

## RNA Series

## 2 – 50GHz Low Noise Amplifier

### Features

- Frequency Range: 2-50GHz
- Gain: 25dB
- P<sub>1dB</sub>: +10dBm
- OIP3: +20dBm
- Noise Figure: 5dB
- DC Power: +8V @ 200mA
- RF Connector: 2.4mm-female

### Photo



### Description

RNA-0250-501025 is a wide band high performance Low Noise (& Driver) Amplifier, with standard frequency range of 2 to 50GHz.

### Electrical Specifications @+25 °C, Z<sub>in</sub>=Z<sub>out</sub>=50 Ω, DC Supply = +8VDC

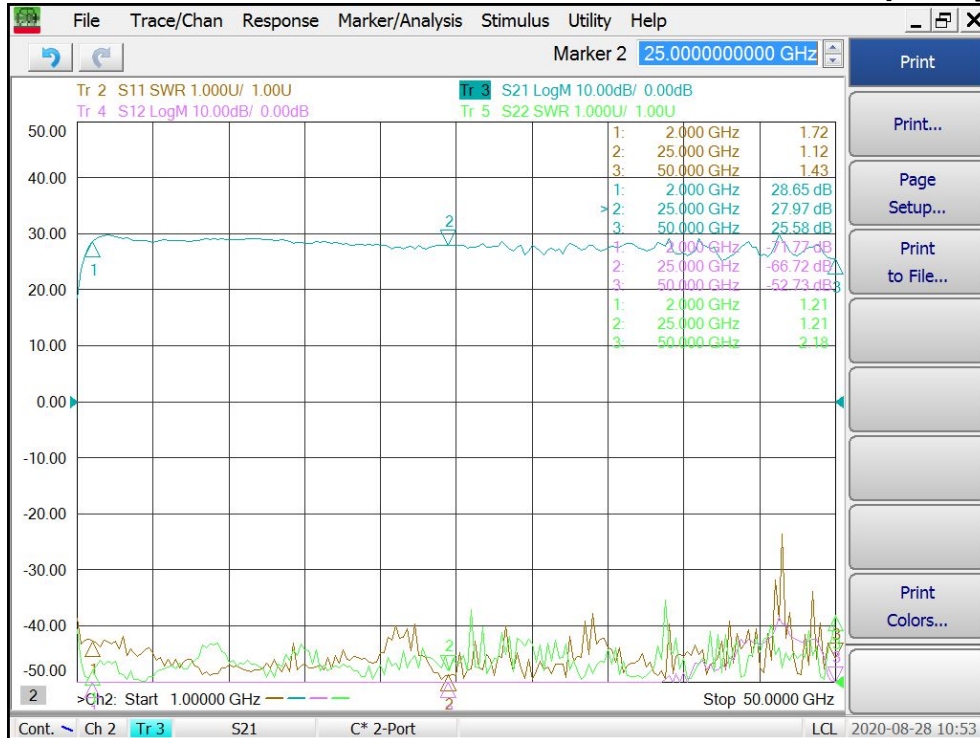
Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	GHz	2		50
Gain S <sub>21</sub>	f = 2GHz	dB	25	28
	f = 25GHz	dB	25	28
	f = 50GHz	dB	22	25
Gain Flatness	dB		±1.5	±2.5
Output Power P <sub>1dB</sub>	f = 25GHz	dBm	+10	+13
Output Third Order Intercept IP3	f = 25GHz	dBm	+20	+23
Noise Figure	f = 25GHz	dB	3.5	5.0
Reverse Isolation S <sub>12</sub>	f = 25GHz	dB	-55	-65
Input VSWR S <sub>11</sub>	f = 25GHz		1.5:1	2.5:1
Output VSWR S <sub>22</sub>	f = 25GHz		1.5:1	2.5:1
DC Power Supply - voltage	V	+5.5	+8	+10
DC Power Supply - current	mA		200	250
Size (RF/DC feedthrough excluded)	Inch (mm)	1.772"x1.339"x0.335" (45x34x8.5mm)		
Weight	Oz	2.0		

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

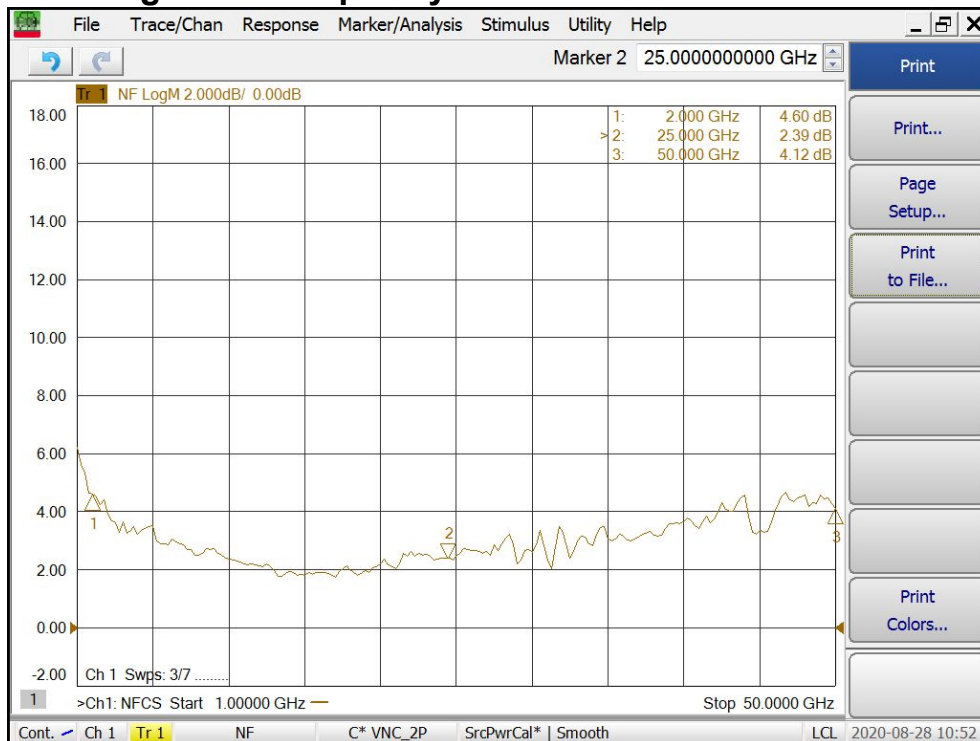
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**2 – 50GHz Low Noise Amplifier**

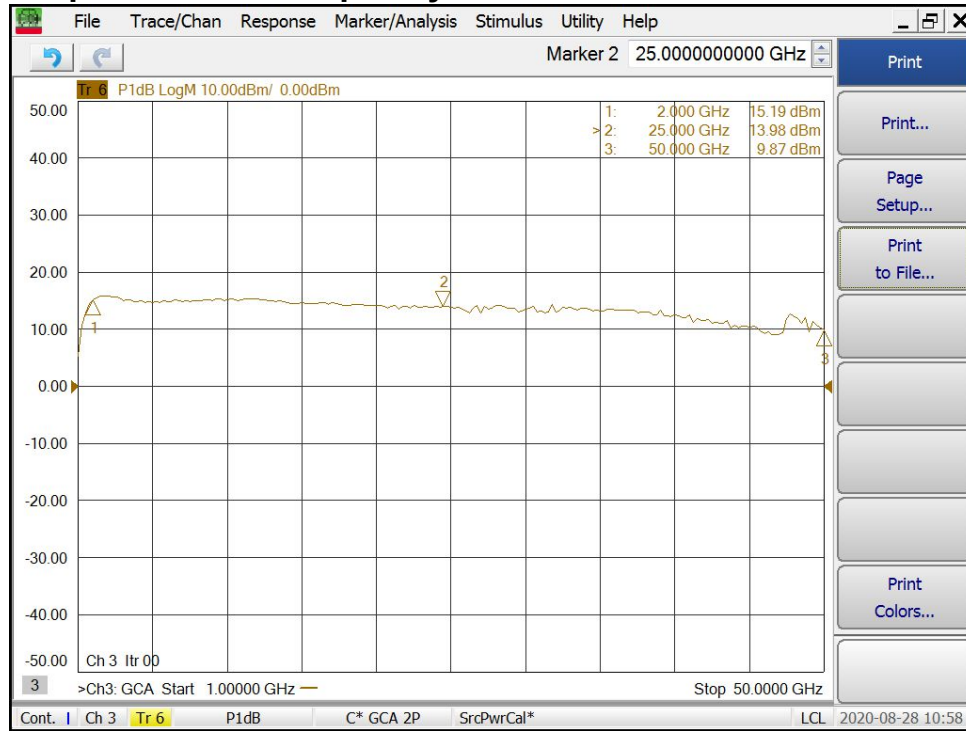
**Gain S21, Isolation S12, Return Loss S11, S22 vs Frequency**



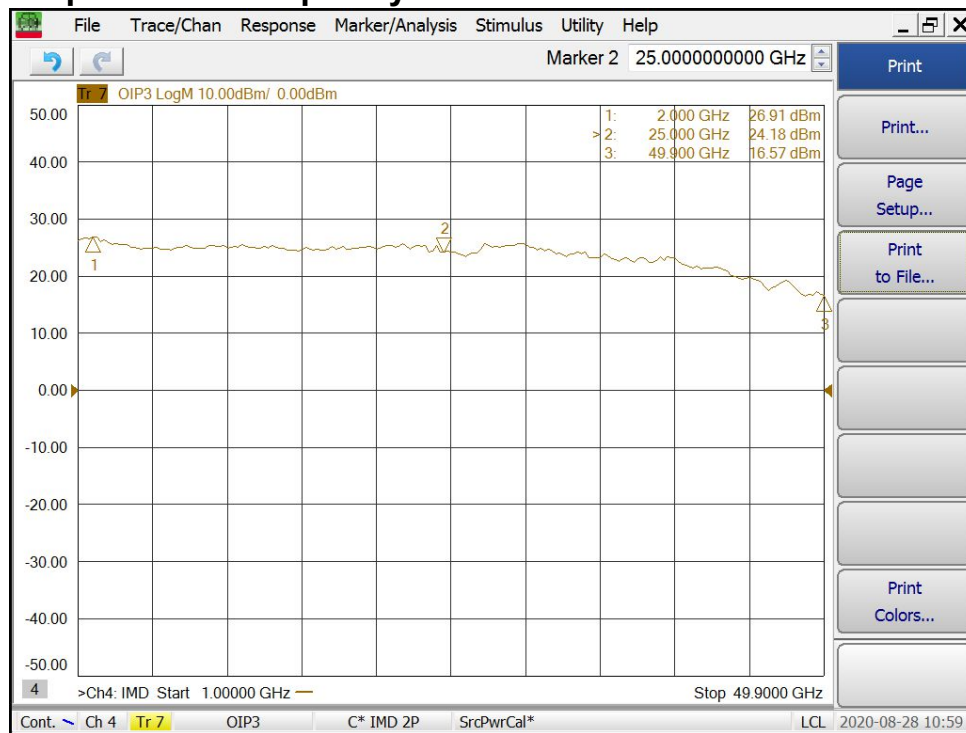
**Noise Figure vs Frequency**



**Output P1dB vs Frequency**



**Output IP3 vs Frequency**



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## 2 – 50GHz Low Noise Amplifier

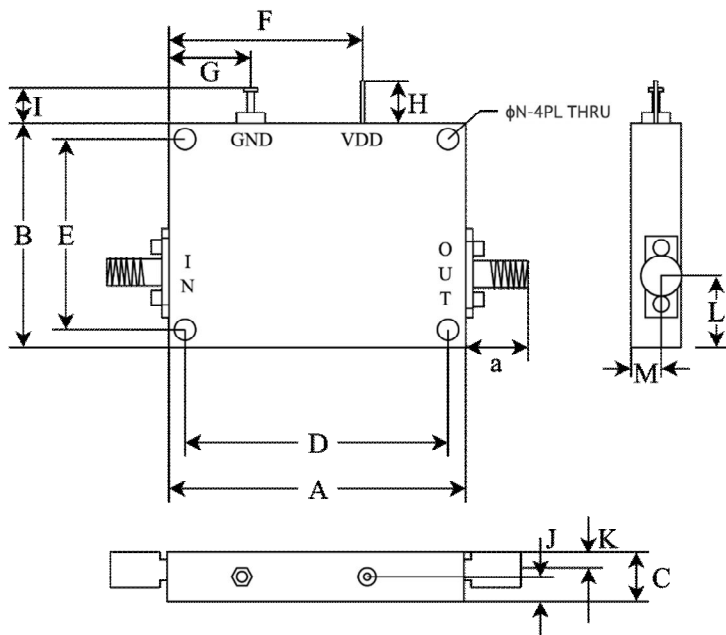
### Absolute Maximum Ratings

Parameter	Absolute Maximum
Supply Voltage	+13V
RF Input Power	-5dBm
Operating Temperature	-45 °C to +85 °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