

MPA Series

1-1000MHz 1W RF Power Amplifier

Features

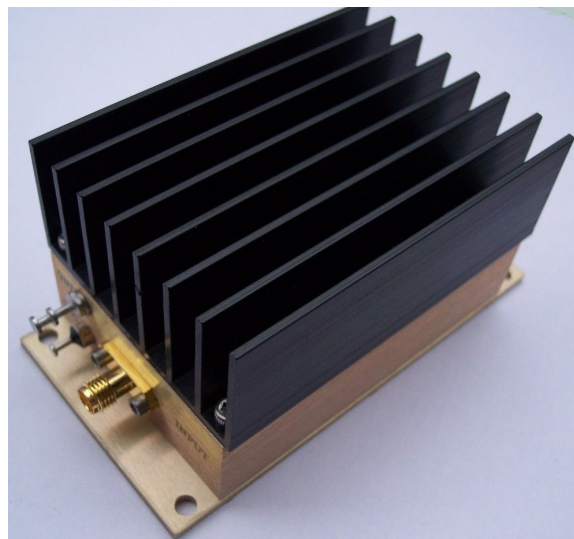
- Frequency Range: 1-1000MHz
- Gain: 40dB
- P_{1dB}: +30dBm (1Watt)
- IP3: +43dBm
- Noise Figure: 3.5dB
- DC Power: +12V
- DC Reverse Protected
- SMA Connector

Performance measured @ 500MHz

Description

MPA-10-40 is a 1Watt (+30dBm) output RF Power Amplifier operating from single 12V DC power supply with frequency from 1MHz to 1000MHz.

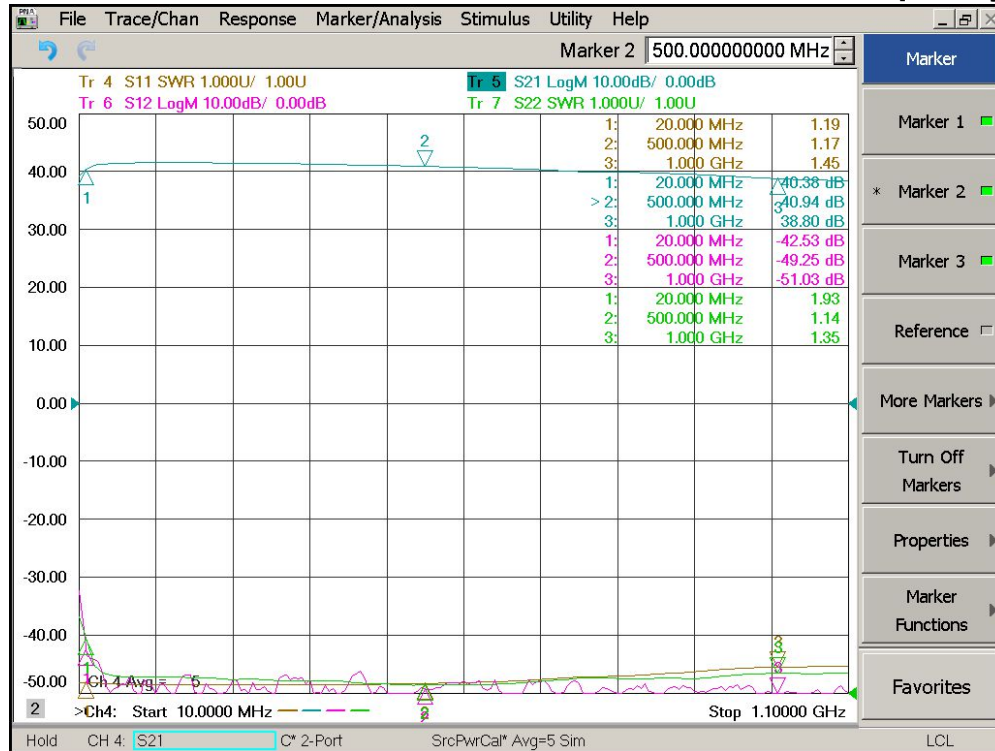
Picture



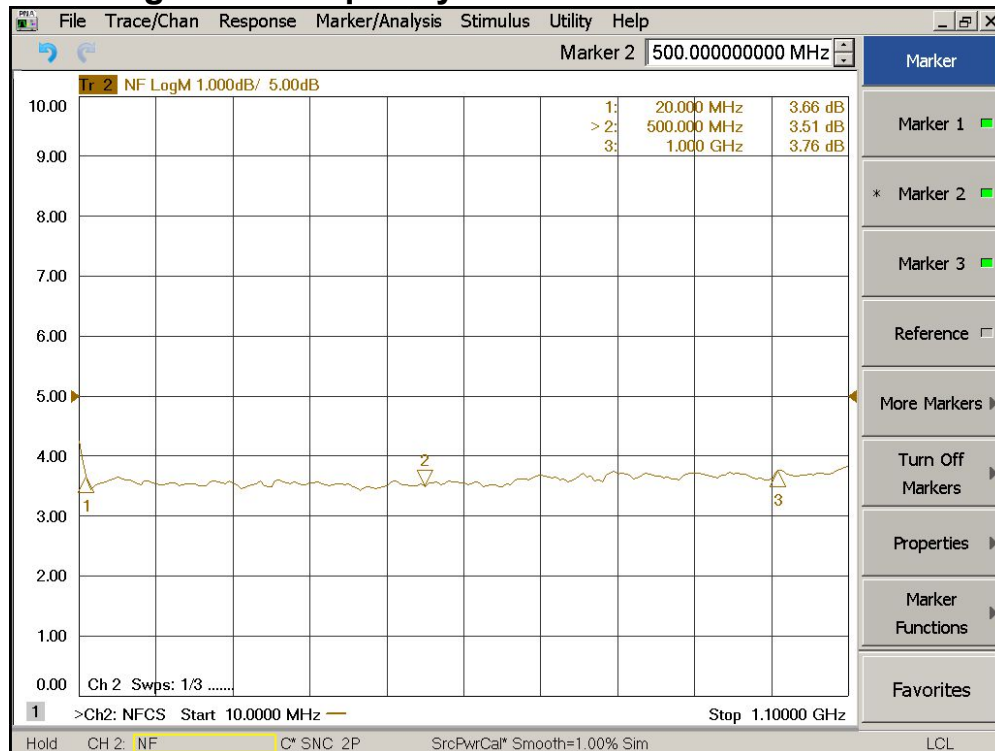
Electrical Specifications @ +25°C, Z_{IN} = Z_{OUT} = 50Ω, DC Supply = +12V

Parameter	Unit	Minimum	Typical	Maximum	
Frequency Range	MHz	1		1000	
Small Signal Gain S ₂₁	f = 1MHz	dB	39	40	
	f = 10MHz	dB	39	40	
	f = 500MHz	dB	39	40	
	f = 800MHz	dB	38	39	
	f = 1000MHz	dB	37	38	
Gain Flatness	dB		± 1.5	± 2.0	
Output Power P _{1dB}	f = 500MHz	dBm	+29	+30	
Output IP3	f = 500MHz	dBm	+41	+43	
Reverse Isolation S ₁₂	f = 500MHz	dB	-40	-45	
Noise Figure	f = 500MHz	dB	3.5	4.5	
VSWR	Input VSWR S ₁₁	f = 500MHz		1.2:1	2.0:1
	Output VSWR S ₂₂	f = 500MHz		1.2:1	2.0:1
DC Power Supply	V	11	12	13	
DC Current	mA		360	450	

Gain S21, Isolation S12, Return Loss S11, S22 vs Frequency



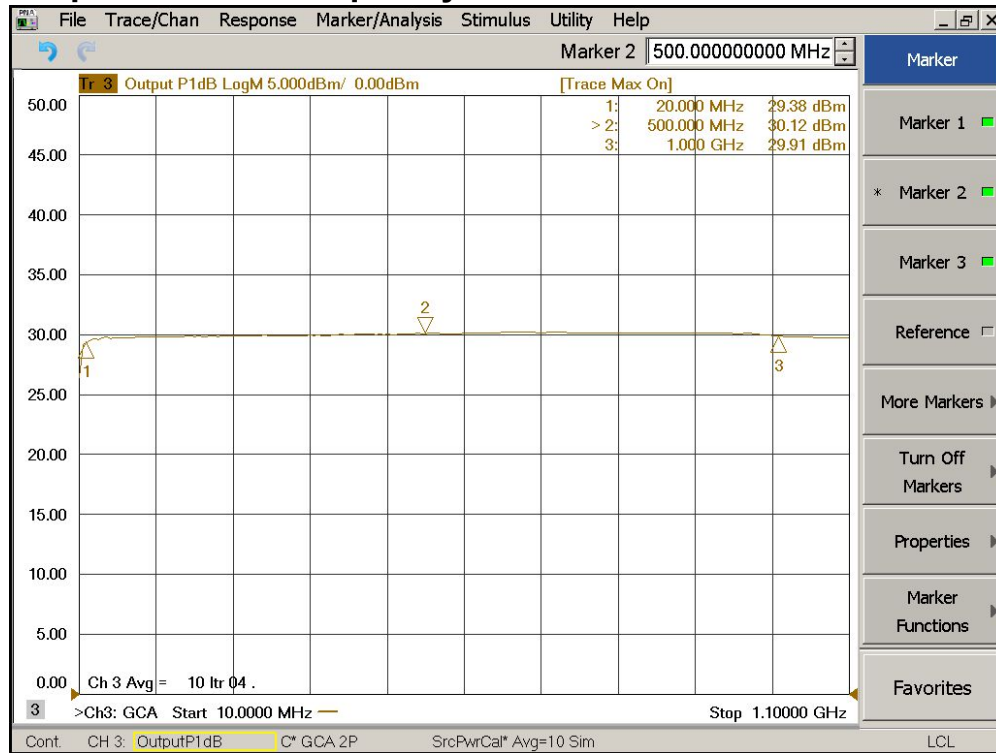
Noise Figure vs Frequency



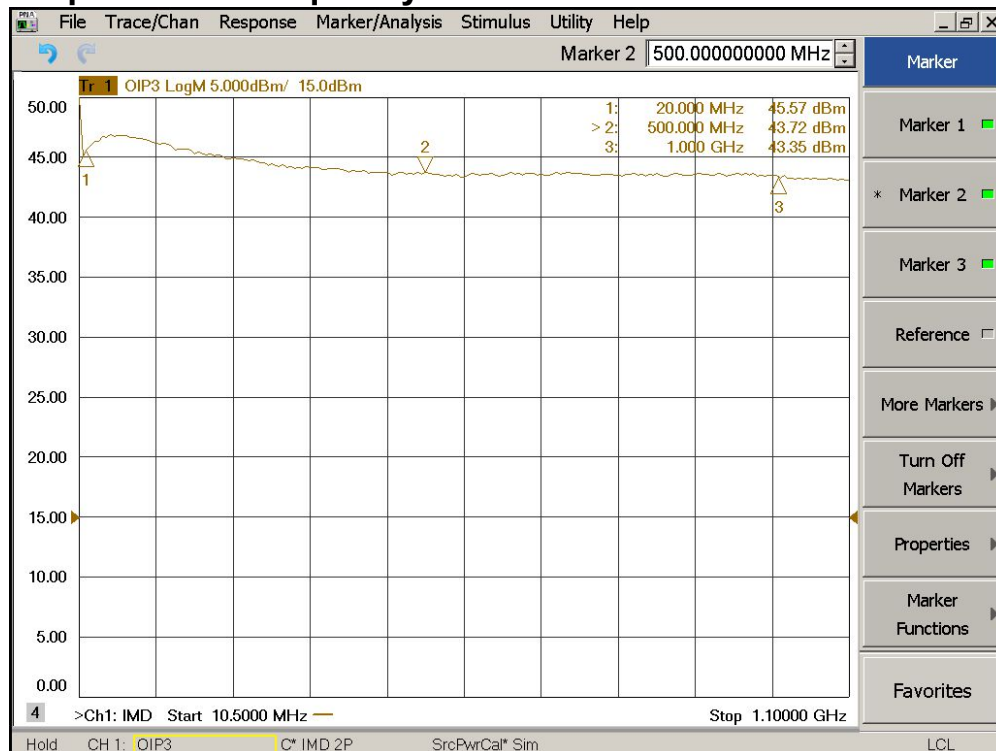
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Output P1dB vs Frequency



Output IP3 vs Frequency



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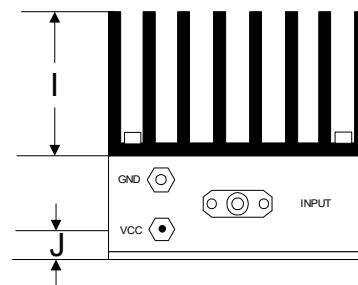
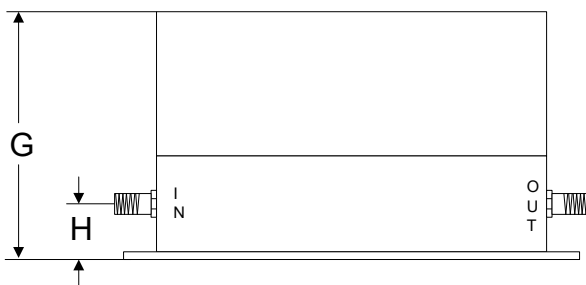
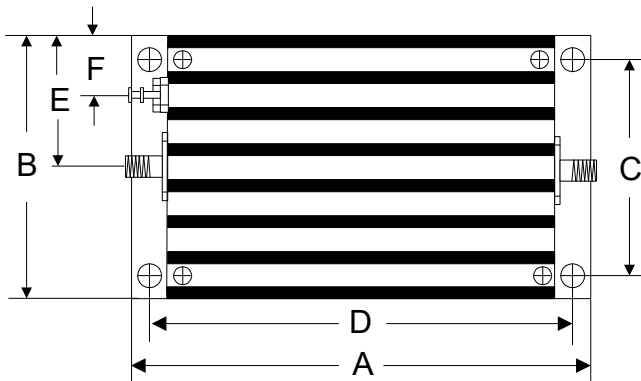
Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+17dBm
DC Supply Voltage	+13V
Operating Temperature	-40 °C to +70 °C
Storage Temperature	-55 °C to +125 °C

ESD Sensitive Material



Outline



	A	B	C	D	E	F	G	H	I	J
Inch	3.750	2.000	1.750	3.400	1.000	0.400	1.813	0.375	1.000	0.238
mm	92.25	50.80	44.45	86.36	25.40	10.16	46.05	9.53	25.40	6.03