



Power Amplifier

Model: PA-4G-6G-12.5

4-6GHz 12.5W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

Features:

- Frequency range: 4-6GHz
- High output power at saturation, 12.5W Min.
- High gain, 40 dB Min.
- 50 Ohm Matched Input / Output.

Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

Product Overview:

The PA-4G-6G-12.5 is a power amplifier with a minimum small signal gain of 40 dB and a minimum Psat of 12.5W across the frequency range of 4 to 6GHz. The DC power requirement for the amplifier is +28 VDC/1.8 A. The input and output port configuration offers coax adapter structure with SMA female.



Electrical Specifications at 25°C:

Parameter	Min	Typ	Max	Units
Frequency range	4		6	GHz
Small Signal Gain	40	42		dB
Small Signal Gain Flatness		±2	±3	dB
Output P1dB	40	40.5		dBm
Output Psat	41	41.5		dBm
Harmonics			-15	dBc
Input VSWR		1.5	2.0	:1
DC Voltage		+28	+30	V DC
Static Current		0.5		A
Saturation current		1.8	2	A
Impedance		50		Ohms

Mechanical Specifications:

ParameterKg	Value	Notes
Operating Temperature*	-40°C to +50°C	
Non-operating Temperature*	-50°C to +60°C	
Relative humidity	95%	
RF Input/Output Connector	SMA Female/SMA Female	
DC Supply Connectoor	J30J-9Pin	
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	
Dimensions W x H x D	100*70*15(Without heatsink) 171.63*90*56(With heatsink)	mm
Weight	300	g

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

Absolute Maximum Ratings:

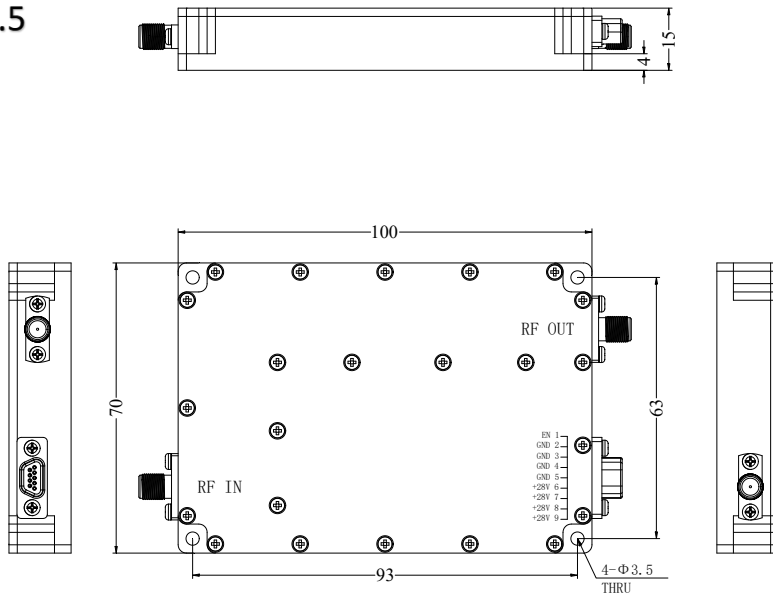
Parameter	Value
Supply Bias Voltage	+30 V
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



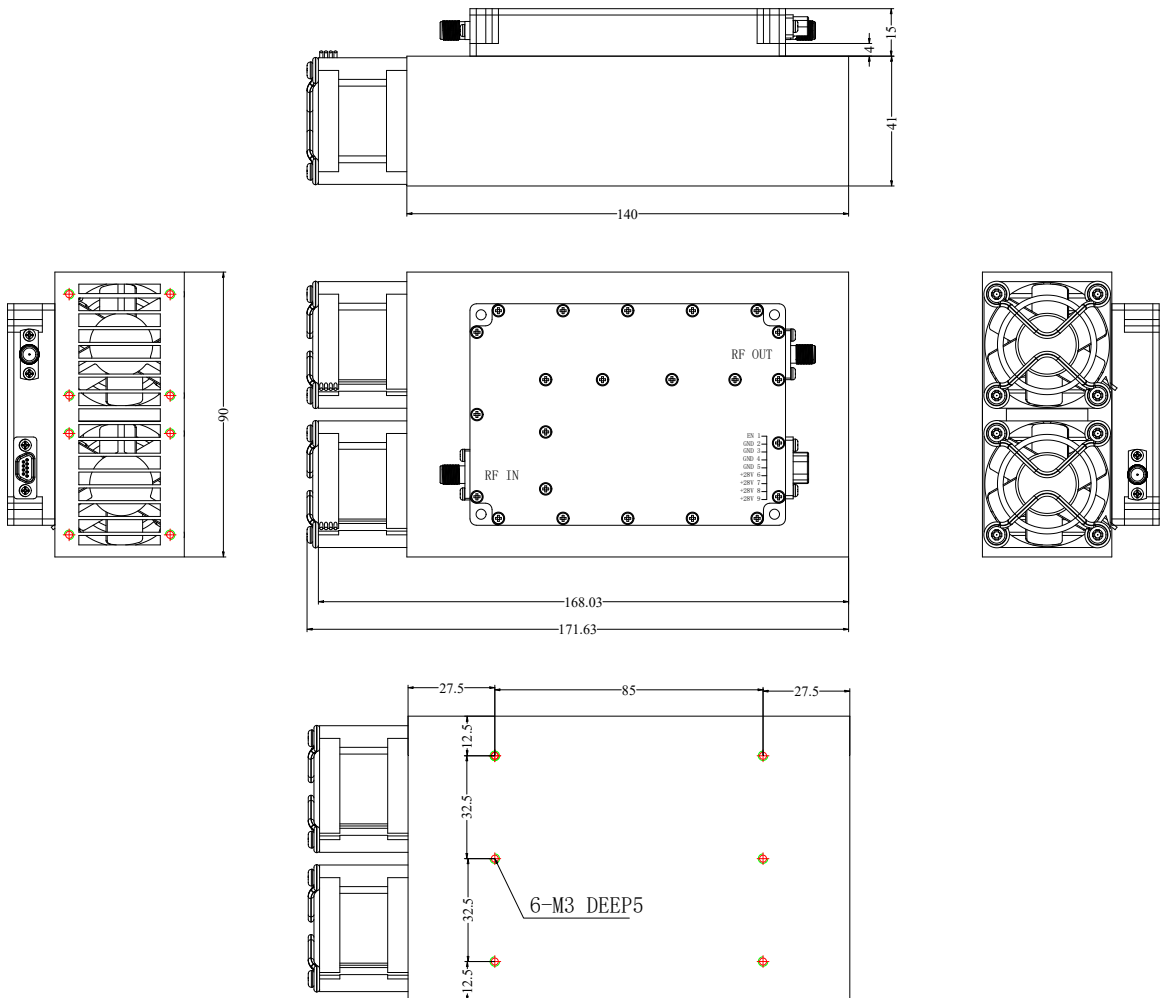
Outline Drawing:

Unit:mm

PA-4G-V6G-12.5



PA-4G-V6G-12.5-HS





Fan power supply:

Fan power supply	
Red line	Power supply positive,+24.0-28.0VDC DC current: 0.3A
Black line	Ground

DC Supply Connector(J30J-9 Female):

Pin	Name	Function
1	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High) Amplifier Disable: Short to ground
2~5	GND	Ground
6~9	VCC	Power supply positive,+26.0-30.0VDC

Instruction Manual:

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

Power off	
1	Turn off RF signal
2	Disconnect the 28V power supply to the amplifier
3	Disconnect the 24V power supply to the fan
4	Disconnect the RF connectors



Attenuation Control Connector(SUB-17W2(Optional)):

Pin	Function
A1	+24V
A2	GND
1	TTL(high for open,low for close)
2	Current Monitor
3	Temperature Monitor
4	0.5dB Attenuation
5	1dB Attenuation
6	2dB Attenuation
7	4dB Attenuation
8	8dB Attenuation
9	16dB Attenuation
10~15	GND

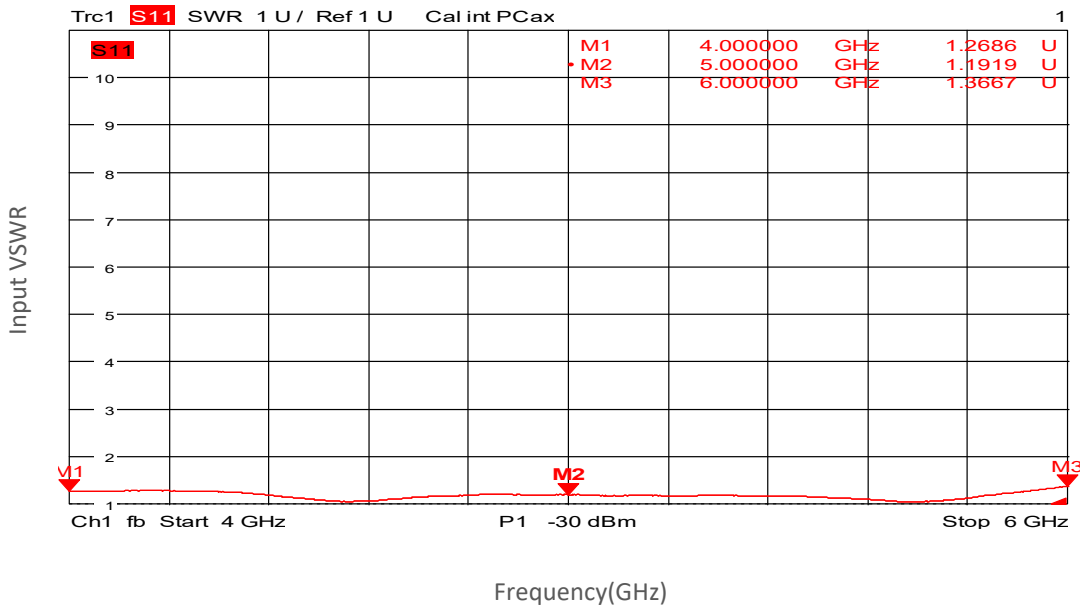
Ordering Information:

Base Number	Description	Optional
PA-4G-6G-12.5	Power Amplifier,4-6GHz, Gain:40dB,Psat:12.5W,+28V DC	Without Heatsink
PA-4G-6G-12.5-HS	Power Amplifier,4-6GHz, Gain:40dB,Psat:12.5W,+28V DC	With Heatsink

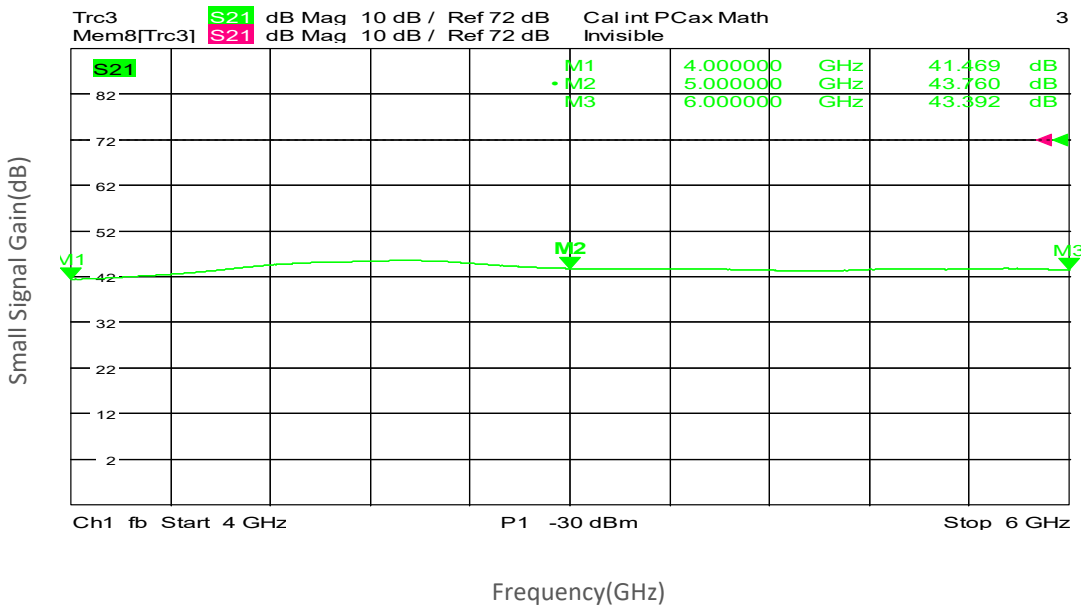


Typical Performance Data:

Input VSWR vs Frequency



Small Signal Gain vs Frequency

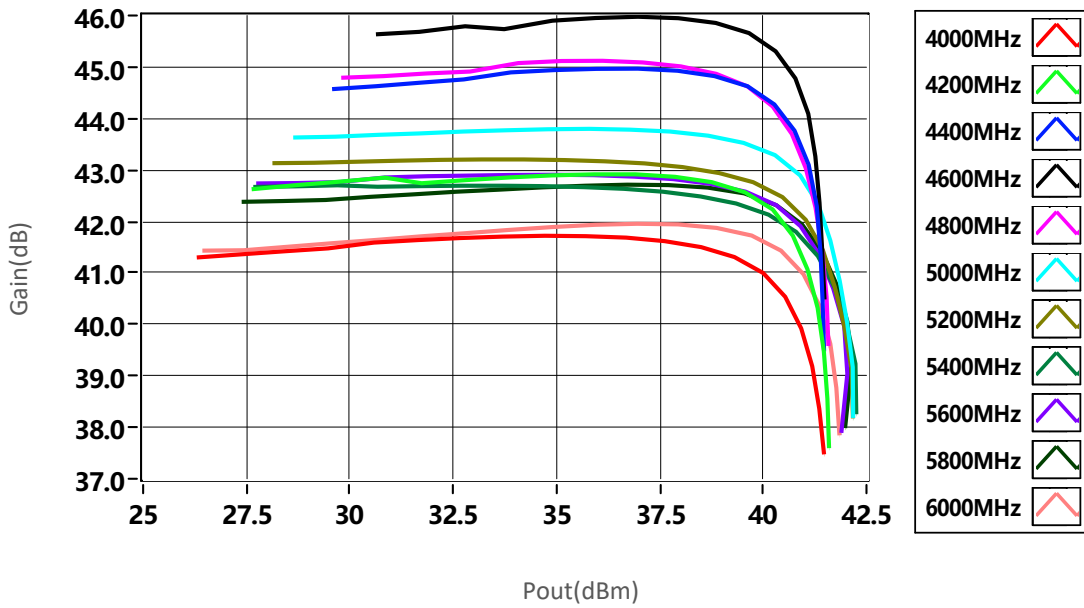


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

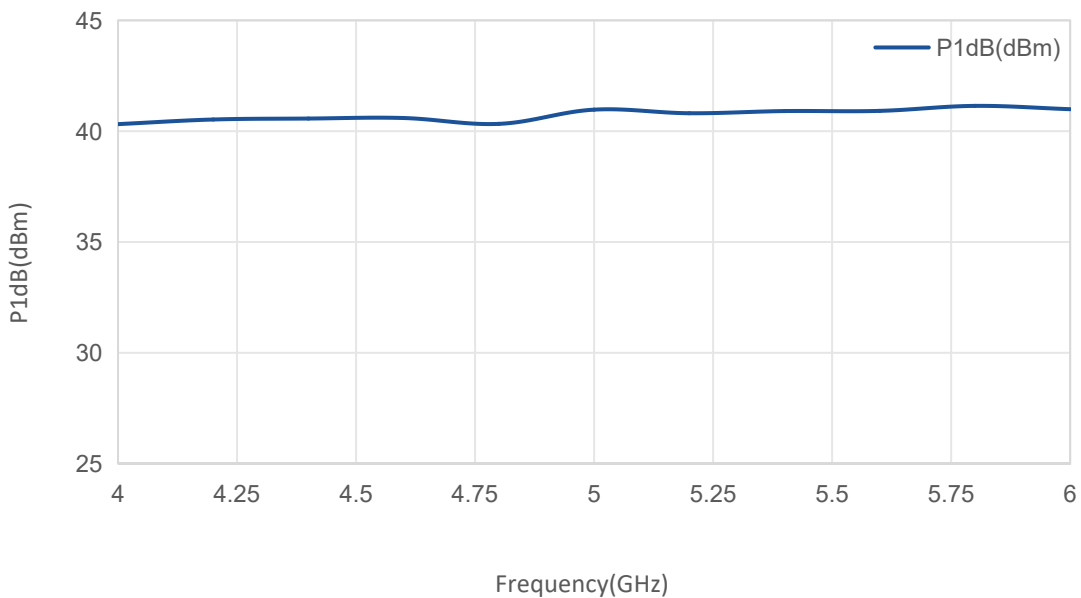


Typical Performance Data:

Gain vs Output Power



P1dB vs Frequency

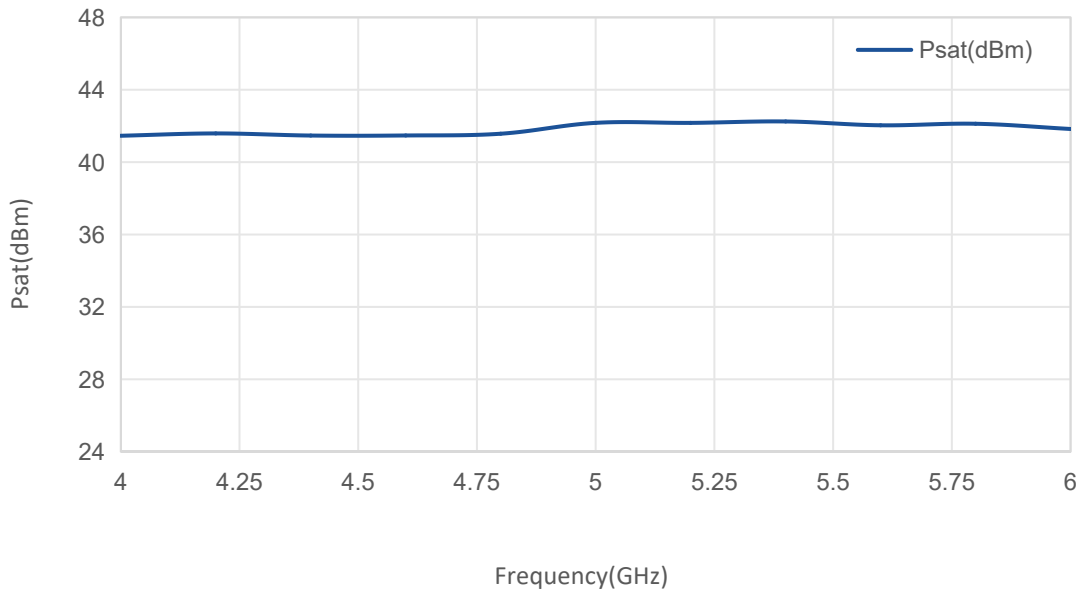


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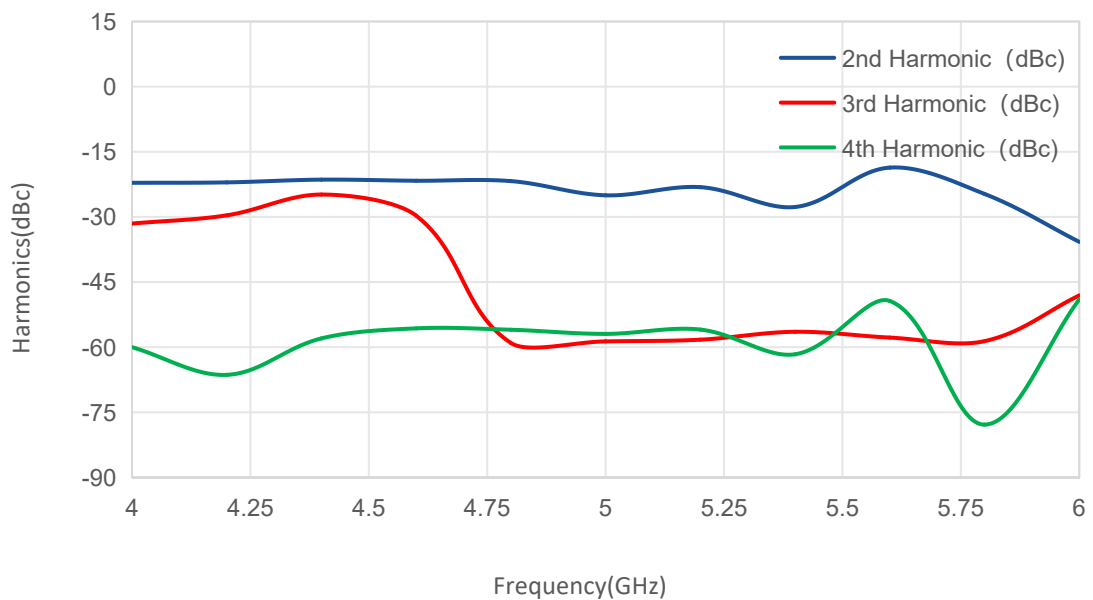


Typical Performance Data:

Psat vs Frequency



Harmonics vs Frequency



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