

Power Amplifier

0.5-3.5GHz/45dB Gain/45dBm Psat

Model: TLPA0.5G3.5G-45-45

TLPA0.5G3.5G-45-45 is a power amplifier with minimum small signal gain of 45 dB and a minimum Psat of 45 dBm across the frequency range of 0.5 to 3.5 GHz. The DC power requirement for the amplifier is +28 VDC/6 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 0.5-3.5GHz
- Gain: 45dB Min
- Output Power Psat: 45dBm 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	0.5		3.5	GHz
Small Signal Gain	45	47		dB
Gain flatness		±2	±3	dB
Output P1dB	41	42		dBm
Output Psat@Pin=0dBm	45	46		dBm
Harmonics		-15	-8	dBc
Switching Time@1KHz TTL; Pin=0dBm		2	5	us
Input VSWR		1.5	2	:1
DC Voltage		28	30	V DC
Static Current		1		A
Saturation current		6	8	A
Impedance	50			Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Power Supply Connector	J30J-9Pin	
Size	195*85*26.5(Without heatsink) 262.2*140*88.5(With heatsink)	mm
Weight	6	Kg

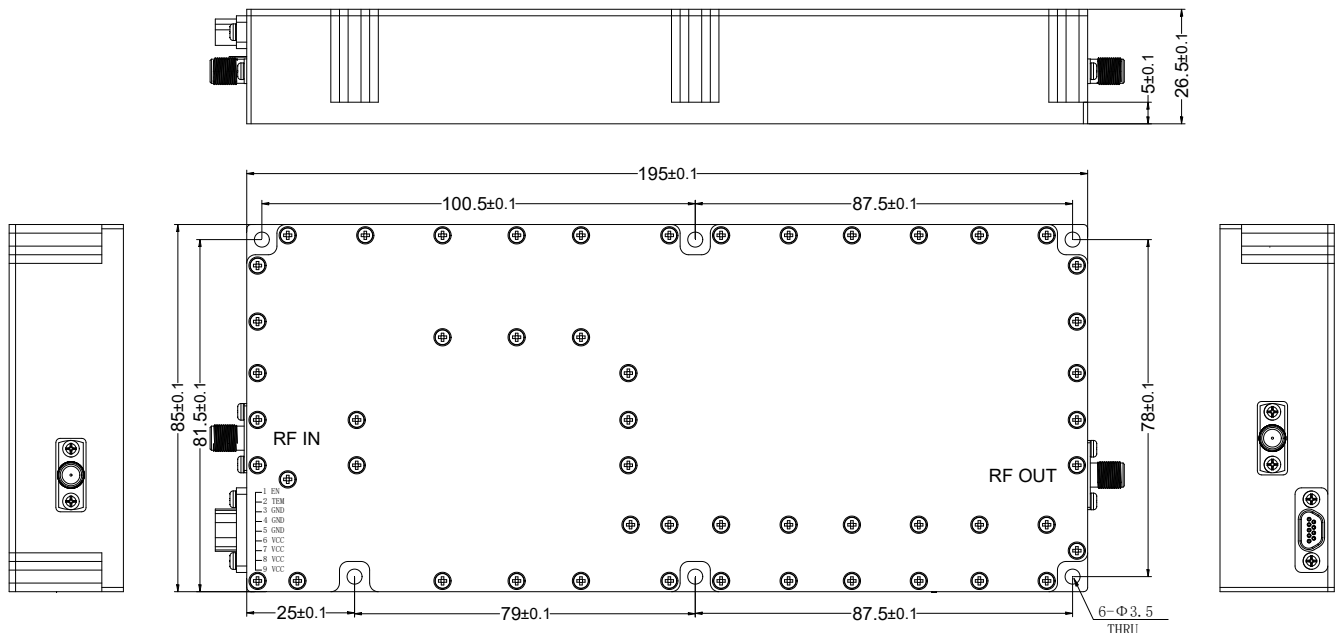
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+30 V
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Outline Drawing:

Unit:mm; Tolerance:±0.1mm



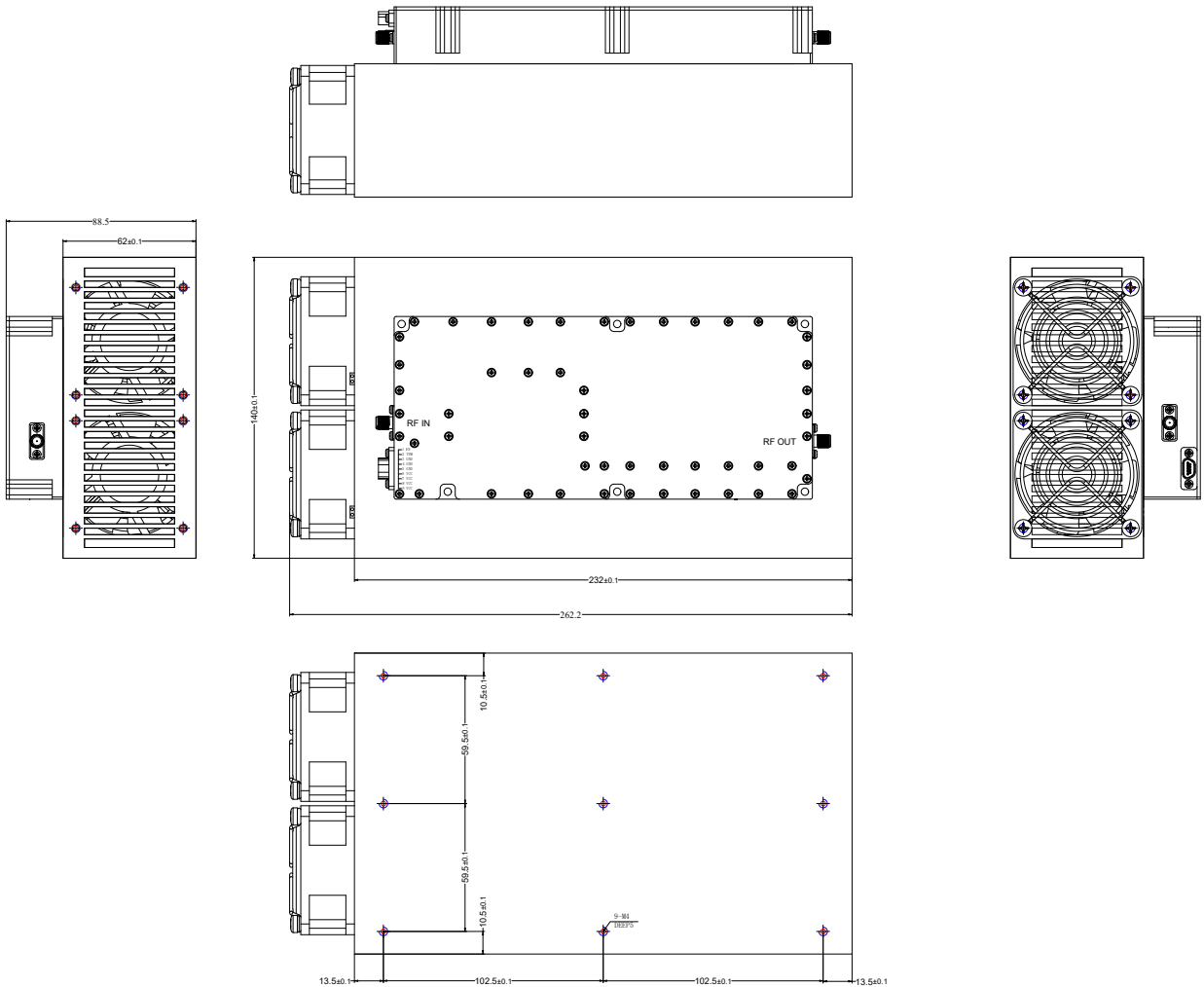
*****Heat Sink Required During Operation**



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

Outline Drawing:

Unit:mm; Tolerance:±0.1mm



Fan power supply

Red line

Power supply positive, +24.0-28.0VDC
DC current: 0.3A

Black line

Ground

DC Supply Connector(J30J-9Pin):

Pin	Name	Function
1	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High) Amplifier Disable: Short to ground.
2	Over TEM	When the temperature of the case exceeds 70 °C, the power amplifier will turn off and this pin will be pulled high. If the temperature of case drops to 60 °C, the power amplifier will return to normal operation, and this pin will be pulled low.
3~5	GND	Ground
6~9	VCC	Power supply positive,+26.0-30.0VDC.

Instruction Manual:

Power on		Power off	
1	Connect ground and RF input connector.	1	Turn off RF signal.
2	Connect the RF output port to the load (The VSWR of the load should be less than 3:1).	2	Disconnect the 28V power supply to the amplifier.
3	Connect the 24V power supply to the fan.	3	Disconnect the 24V power supply to the fan.
4	Connect the 28V power supply to the amplifier.	4	Disconnect the RF connectors.
5	Turn on the RF signal and ensure that the input signal does not exceed 5dBm.		

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-40		+50	°C
Non-operating Temperature*	-50		+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
TLPA0.5G3.5G-45-45	Power amplifier 0.5-3.5GHz, Gain:45dB,Psat:45dBm,+28V DC,Without Heatsink	Rev.1.0
TLPA0.5G3.5G-45-45-HS	Power amplifier 0.5-3.5GHz, Gain:45dB,Psat:45dBm,+28V DC,With Heatsink	Rev.1.0