

Power Amplifier

2.7-3.5GHz /53dB Gain/53 dBm Psat

Model: TLPA2.7G3.5G-53-53-IP65

TLPA2.7G3.5G-53-53-IP65 is a power amplifier with a typical power gain of 53 dB and a nominal Psat of 54 dBm across the frequency range of 2.7 to 3.5 GHz. The DC power requirement for the amplifier is +28 VDC/25 A. The input and output port configuration offers coax adapter structure with N female.

Features:

- Ultra Wide Band: 2.7-3.5GHz
- Gain: 53dB Typ
- Output Power Psat: 53dBm 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 | 2.7-3.5 | | | GHz |
| 功率增益 Power Gain | 53 | | | dB |
| 增益平坦度 Gain Flatness | | ±3 | ±4 | dB |
| 线性输出功率 Output P1dB | | 50 | | dBm |
| 饱和输出功率 Output Psat | 53 | 54 | | dBm |
| 谐波 Harmonic@Pout=53dBm | | | -20 | dBc |
| 输入驻波 Input VSWR | | 1.5 | 2 | :1 |
| 直流电压 DC Voltage | 26 | 28 | 30 | V DC |
| 直流电流 DC Supply Current | | 25 | 30 | 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 | N Female/N Female | |
| 直流偏置 DC Bias | Four core avionics | |
| 尺寸 Size | 280*250*120 | mm |
| 重量 Weight | ≤17 | Kg |
| 密封 Seal | IP65 | |

绝对最大值 Absolute Maximum Ratings:

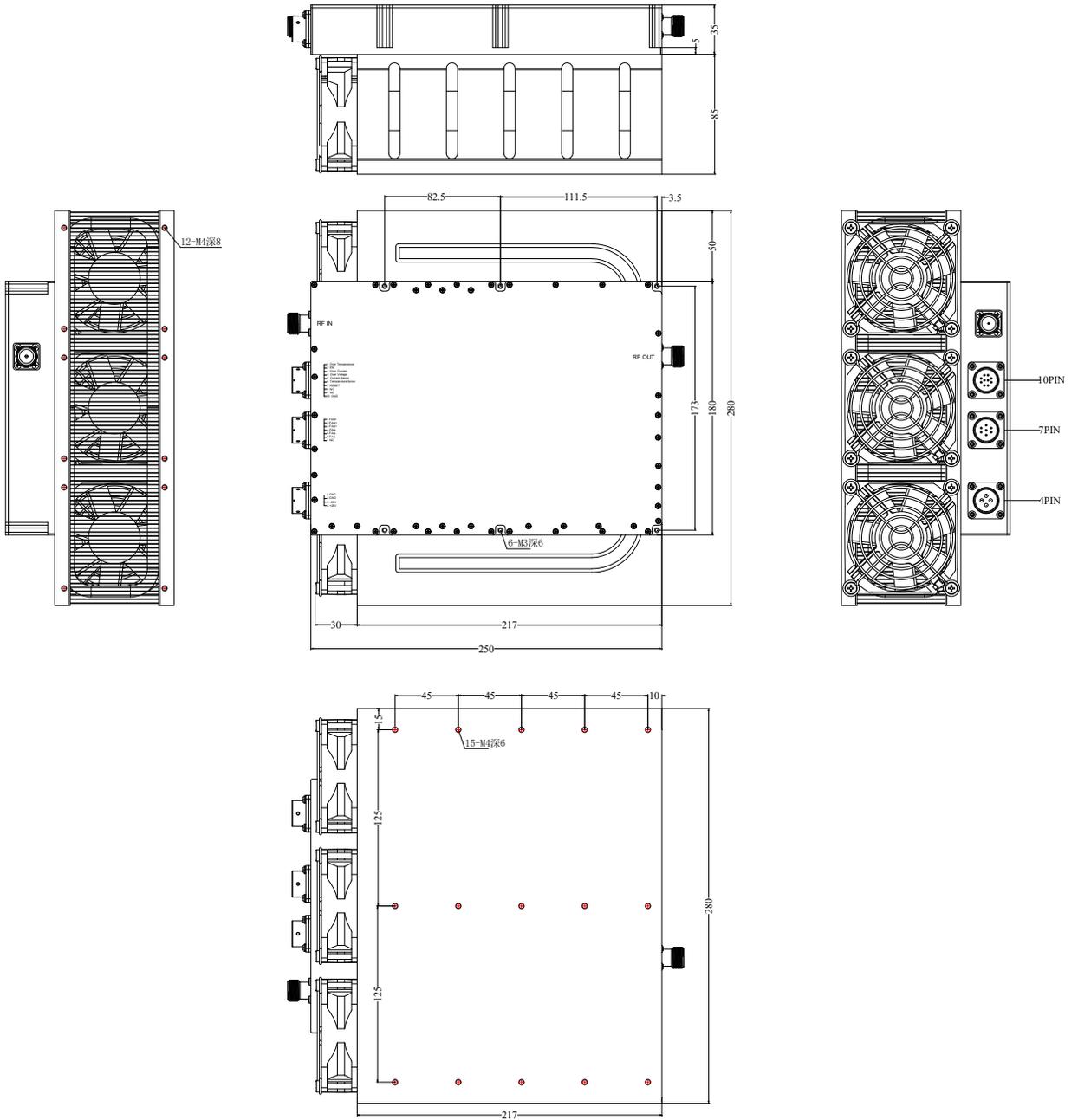
| 参数 Parameter | 指标 Value |
|------------------------------|----------------------|
| 供电偏置电压 Supply Bias Voltage | +30V |
| 输入功率 RF Input Power | +37 dBm |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |

主要功能 Key Features:

| 参数 Parameter | 说明 Specification |
|-------------------------------|--|
| Over Temp Protection | 85°C Max(Case) |
| Over Voltage Protection | 32V Max |
| Over Current Protection | 35A Max |
| Current Sense(analog Voltage) | 0.1V/1A |
| Temp Sense (analog Voltage) | $V_O = 10 \text{ mV}/^{\circ}\text{C} \times T^{\circ}\text{C} + 600 \text{ mV}$ |

外形图 Outline Drawing:

Unit:mm



控制接口 Control Interface: Aviation socket,10-Pin, SF1613/P10:

| 引脚 Pin | 名称 Name | 功能 Function |
|--------|-------------------|--|
| 1 | Over Temperature | 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 80 °C, the power amplifier will return to normal operation, and this pin will be pulled low. |
| 2 | EN | Amplifier Enable: TTL High (5V) (Internally Pulled-High) Amplifier Disable: TTL Low (0V) |
| 3 | Over Current | Current FAULT:(TTL High= Fault, TTL Low =Normal) |
| 4 | Over Voltage | Voltage FAULT:(TTL High= Fault, TTL Low =Normal) |
| 5 | Current Sense | 0.1V/1A |
| 6 | Temperature Sense | $VO = 10 \text{ mV}/^{\circ}\text{C} \times T^{\circ}\text{C} + 600 \text{ mV}$ |
| 7 | RESET | Resets PA when logic LOW is applied and released (Internally Pulled-High) |
| 8 | NC | Not connected |
| 9 | NC | Not connected |
| 10 | GND | Ground |

风扇接口 FAN Interface: Aviation socket,7-Pin, SF1613/P7:

| 引脚 Pin | 名称 Name | 功能 Function |
|--------|---------|----------------------|
| 1 | FAN+ | Positive pole of fan |
| 2 | FAN+ | Positive pole of fan |
| 3 | FAN+ | Positive pole of fan |
| 4 | FAN- | Negative pole of fan |
| 5 | FAN- | Negative pole of fan |
| 6 | FAN- | Negative pole of fan |
| 7 | NC | Not connected |

直流供电接口 DC power supply connector: Aviation socket,4-Pin, SF1613/P4B:

| 引脚 Pin | 名称 Name | 功能 Function |
|--------|---------|-------------|
| 1 | GND | Ground |
| 2 | GND | Ground |
| 3 | +28V | +26-30VDC |
| 4 | +28V | +26-30VDC |

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.