

RPA Series

10MHz – 50GHz RF Amplifier

Features

- Frequency Range: 0.01-50GHz
- Gain: 27dB
- P_{OUT}: +20dBm
- OIP3: +30dBm
- Noise Figure: 6.0dB
- DC Power: +8V @ 400mA
- RF Connector: 2.4mm-female

Photo



Description

RPA-0050-2027 is a broadband high performance RF Amplifier, with standard frequency range of 10MHz to 50GHz.

Electrical Specifications @+25 °C, Z_{in}=Z_{out}=50 Ω, DC Supply = +8VDC

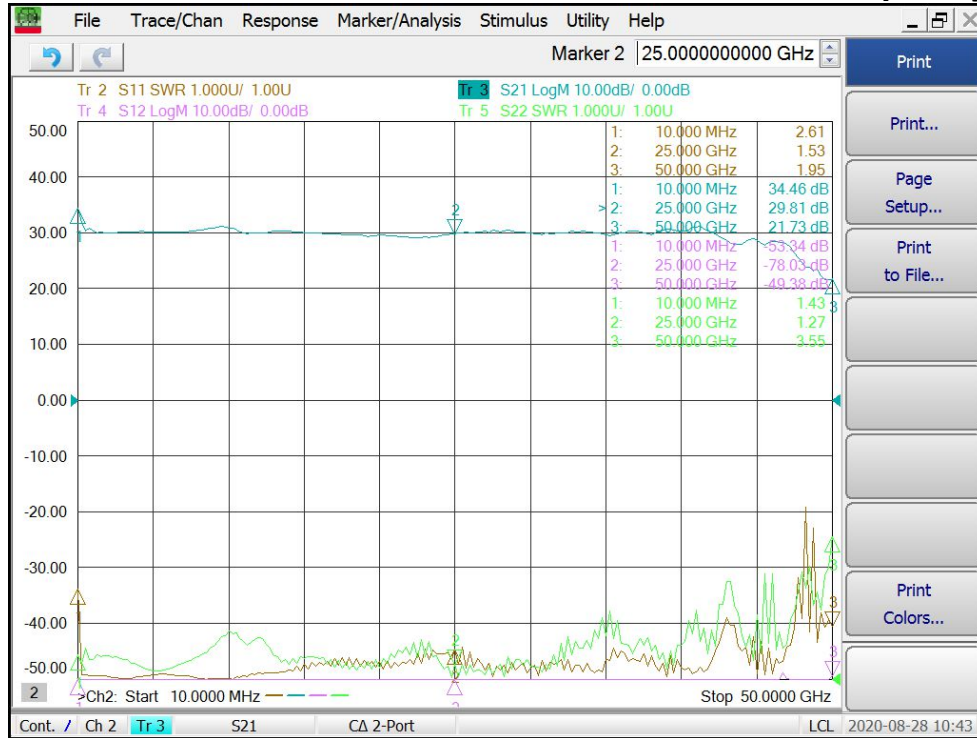
Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	GHz	0.01		50
Gain S ₂₁	f = 10MHz	dB	30	34
	f = 25GHz	dB	27	30
	f = 50GHz	dB	18	21
Gain Flatness	f = 500MHz-47GHz	dB		±2.5
Output Power P _{1dB}	f = 10MHz-30GHz	dBm	+18	+20
	f = 30GHz-40GHz	dBm	+16	+18
	f = 40GHz-50GHz	dBm	+12	+14
Output Power P _{SAT}	f = 10MHz-30GHz	dBm	+20	+22
	f = 30GHz-40GHz	dBm	+18	+20
Output Third Order Intercept IP3	f = 25GHz	dBm	+25	+27
Noise Figure	f = 25GHz	dB		6.0
Reverse Isolation S ₁₂	f = 25GHz	dB	-65	-75
Input VSWR S ₁₁	f = 25GHz		1.5:1	2.0:1
Output VSWR S ₂₂	f = 25GHz		1.5:1	2.0:1
DC Power Supply - voltage	V	+5.5	+8	+10
DC Power Supply - current	mA		400	480

WARNING: MUST USE HEAT SINK OR MOUNT ON LARGE METAL PLATE

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



Noise Figure vs Frequency



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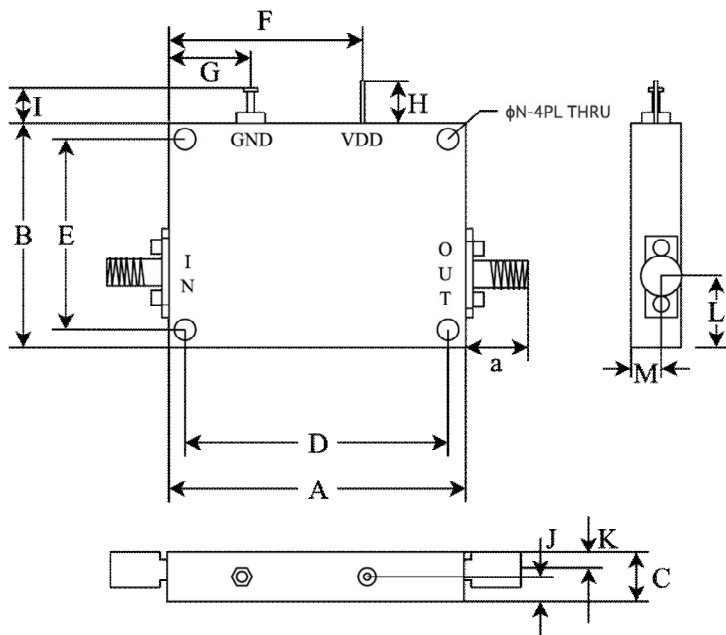
Absolute Maximum Ratings

Parameter	Absolute Maximum
Supply Voltage	+13V
RF Input Power	+0dBm
Operating Temperature	0 °C to +50 °C
Storage Temperature	-65 °C to +150 °C

ESD Sensitive Material



Outline



	A	B	C	D	E	F	G	H	I	J
Inch	1.772	1.339	0.335	1.614	1.181	1.075	0.256	0.256	0.197	0.167
mm	45.00	34.00	8.50	41.00	30.00	27.30	6.50	6.50	5.00	4.25

	K	L	M	N	a (SMA)	a (2.92mm)	a (2.4mm)	a (1.85mm)
Inch	0.130	0.390	0.205	0.087	0.370	0.374	0.425	0.445
mm	3.30	9.90	5.20	2.20	9.40	9.50	10.80	11.30