



Power Amplifier

Model: PA-10M-1G-50

10MHz-1GHz 50W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

Features:

- Frequency range: 10MHz-1GHz
- High output power at saturation, 50W Typ.
- High gain, 50 dB Typ.
- 50 Ohm Matched Input / Output.

Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

Product Overview:

The PA-10M-1G-50 is a power amplifier with a typical small signal gain of 50 dB and a nominal P_{sat} of 50W across the frequency range of 0.01 to 1 GHz. The DC power requirement for the amplifier is +28 VDC/1 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	0.01		1	GHz
Small Signal Gain	47	50		dB
Gain Flatness		±2	±3	dB
Output P1dB		45		dBm
Output Psat	46	47		dBm
Harmonic@Pout=47dBm		-10		dBc
Input VSWR		1.5	2	:1
DC Voltage		+28	+30	V DC
DC Supply Current		1	12	A
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Notes
Operating Temperature*	-20°C to +50°C	
Non-operating Temperature*	-30°C to +60°C	
Relative humidity	95	%
RF Input/Output Connector	SMA Female/SMA Female	
DC Power Supply Connector	D-SUB-9	
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	170*80*20	mm
Weight	200	g

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

Absolute Maximum Ratings:

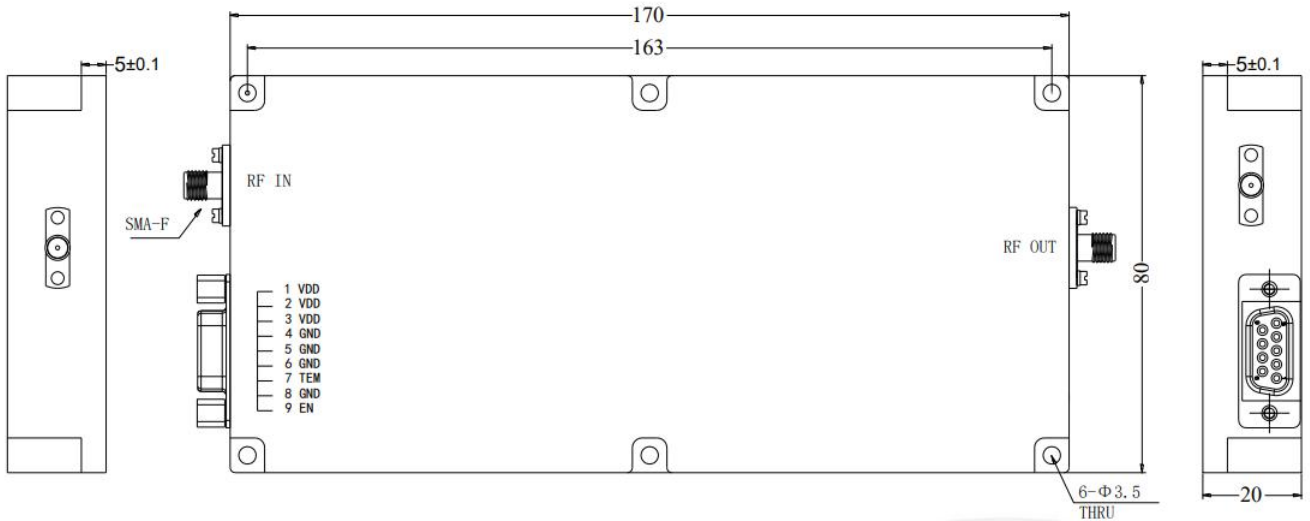
Parameter	Value
Supply Bias Voltage	+30 V
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Outline Drawing:

Unit:mm

PA-10M-1G-50



DC Supply Connector(DSUB-9 Female):

Pin	Name	Function
1	+28V	Power supply positive +26.0-30.0VDC
2	+28V	Power supply positive +26.0-30.0VDC
3	+28V	Power supply positive +26.0-30.0VDC
4	GND	Power supply negative
5	GND	Power supply negative
6	NC	NC
7	TEM	When the temperature of the power amplifier housing is greater than 70°C, the power amplifier is closed and this pin will output a high level. When the temperature of the power shell is reduced to 60°C, the power amplifier returns to normal operation, and this pin will output a low level.
8	NC	NC
9	EN	A high (or suspended) level turns on the power amplifier, and a low level turns it off

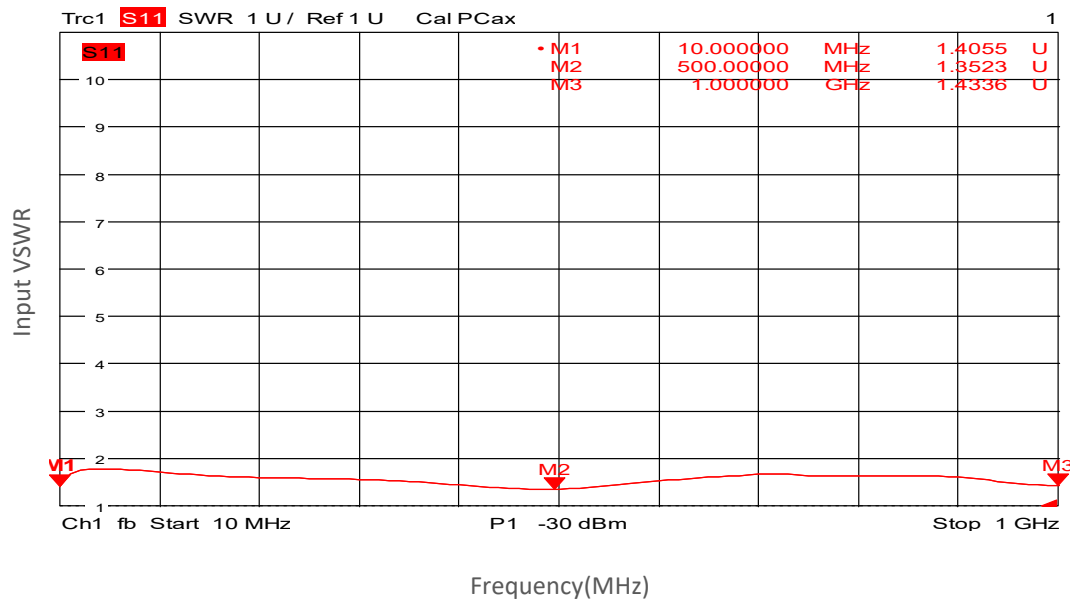


Ordering Information:

Base Number	Description	Optional
PA-10M-1G-50	Power Amplifier, 10MHz-1GHz, Gain:50dB,Psat:50W,+28V DC	Without Heatsink
PA-10M-1G-50-HS	Power Amplifier, 10MHz-1GHz, Gain:50dB,Psat:50W,+28V DC	With Heatsink

Typical Performance Data:

Input VSWR vs Frequency

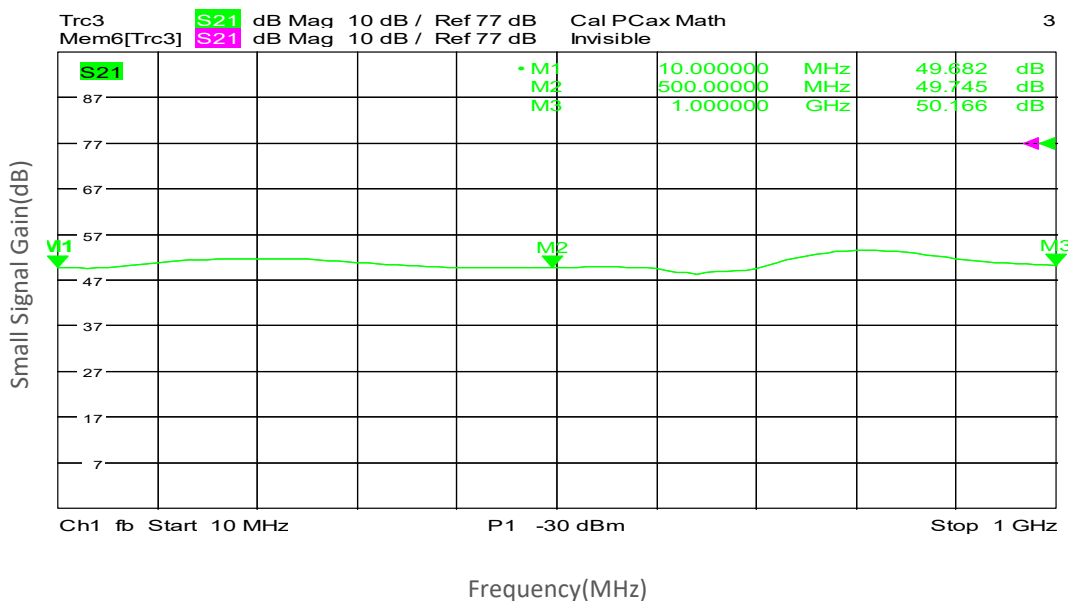


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

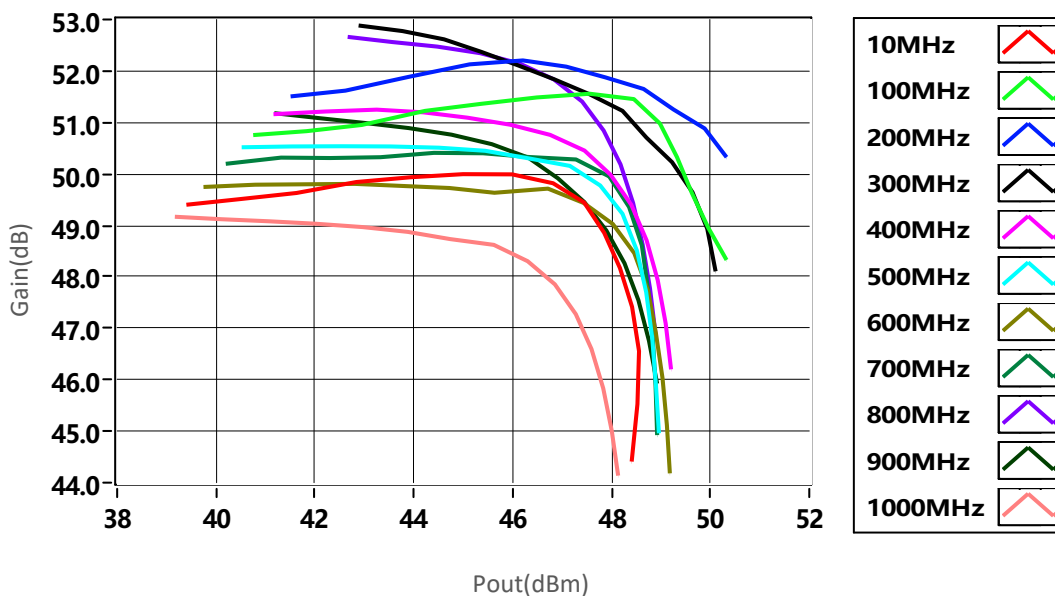


Typical Performance Data:

Small Signal Gain vs Frequency



Gain vs Output Power

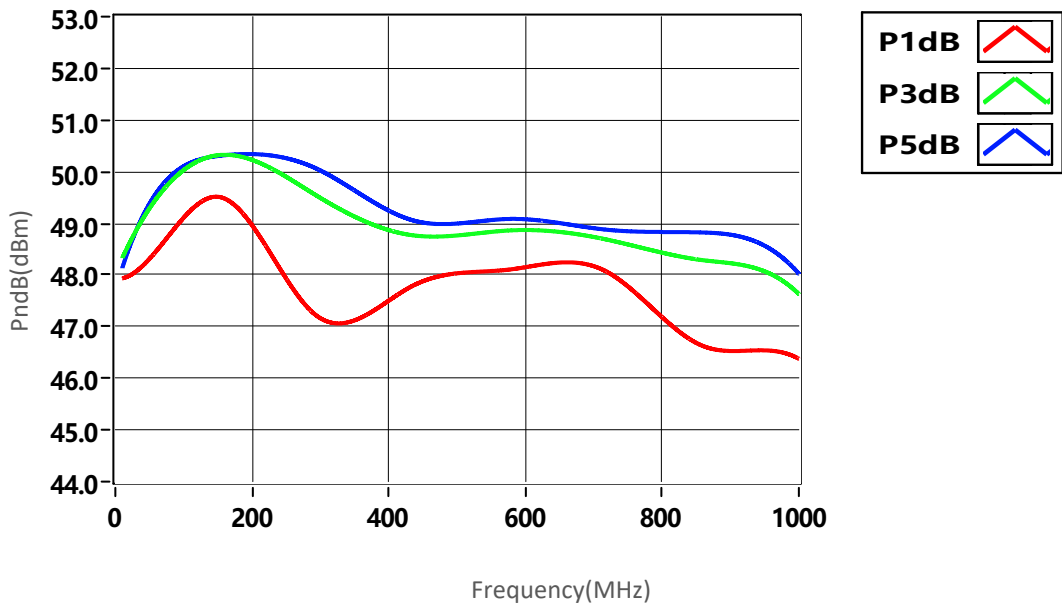


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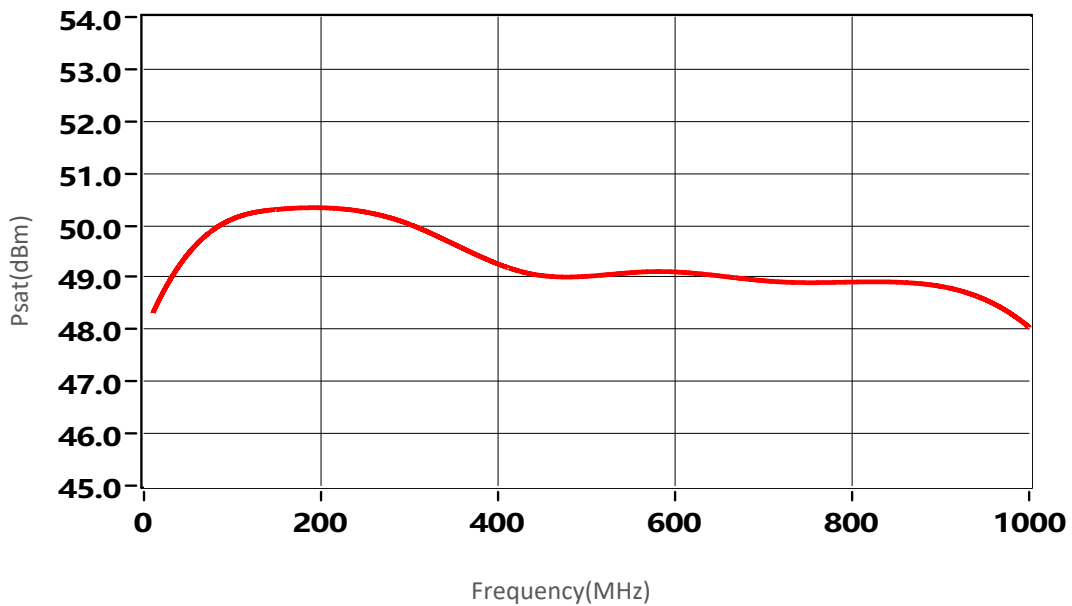


Typical Performance Data:

PndB vs Frequency



Psat vs Frequency

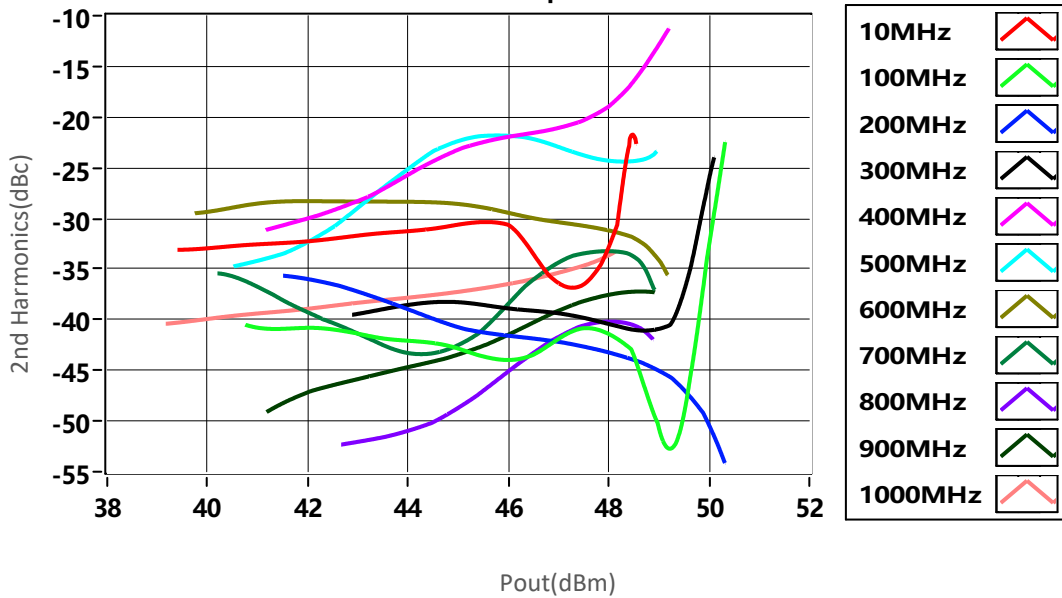


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

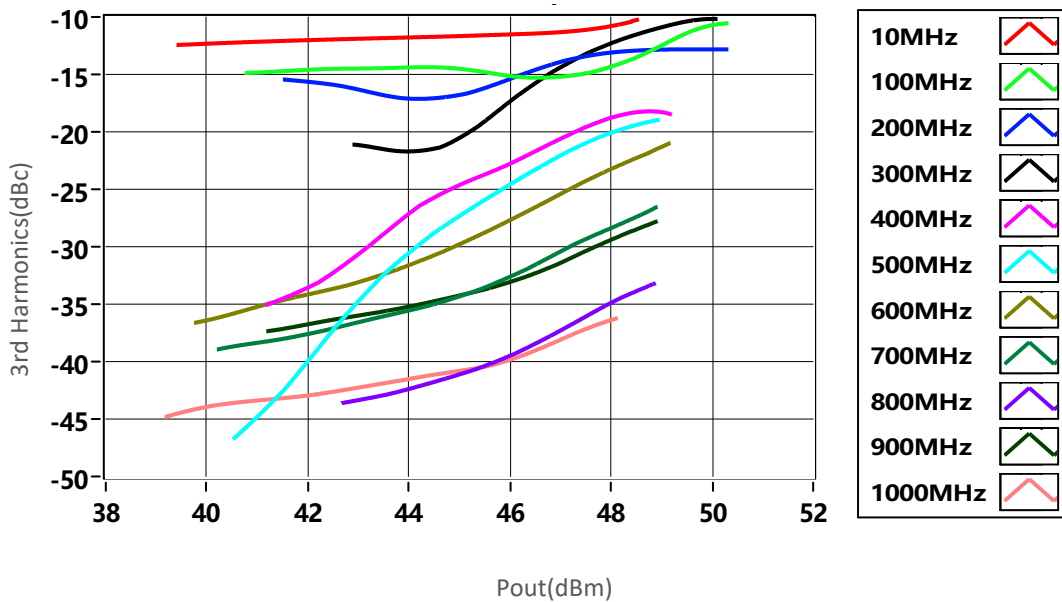


Typical Performance Data:

2nd Harmonics vs Output Power



3rd Harmonics vs Output Power



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