



Power Amplifier

Model: PA-50M-500M-3

50-500MHz 3W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

Features:

- Frequency range: 50-500MHz
- High output power at saturation, 3W Typ.
- High gain, 50 dB Min.
- 50 Ohm Matched Input / Output.

Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

Product Overview:

The PA-50M-500M-2.5 is a power amplifier with a minimum small signal gain of 50 dB and a nominal P_{sat} of 3W across the frequency range of 50 to 500MHz. The DC power requirement for the amplifier is +15 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	50		500	MHz
Small Signal Gain	50	52		dB
Small Signal Gain Flatness		±2	±3	dB
Noise Figure		4	5	dB
Output P1dB	33	34		dBm
Output Psat	34	35		dBm
Input VSWR		1.5	2.0	:1
DC Voltage		+15		V DC
DC Supply Current		1		A
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Notes
Operating Temperature*	-40°C to +60°C	
Non-operating Temperature*	-50°C to +70°C	
Relative humidity	95%	
RF Input/Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Altitude	30,000	feet
Shock / Vibration(MIL-STD-810F)	20g,11ms,saw-tooth	
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions	
Dimensions W x H x D	90*48*15	mm
Weight	150	g

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

Absolute Maximum Ratings:

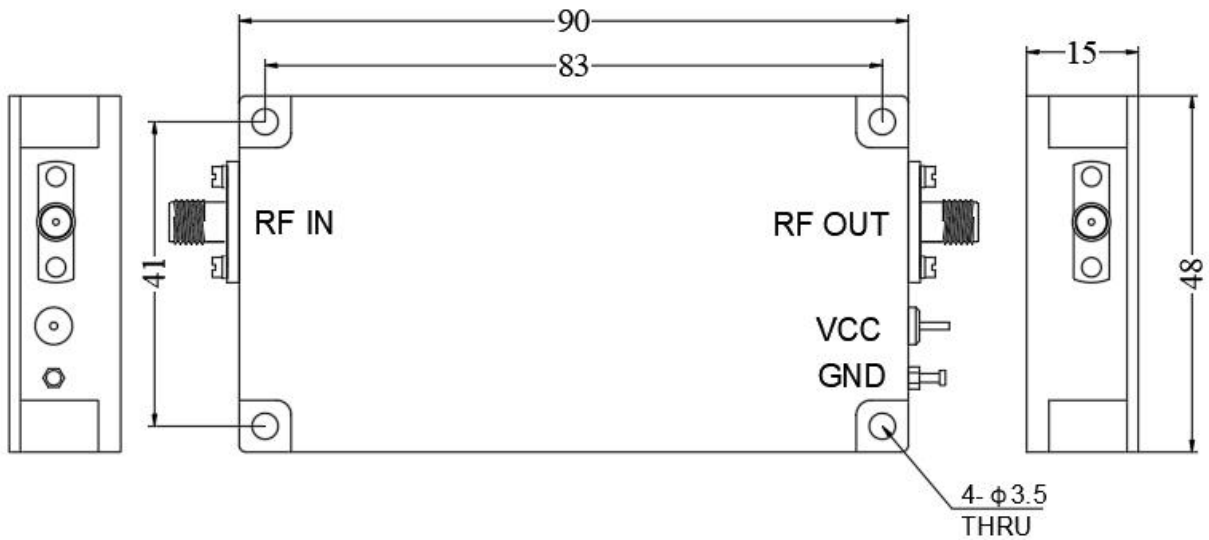
Parameter	Value
Supply Bias Voltage	+18 V
RF Input Power	-15 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Outline Drawing:

Unit:mm

PA-50M-500M-3



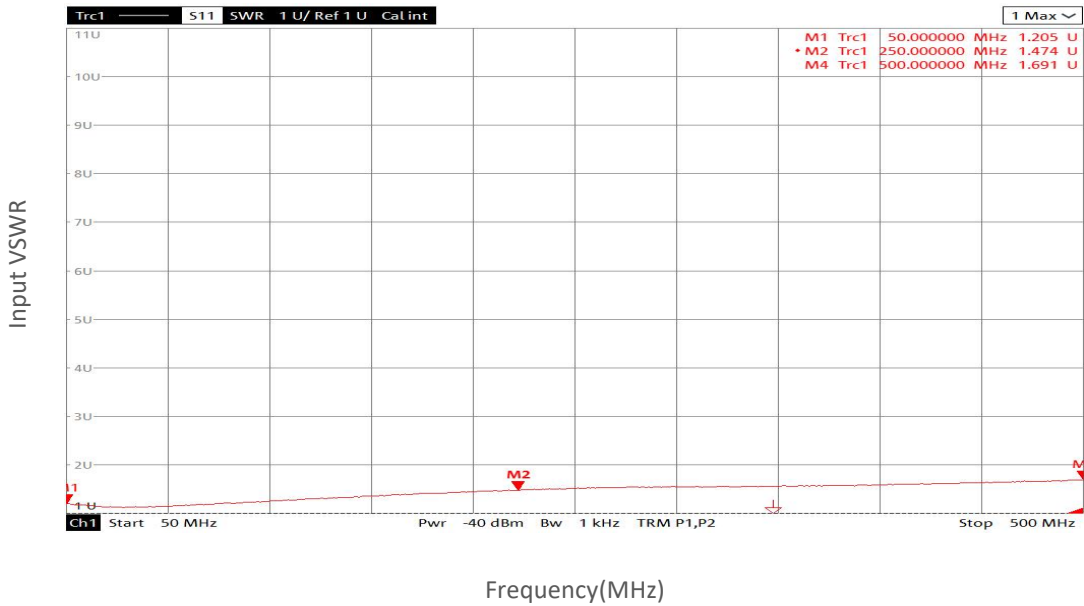
Ordering Information:

Base Number	Description	Optional
PA-50M-500M-3	Power Amplifier, 50-500MHz, Gain:50dB,Psat:3W,+15V DC	Without Heatsink
PA-50M-500M-3-HS	Power Amplifier, 50-500MHz, Gain:50dB,Psat:3W,+15V DC	With Heatsink

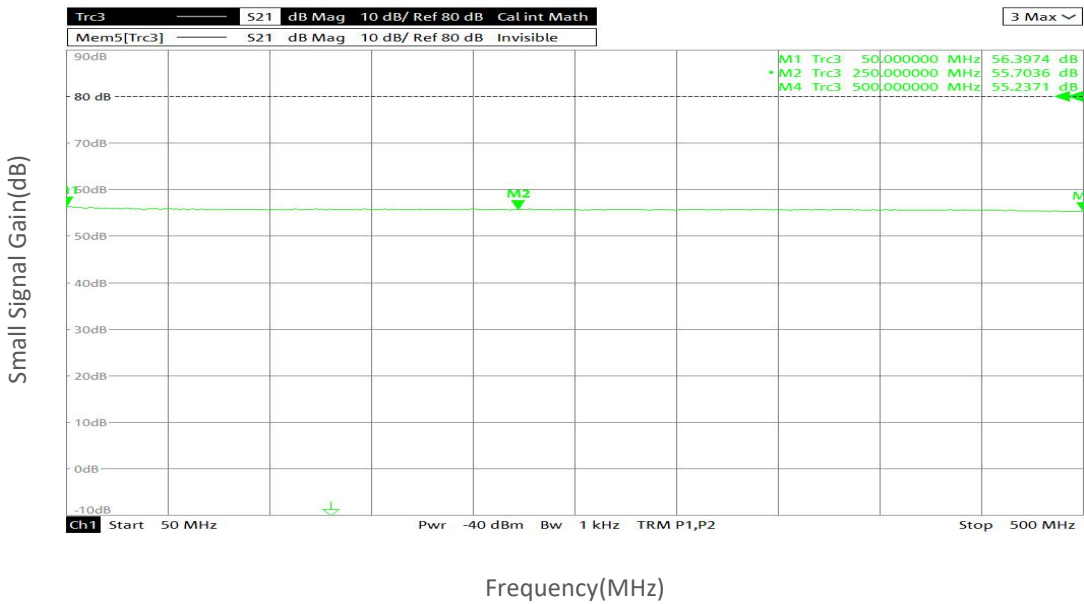


Typical Performance Data:

Input VSWR vs Frequency



Small Signal Gain vs Frequency

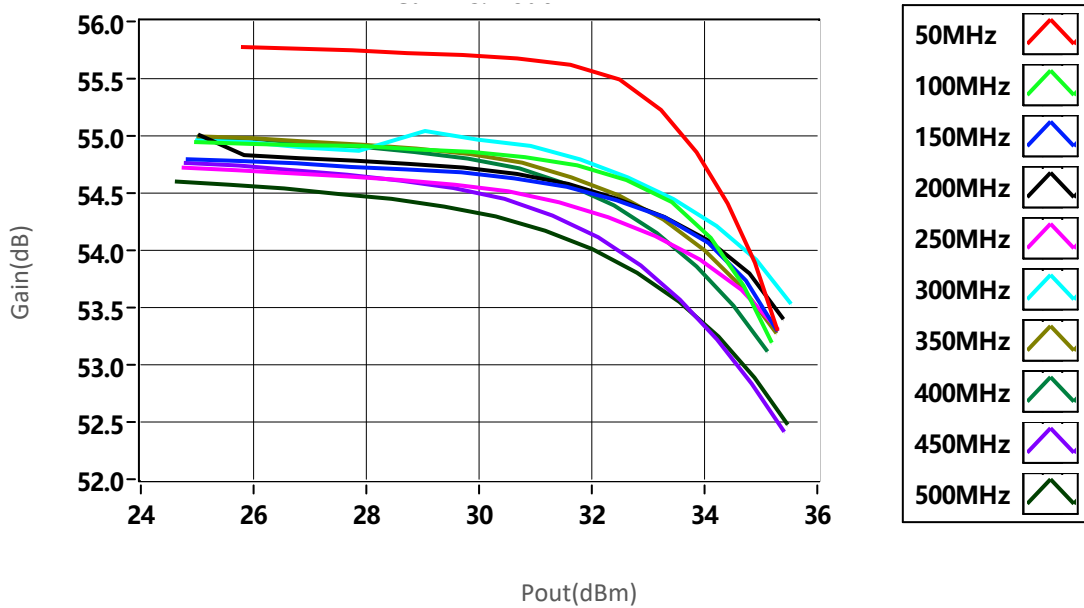


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

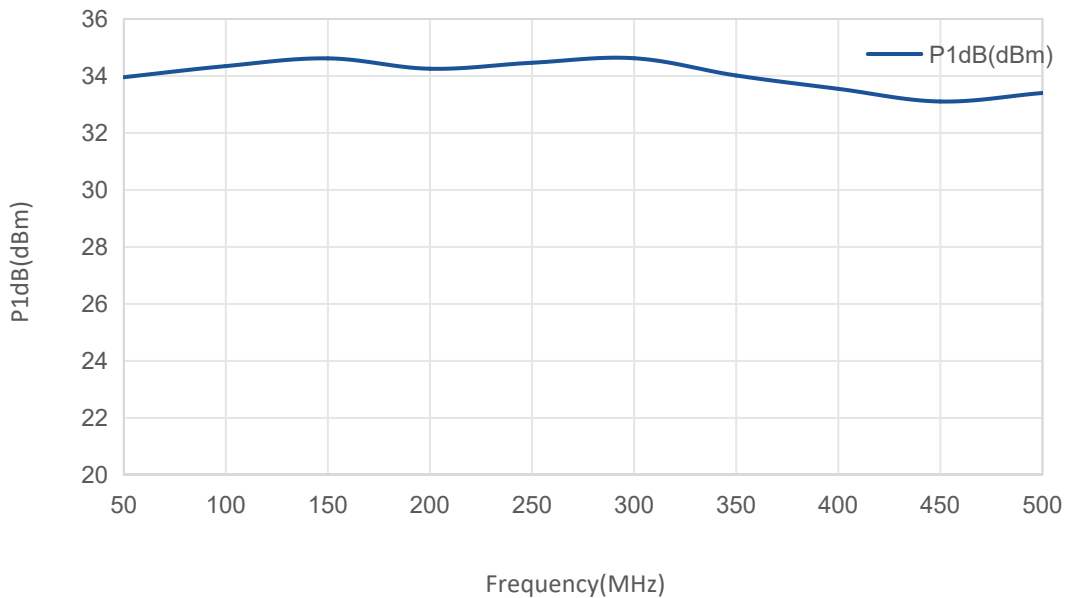


Typical Performance Data:

Gain vs Output Power



P1dB vs Frequency

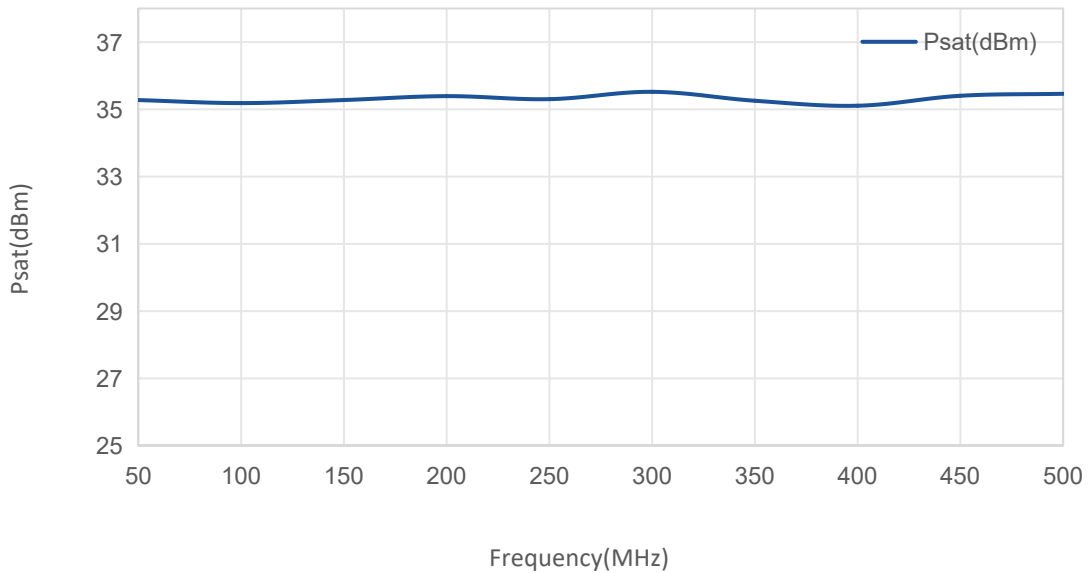


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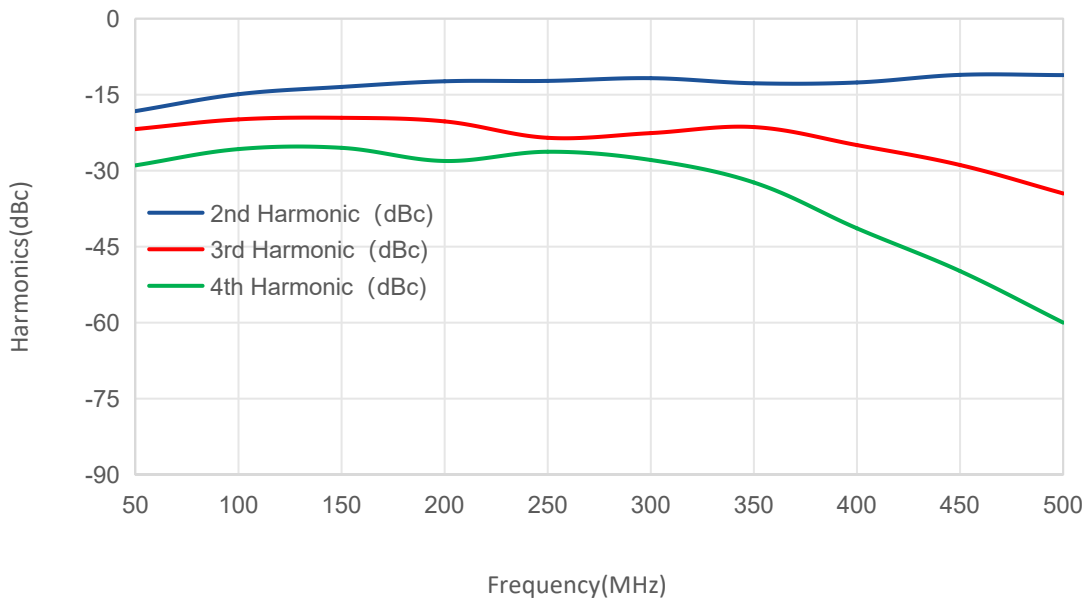


Typical Performance Data:

Psat vs Frequency



Harmonics vs Frequency

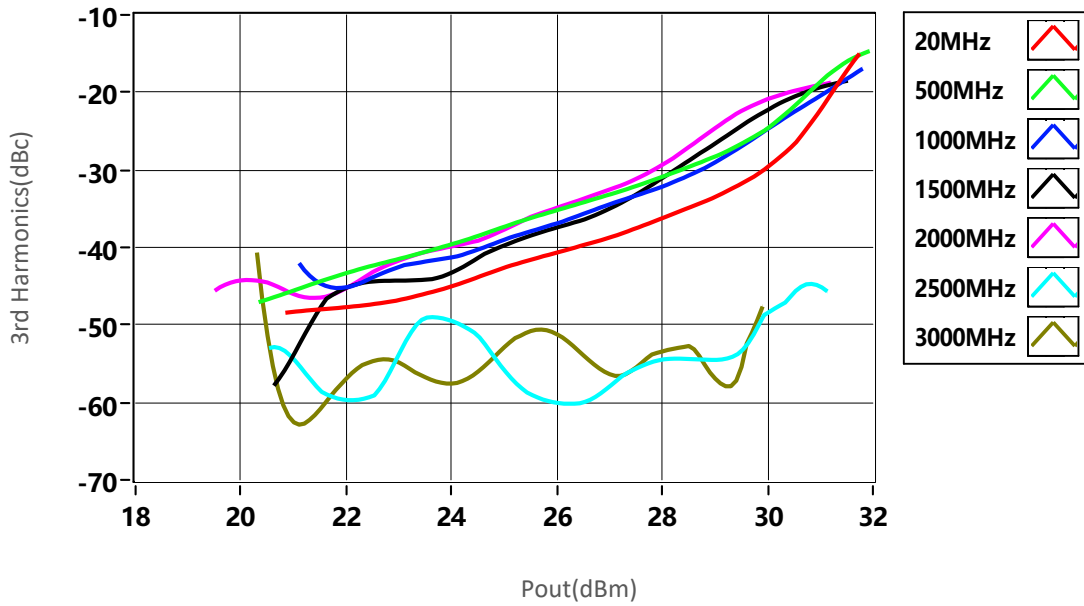


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Typical Performance Data:

3rd Harmonics vs Output Power



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