

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

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	2.7-3.5			GHz
Power Gain	20	25		dB
Gain Flatness		±3	±4	dB
Output P1dB		50		dBm
Output Psat	53	54		dBm
Harmonic@Pout=53dBm			-20	dBc
Input VSWR		1.5	2	:1
DC Voltage	26	28	30	V DC
DC Supply Current		25	30	A
Impedance	50			Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	N Female/N Female	
DC Bias	Four core avionics	
Size	280*250*120	mm
Weight	≤17	Kg
Seal	IP65	

Absolute Maximum Ratings:

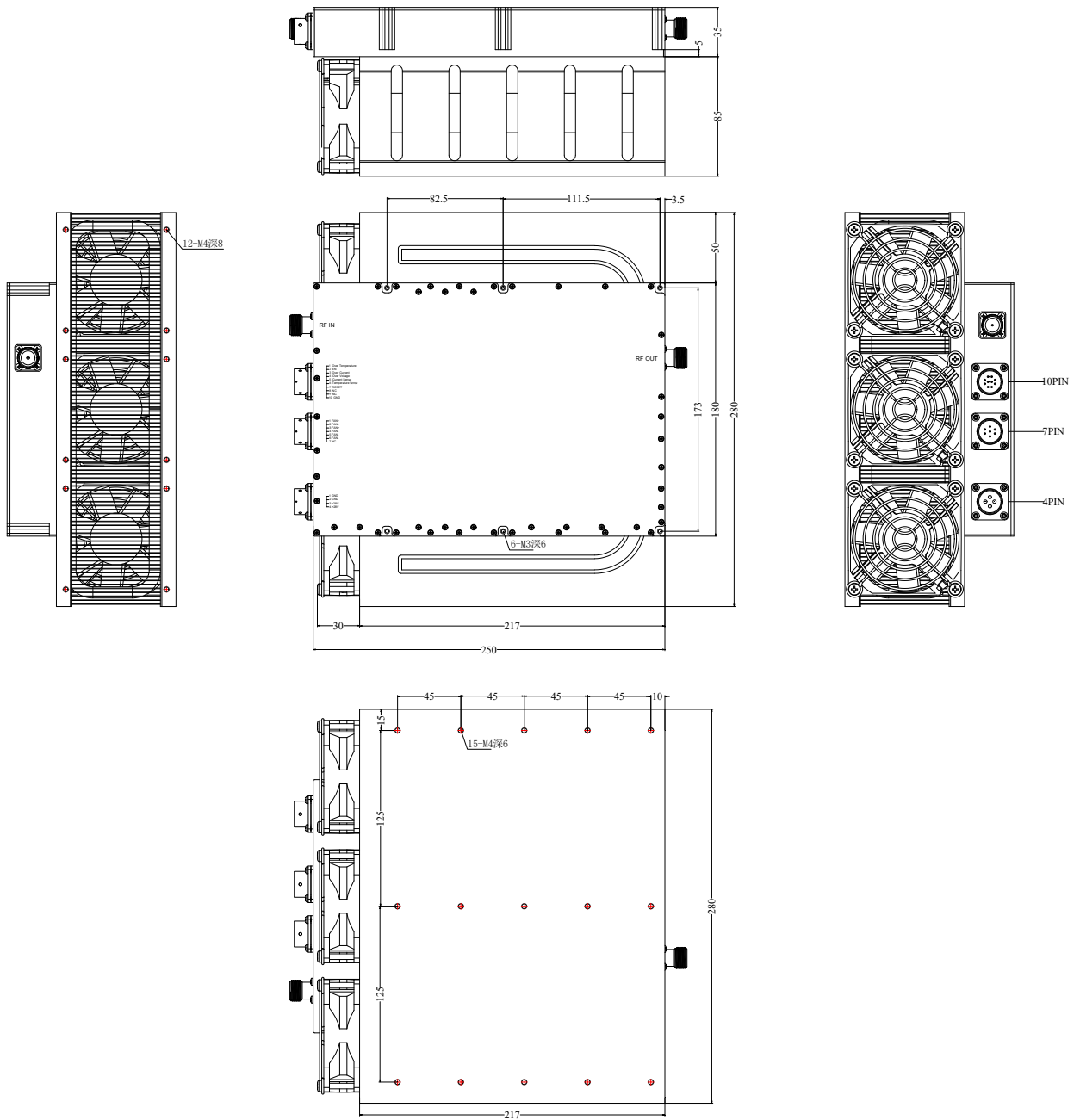
Parameter	Value
Supply Bias Voltage	+30V
RF Input Power	+37 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

Key Features:

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

Outline Drawing:

Unit:mm



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

Pin	Name	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

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

Pin	Name	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

DC power supply connector: Aviation socket,4-Pin, SF1613/P4B:

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

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-20		+50	°C
Non-operating Temperature*	-30		+60	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

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

Ordering Information:

Base Number	Description	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	