

Power Amplifier

5.7-5.9GHz/50dB Gain/50dBm Psat

Model: TLPA5.7G5.9G-50-50

TLPA5.7G5.9G-50-50 is a power amplifier with a minimum small signal gain of 50 dB and a nominal Psat of 50 dBm across the frequency range of 5.7 to 5.9GHz. The DC power requirement for the amplifier is +28 VDC/9 A. The input port configuration offers coax adapter structure with SMA female and output port configuration offers coax adapter structure with N female.

Features:

- Frequency range: 5.7-5.9GHz
- Gain: 50dB Min
- Output Power Psat: 50dBm 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 | 5.7 | | 5.9 | GHz |
| 小信号增益 Small Signal Gain | 50 | 53 | | dB |
| 增益平坦度 Gain Flatness | | ±1 | ±2 | dB |
| 线性输出功率 Output P1dB | | 46 | | dBm |
| 饱和输出功率 Output Psat | 49.5 | 50 | | dBm |
| 输入驻波 Input VSWR | | 1.5 | 2.0 | :1 |
| 直流电压 DC Voltage | +26 | +28 | +30 | V DC |
| 静态电流 Static Current | | 2 | | A |
| 饱和电流 Saturation Current | | 9 | 12 | 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/N Female | |
| 直流供电接口 DC Power Supply Connector | D-SUB-9Pin | |
| 尺寸 Size | 168*75*23.5 | mm |
| 重量 Weight | 500 | g |

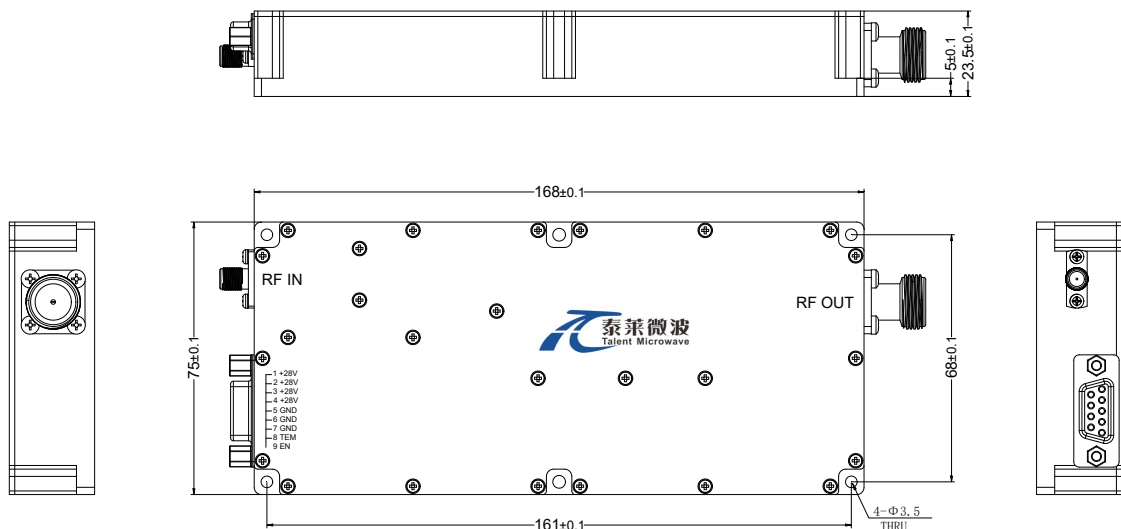
绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter | 指标 Value |
|------------------------------|----------------------|
| 供电偏置电压 Supply Bias Voltage | +30 V |
| 输入功率 RF Input Power | 5dBm |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |



外形图 Outline Drawing:

Unit:mm



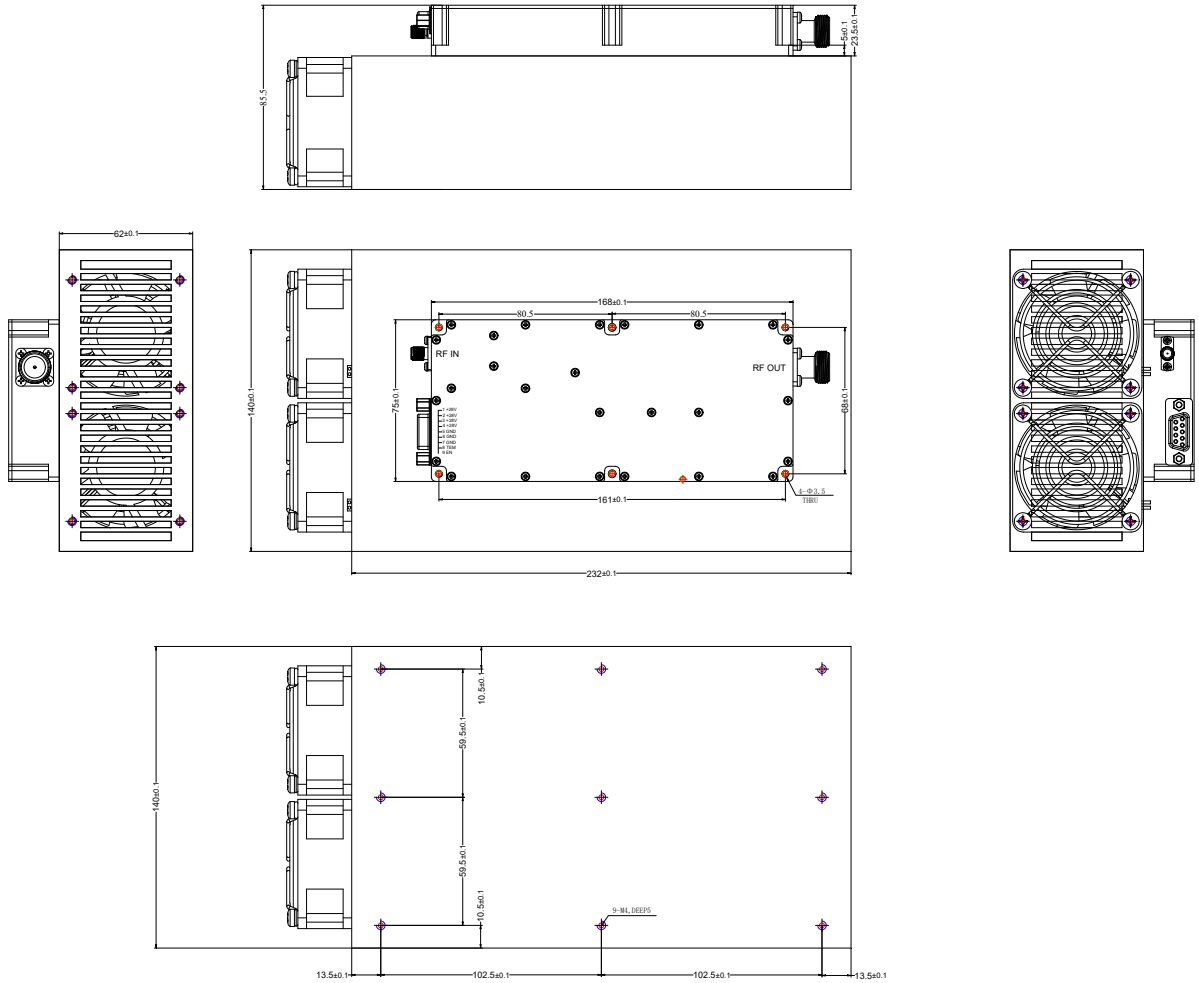
*****Heat Sink Required During Operation**



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

外形图 Outline Drawing:

Unit:mm



直流供电接口 DC Supply Connector(DSUB-9 Female):

| 引脚 Pin | 名称 Name | 功能 Function |
|--------|---------|-------------------------------------|
| 1 | Vcc | Power supply positive,+26.0-30.0VDC |
| 2 | Vcc | Power supply positive,+26.0-30.0VDC |
| 3 | Vcc | Power supply positive,+26.0-30.0VDC |
| 4 | Vcc | Power supply positive,+26.0-30.0VDC |

直流供电接口 DC Supply Connector (DSUB-9 Female):

| 引脚 Pin | 名称 Name | 功能 Function |
|--------|----------|--|
| 5 | GND | Ground |
| 6 | GND | Ground |
| 7 | GND | Ground |
| 8 | Over TEM | When the temperature of the case exceeds 85 °C, the power amplifier will turn off and this pin will be pulled high. If the temperature of case drops to 70 °C, the power amplifier will return to normal operation, and this pin will be pulled low. |
| 9 | EN | Amplifier Enable: TTL High (5V) (Internally Pulled-High) Amplifier Disable: Short to ground |

温度环境 Environmental Conditions:

| 参数 Parameter | Min | Typ | Max | 单位 Units |
|------------------------------------|---|--------|-----|----------|
| 操作温度 Operating Temperature* | -20 | | +50 | °C |
| 存储温度 Non-operating Temperature* | -30 | | +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 | | | |

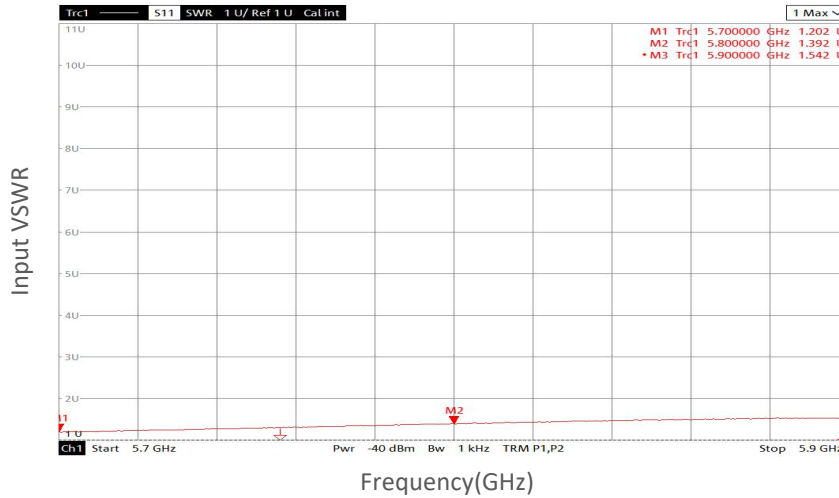
*Note: For a wider temperature range, please consult the manufacturer.

订货信息 Ordering Information:

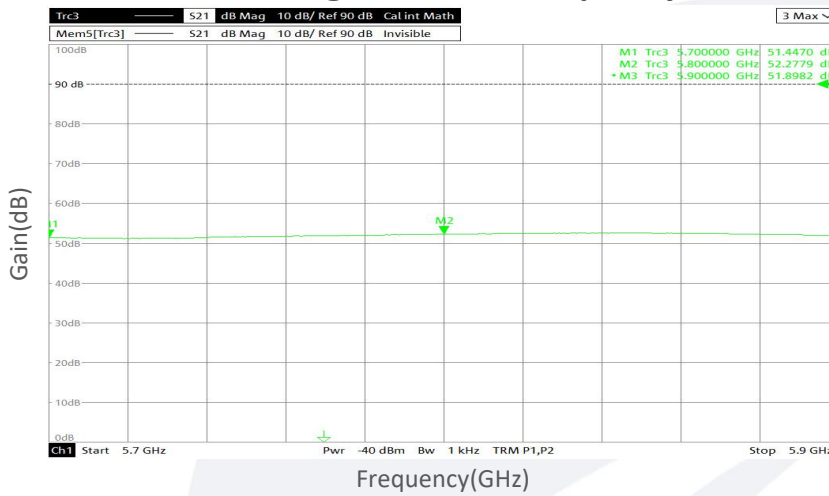
| 标准型号 Base Number | 描述 Description | 版本号 Revision |
|-----------------------|--|--------------|
| TLPA5.7G5.9G-50-50 | Power amplifier 5.7-5.9GHz, Gain:50dB,Psat:50dBm,+28V DC,Without Heatsink | Rev.1.0 |
| TLPA5.7G5.9G-50-50-HS | Power amplifier 5.7-5.9GHz, Gain:50dB,Psat:50dBm,+28V DC,With Heatsink | Rev.1.0 |

典型曲线 Typical Performance Data:

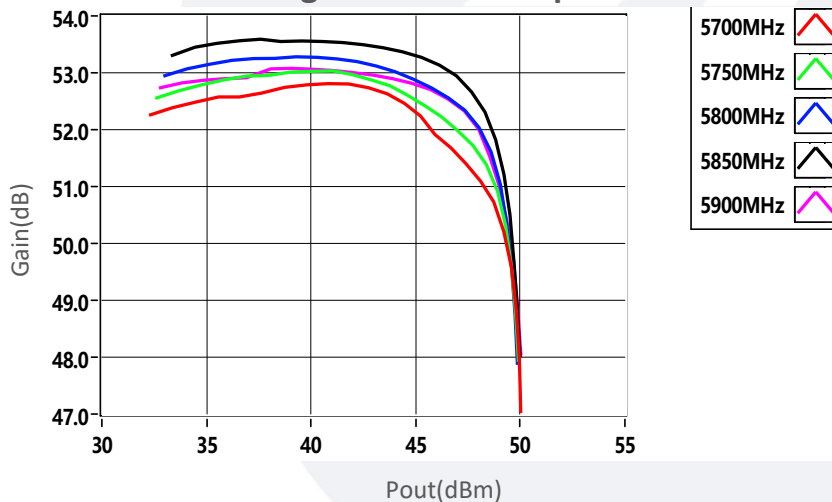
Input VSWR vs Frequency



Small Signal Gain vs Frequency

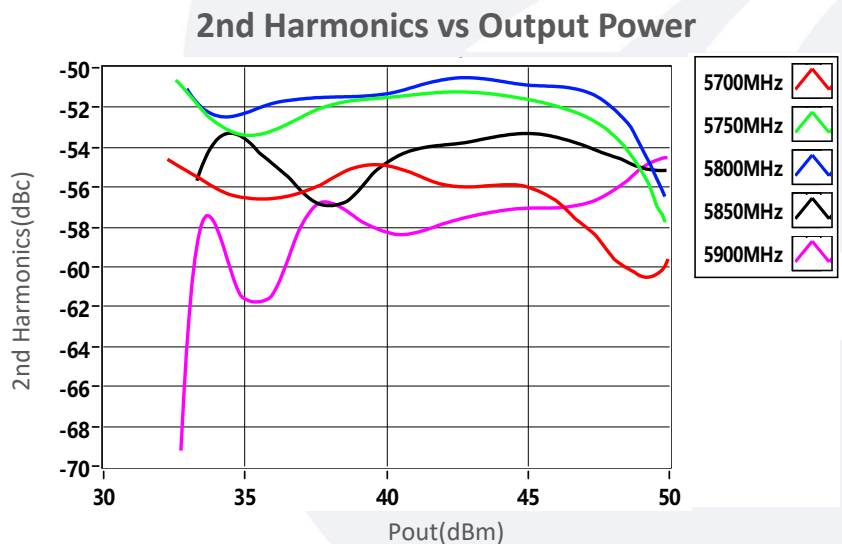
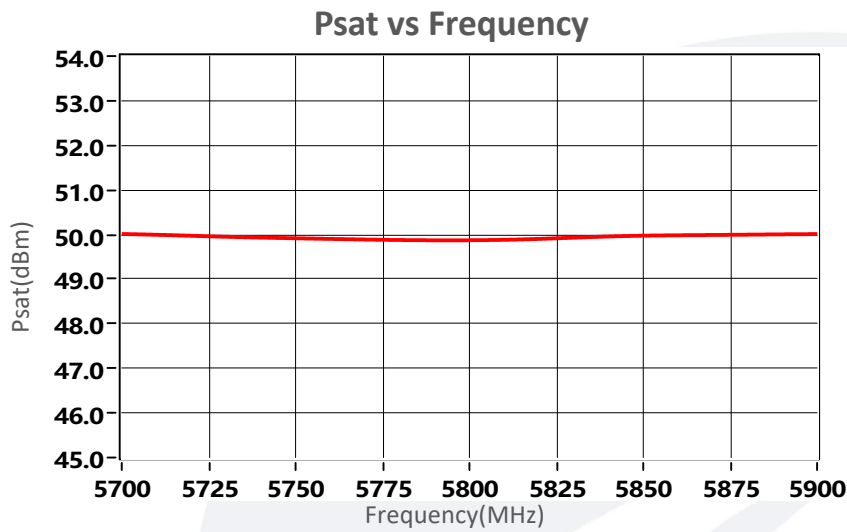
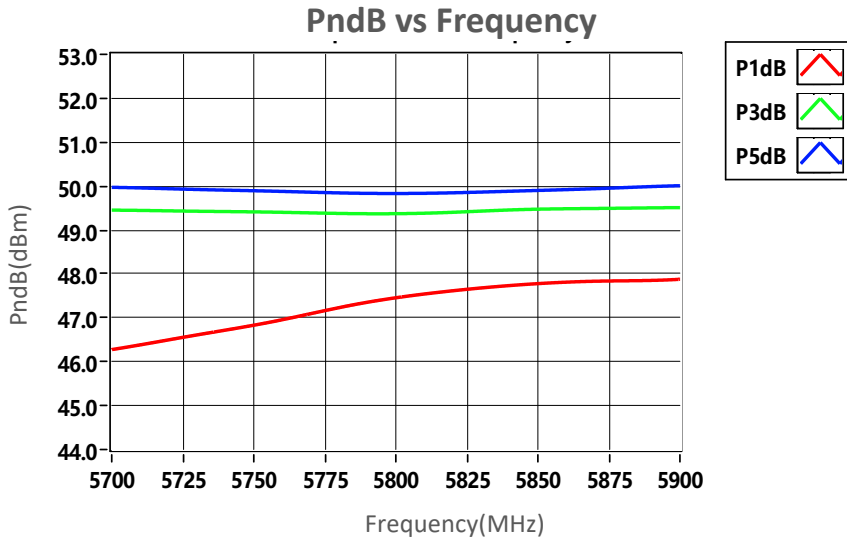


Small Signal Gain vs Output Power



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.

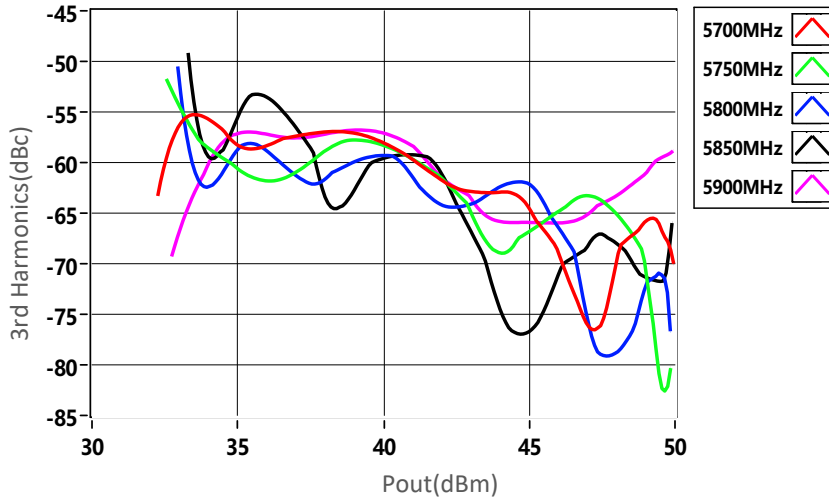
典型曲线 Typical Performance Data:



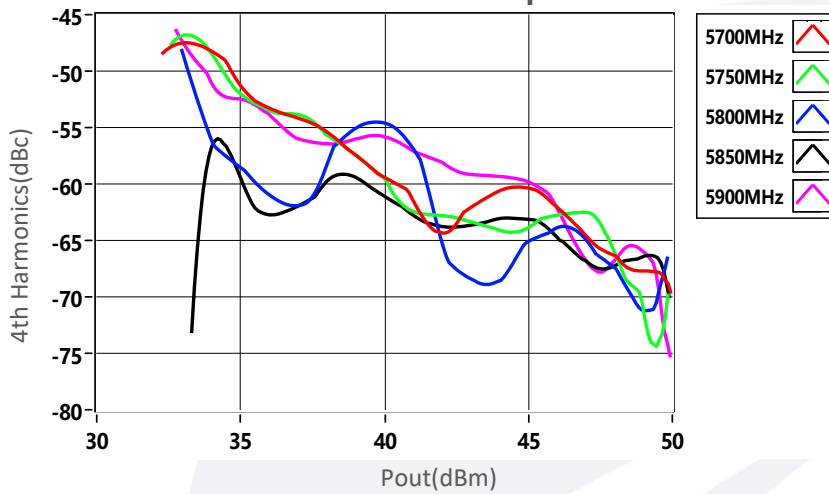
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典型曲线 Typical Performance Data:

3rd Harmonics vs Output Power



4th Harmonics vs Output Power



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