

## Power Amplifier

18-40GHz /50dB Gain/37 dBm Psat

Model: TLPA18G40G-40-37-V2

TLPA18G40G-40-37-V2 is a power amplifier with a typical small signal gain of 50 dB and a minimum Psat of 38 dBm across the frequency range of 18 to 39 GHz. The DC power requirement for the amplifier is +24 VDC/1.7 A. The input and output port configuration offers coax adapter structure with 2.4mm female.

### Features:

- Frequency range: 18-40GHz
- Gain: 50dB Typ
- Output Power Psat: 37dBm Typ
- 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    |           | 18-40 |     |     | GHz      |
| 小信号增益 Small Signal Gain |           |       | 50  |     | dB       |
| 增益平坦度 Gain Flatness     |           |       | ±5  |     | dB       |
| 线性输出功率 Output P1dB      |           | 34    | 35  |     | dBm      |
| 饱和输出功率<br>Output Psat   | @18-39GHz | 37    | 38  |     | dBm      |
|                         | @39-40GHz | 36    |     |     |          |
| 杂散 Spurious             |           |       |     | -60 | dBc      |
| 谐波抑制 Harmonic           |           |       |     | -20 | dBc      |
| 输入驻波 Input VSWR         |           |       |     | 2.0 | :1       |
| 直流电压 DC Voltage         |           |       | 24  |     | V DC     |
| 直流电流 DC Supply Current  |           |       | 1.7 |     | A        |
| 阻抗 Impedance            |           | 50    |     |     | Ohms     |

## 机械特性 Mechanical Specifications:

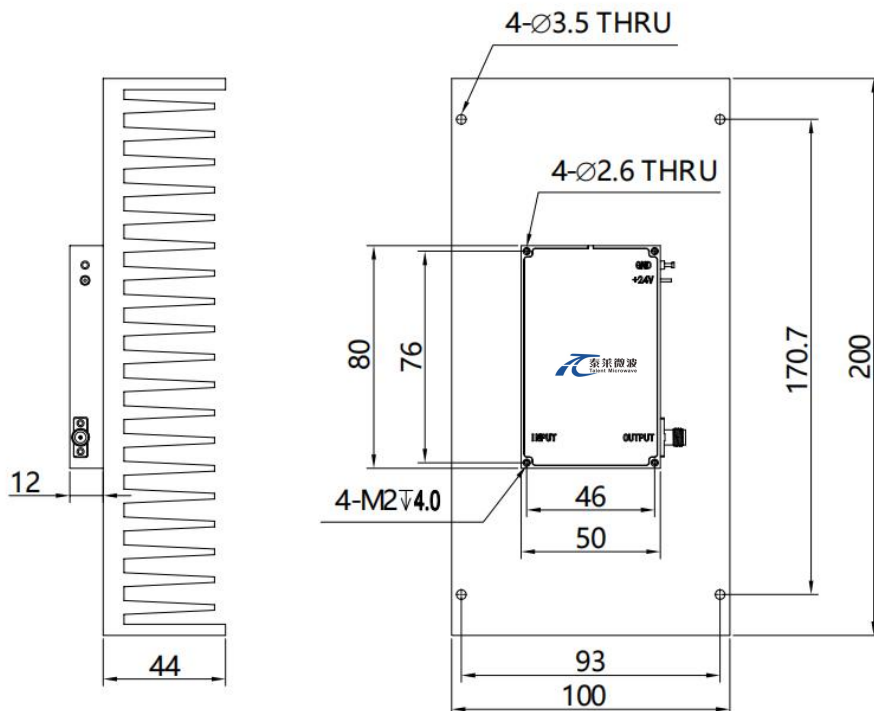
| 参数 Parameter                    | 指标 Value                    | 单位 Units |
|---------------------------------|-----------------------------|----------|
| 输入/输出接口 Input /Output Connector | 2.92mm Female/2.92mm Female |          |
| 直流偏置 DC Bias                    | Solder Pin                  |          |
| 尺寸 Size                         | 50*80*12                    | mm       |

## 绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter                 | 指标 Value             |
|------------------------------|----------------------|
| 供电偏置电压 Supply Bias Voltage   | +26 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



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



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

温度环境 Environmental Conditions:

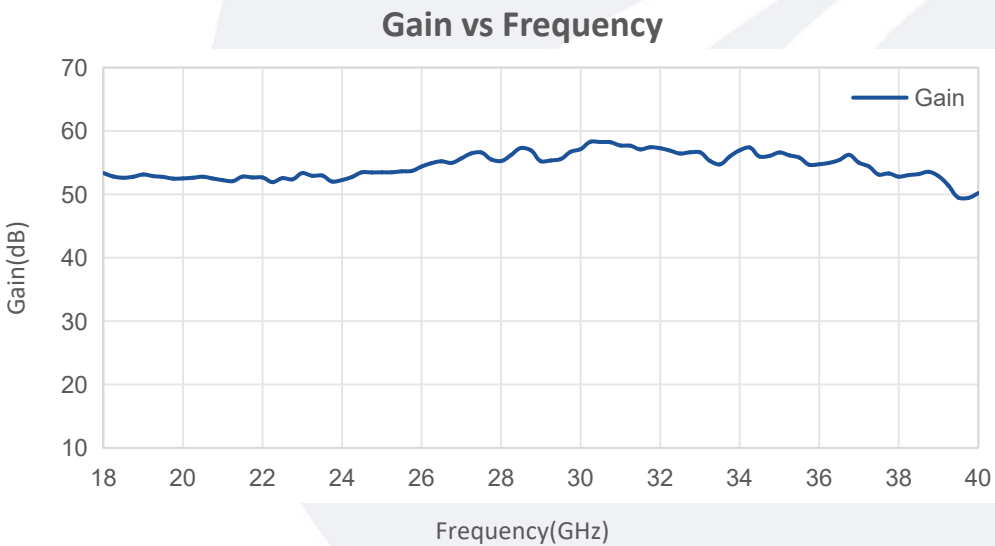
| 参数 Parameter                       | Min                                                 | Typ | Max | 单位 Units |
|------------------------------------|-----------------------------------------------------|-----|-----|----------|
| 操作温度 Operating Temperature*        | -40                                                 |     | +60 | ℃        |
| 存储温度 Non-operating Temperature*    | -50                                                 |     | +70 | ℃        |
| 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 |
|------------------------|-------------------------------------------------------------------------|--------------|
| TLPA18G40G-40-37-V2-HS | Power amplifier 18-40GHz,Gain:50dB,Psat:37dBm,<br>+24V DC,With Heatsink | Rev.1.1      |

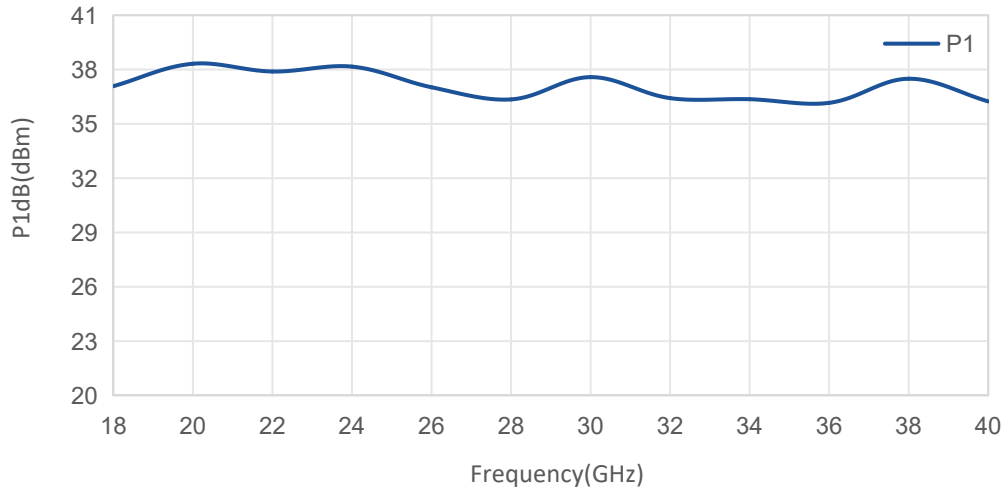
典型曲线 Typical Performance Data:



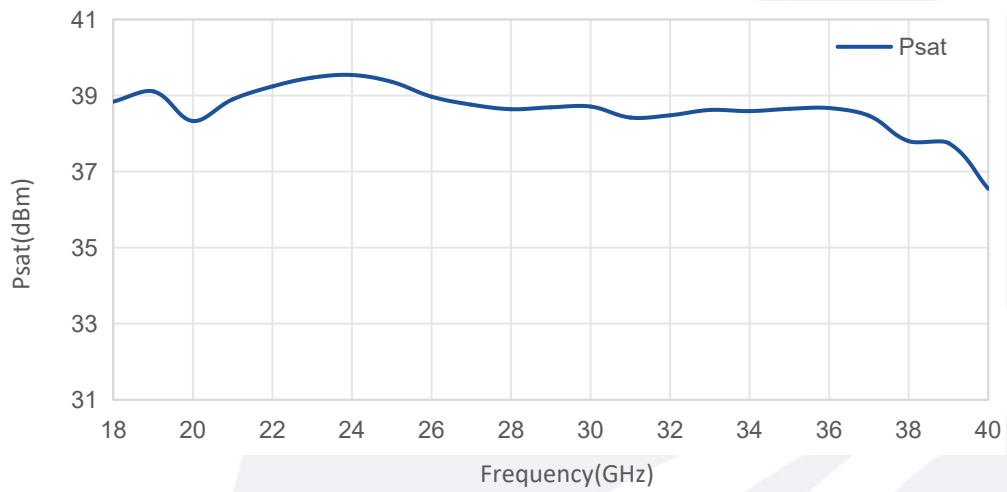
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## 典型曲线 Typical Performance Data:

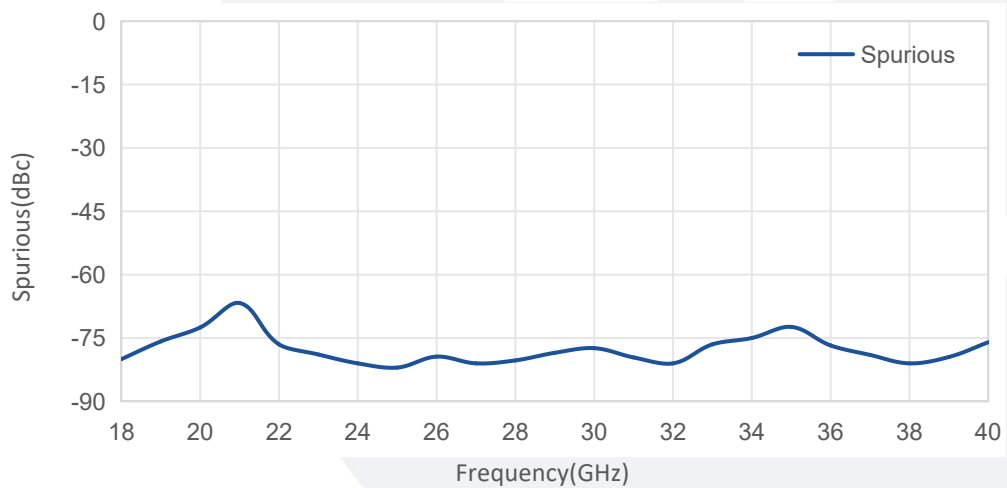
### P1dB vs Frequency



### Psat vs Frequency



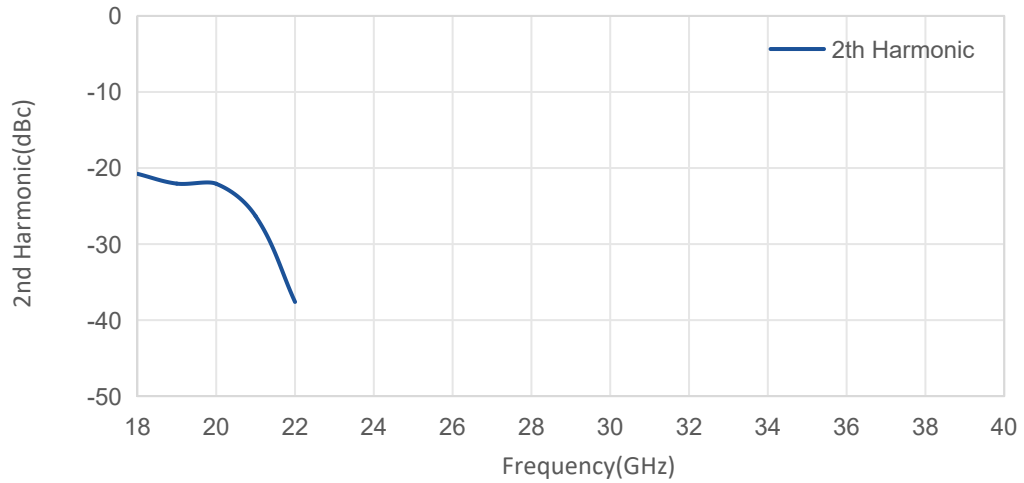
### Spurious vs Frequency



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## 典型曲线 Typical Performance Data:

### 2nd Harmonic vs Frequency



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