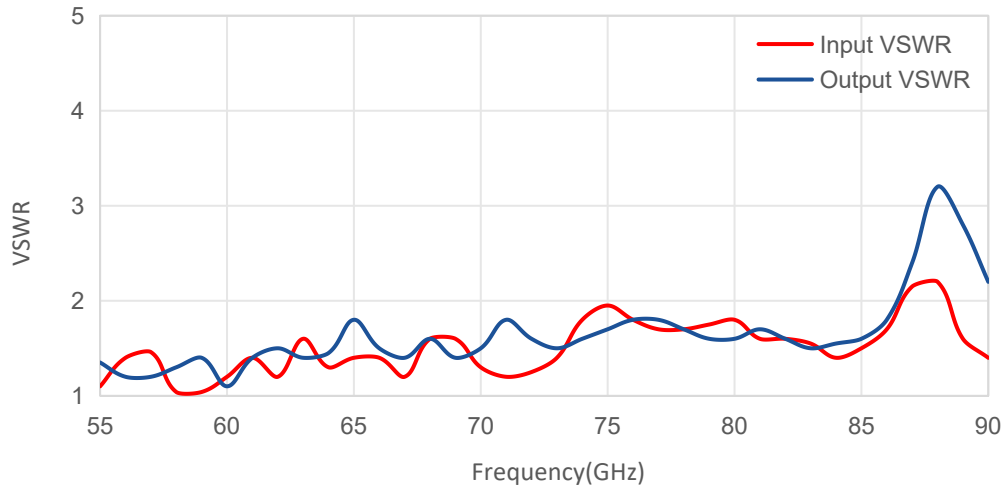
## 典型曲线 Typical Performance Data:



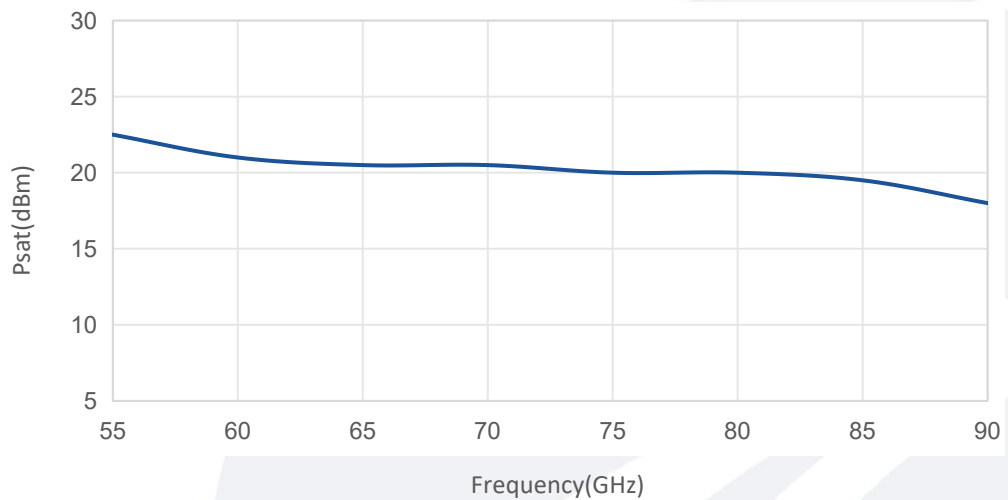
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## 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.