

## Power Amplifier

8-12GHz/40dB Gain/40dBm Psat

Model: TLPA8G12G-40-40

TLPA8G12G-40-40 is a power amplifier with minimum small signal gain of 40 dB and a minimum Psat of 40 dBm across the frequency range of 8 to 12 GHz. The DC power requirement for the amplifier is +28 VDC/3 A. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 8-12GHz
- Gain: 40dB Min
- Output Power Psat: 40dBm Min
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

### Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### 电气特性 Electrical Characteristics:

| 参数 Parameter            | Min  | Typ | Max | 单位 Units |
|-------------------------|------|-----|-----|----------|
| 频率范围 Frequency range    | 8-12 |     |     | GHz      |
| 小信号增益 Small Signal Gain | 40   | 42  |     | dB       |
| 增益平坦度 Gain Flatness     |      | ±2  |     | dB       |
| 线性输出功率 Output P1dB      |      | 38  |     | dBm      |
| 饱和输出功率 Output Psat      | 40   | 41  |     | dBm      |
| 谐波抑制 Harmonic           |      | -15 |     | dBc      |
| 输入驻波 Input VSWR         |      | 1.5 | 2   | :1       |
| 直流电压 DC Voltage         |      | 28  |     | V DC     |
| 直流电流 DC Supply Current  |      | 3   |     | A        |
| 阻抗 Impedance            | 50   |     |     | Ohms     |

## 机械特性 Mechanical Specifications:

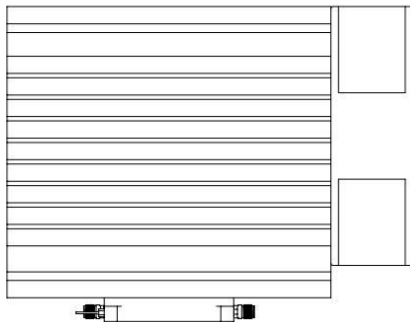
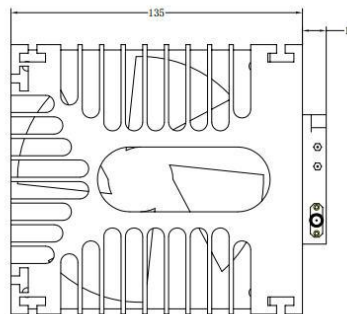
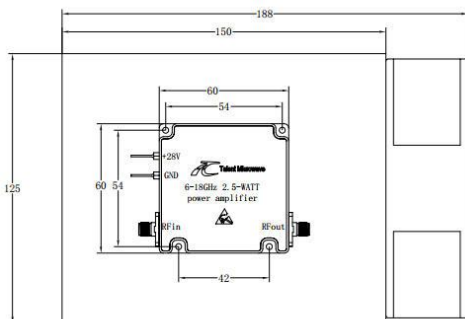
| 参数 Parameter                    | 指标 Value                                                 | 单位 Units |
|---------------------------------|----------------------------------------------------------|----------|
| 输入/输出接口 Input /Output Connector | SMA Female/SMA Female                                    |          |
| 直流偏置 DC Bias                    | Feedthru capacitors                                      |          |
| 尺寸 Size                         | 60*60*11(Without heatsink)<br>188*125*146(With heatsink) | mm       |
| 重量 Weight                       | ≤200                                                     | g        |

## 绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter                 | 指标 Value             |
|------------------------------|----------------------|
| 供电偏置电压 Supply Bias Voltage   | +29 V                |
| 输入功率 RF Input Power          | +5 dBm               |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |

## 外形图 Outline Drawing:

Unit:mm



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



OBSERVE PRECAUTIONS  
ELECTROSTATIC SENSITIVE  
DEVICES

## 温度环境 Environmental Conditions:

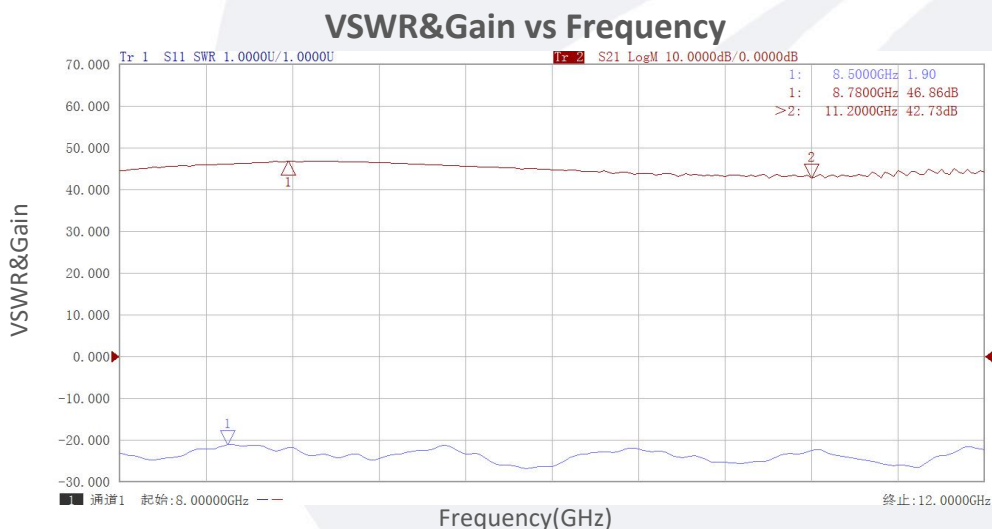
| 参数 Parameter                       | Min                                                 | Typ | Max | 单位 Units |
|------------------------------------|-----------------------------------------------------|-----|-----|----------|
| 操作温度 Operating Temperature*        | -40                                                 |     | +50 | °C       |
| 存储温度 Non-operating Temperature*    | -50                                                 |     | +60 | °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  |     |     |          |

\*Note: For a wider temperature range, please consult the manufacturer.

## 订货信息 Ordering Information:

| 标准型号 Base Number   | 描述 Description                                                            | 版本号 Revision |
|--------------------|---------------------------------------------------------------------------|--------------|
| TLPA8G12G-40-40    | Power amplifier 8-12GHz,<br>Gain:40dB,Psat:40dBm,+28V DC,Without Heatsink | Rev.1.1      |
| TLPA8G12G-40-40-HS | Power amplifier 8-12GHz,<br>Gain:40dB,Psat:40dBm,+28V DC,With Heatsink    | Rev.1.1      |

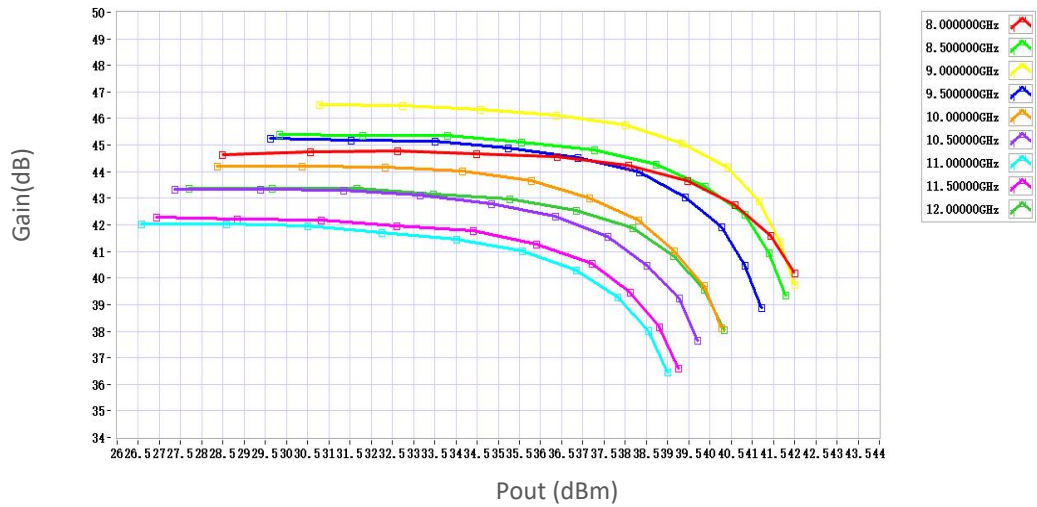
## 典型曲线 Typical Performance Data:



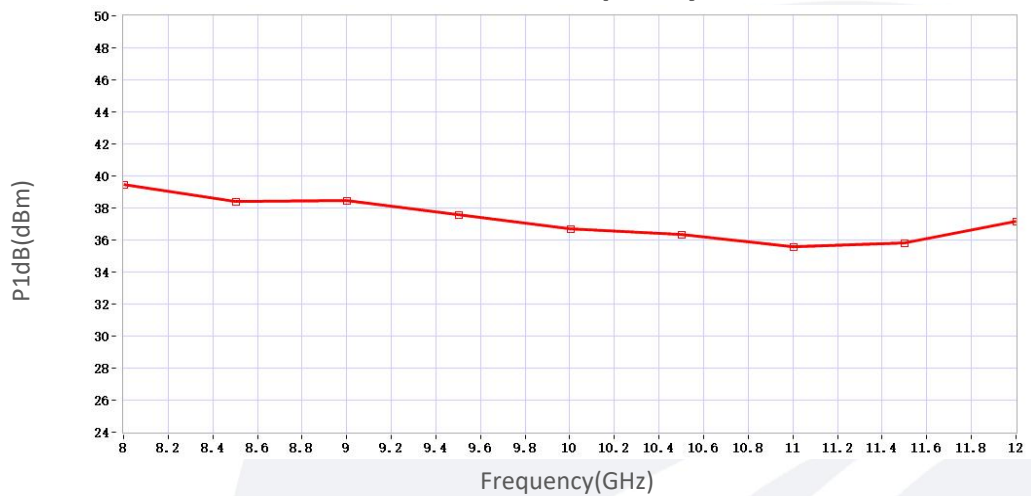
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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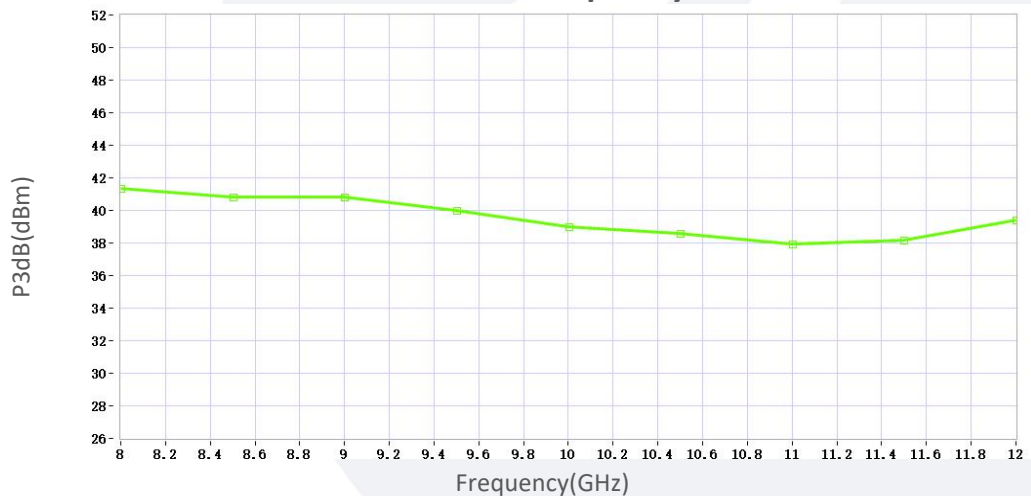
### Gain vs Output Power



### P1dB vs Frequency



### P3dB 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.