

Power Amplifier

2.7-3.5GHz /25dB Gain/53 dBm Psat

Model: TLPA2.7G3.5G-25-53-IP65

TLPA2.7G3.5G-25-53-IP65 is a power amplifier with a typical power gain of 25 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: 25dB 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	20	25		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:

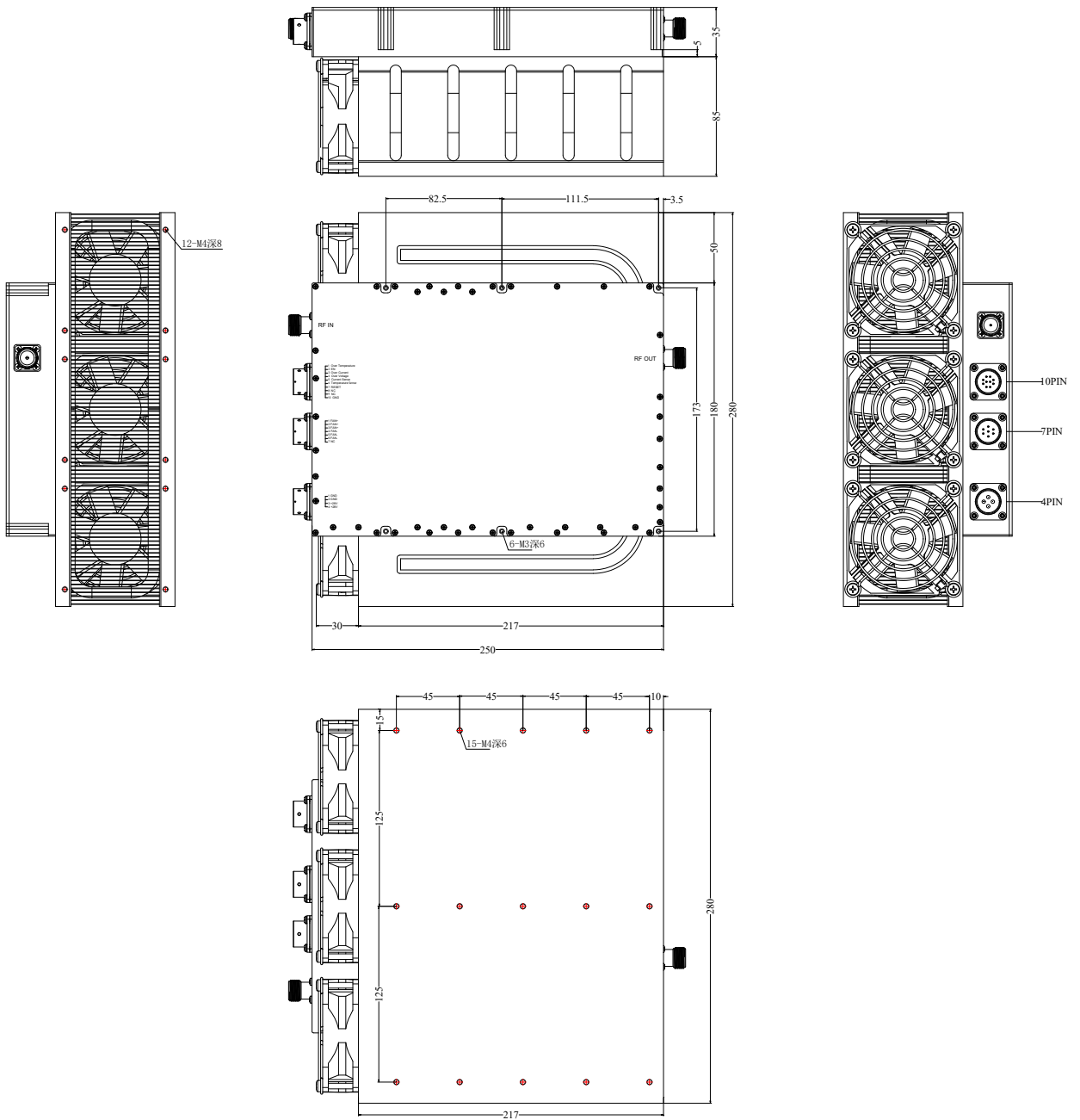
参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+30V
输入功率 RF Input Power	+37 dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V

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)	$VO = 10 \text{ mV}/^{\circ}\text{C} \times T^{\circ}\text{C} + 600 \text{ mV}$

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	℃
存储温度 Non-operating Temperature*	-30		+60	℃
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
TLPA2.7G3.5G-25-53-IP65	Power amplifier 2.7-3.5GHz,Gain:25dB,Psat:53dBm, +28V DC,Without Heatsink	Rev.1.1
TLPA2.7G3.5G-25-53-HS-IP65	Power amplifier 2.7-3.5GHz,Gain:25dB,Psat:53dBm, +28V DC,With Heatsink	