

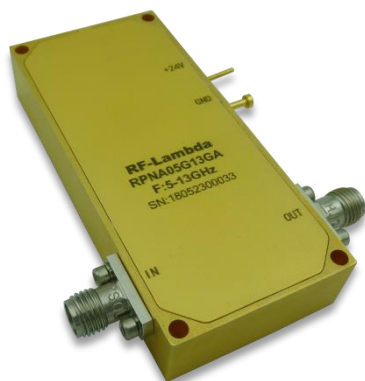


RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RPNA05G13GA

2W Front End Over Drive Protected LNA 5GHz~13GHz



Features

- Gain:45dB Typical
- Noise Figure: 1.5dB Typical
- P1dB Output Power: +20dBm Typical
- Supply Voltage: +24V

Typical Applications

- Wireless Infrastructure
- RF Microwave & VSAT
- Military & Aerospace

Electrical Specifications, TA = +25°C, Vcc = +24V

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	5		11	11		13	GHz
Gain	42	46		35	42		dB
Gain Flatness		±1.5	±2.0		±4.0	±6	dB
Gain Variation Over Temperature (-45 ~ +85)		±1.0			±1.0		dB
Noise Figure		1.8	3.5		2.0	3.5	dB
Input VSWR		2.0			1.6		: 1
Output VSWR		2.0			1.6		: 1
Output 1dB Compression Point (P1dB)	19	21		20	22		dBm
Saturated Output Power (Psat)		22			25		dBm
Output Third Order Intercept (IP3)		30			31		dBm
Supply Current (Vcc=+24V)		160	300		160	300	mA
Isolation S12		-70			-70		dB
Weight	2.12						ounces
Impedance	50						Ohms
Input / Output Connectors	SMA-Female						
Finish	Standard: Gold 40 micron; Nickel 220 micron thickness						
	Option: Gold 80 micron; Nickel 180 micron thickness						
Material	Aluminum						
Package Seal	Epoxy Sealed (Standard)						
	Hermetically Sealed (Optional)						

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Absolute Maximum Ratings

Operating Voltage	+24~28V
RF Input Power	34dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +24V biasing
Power OFF Procedure	
Step 1	Turn off +24V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

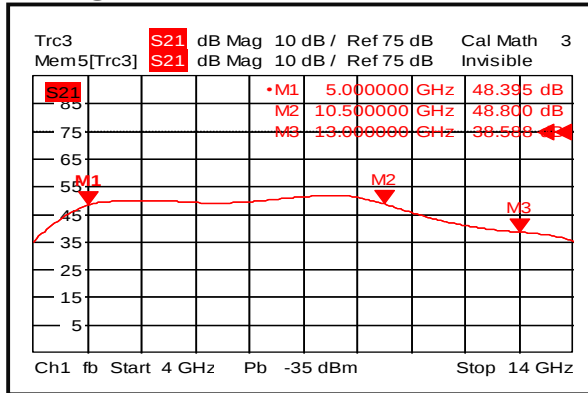
Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-55°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 Hours
Shock		1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	MIL-STD-883	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)		MIL-STD-883 (For Hermetically Sealed Units)

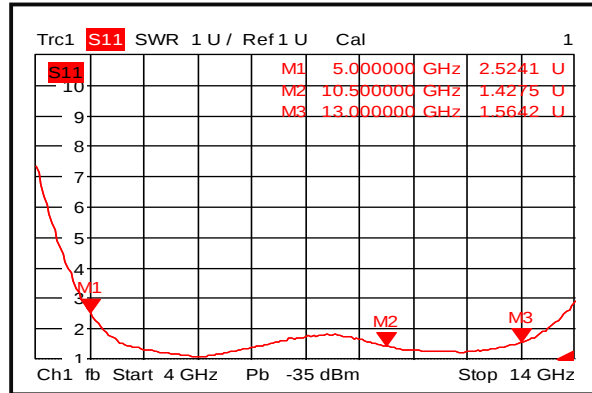


Typical Performance Plots

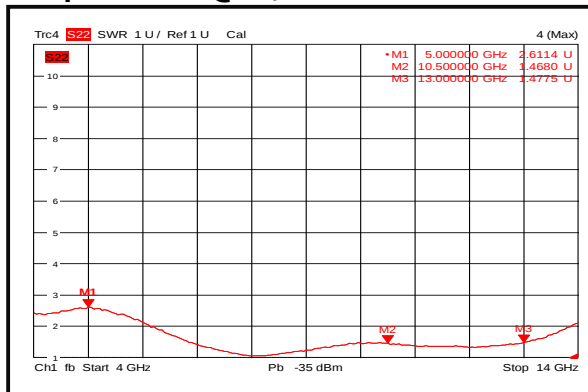
Gain @+25°C



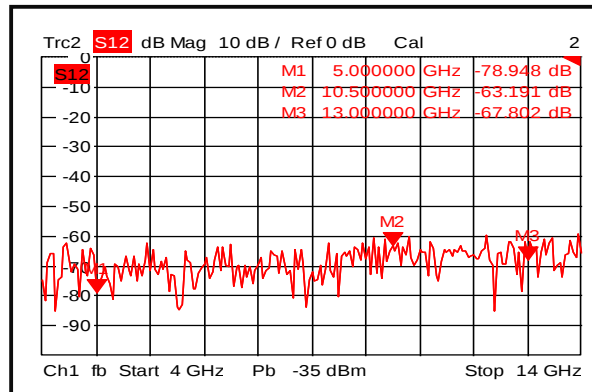
Input VSWR @+25°C



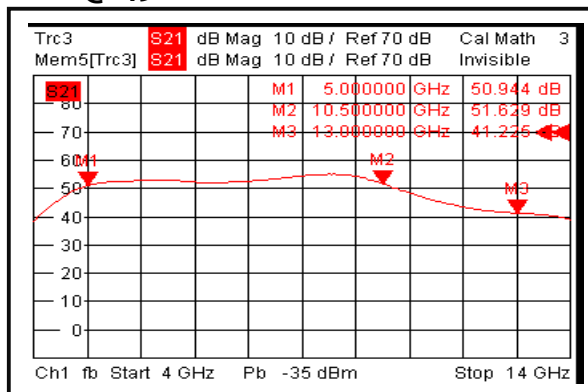
Output VSWR @+25°C



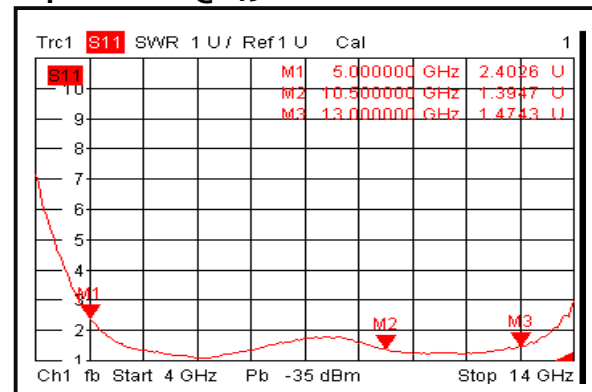
Isolation @+25°C



Gain @-45°C

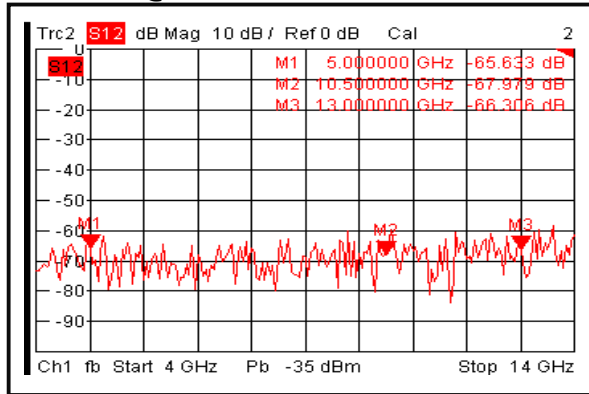


Input VSWR @-45°C

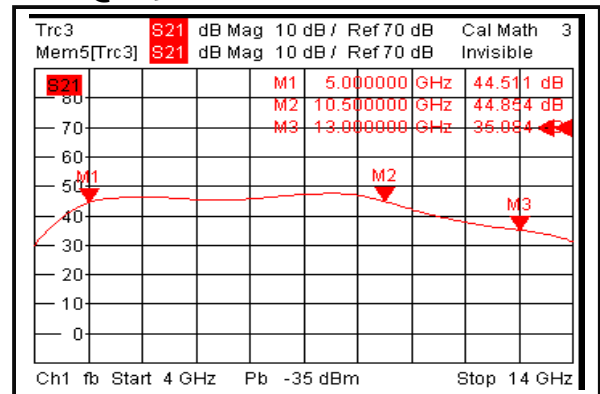




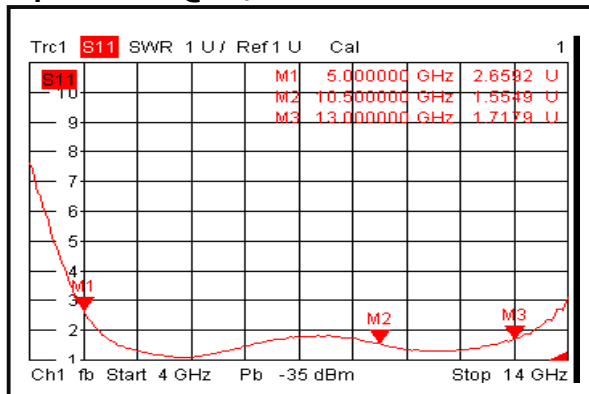
Isolation @-45°C



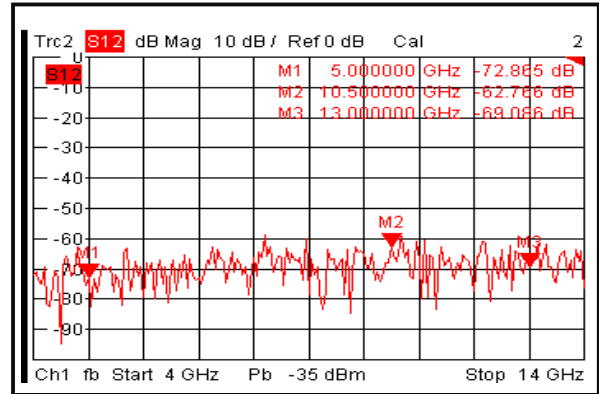
Gain @+85°C



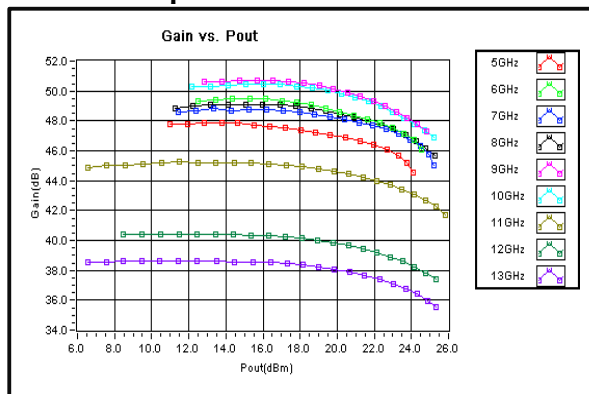
Input VSWR @+85°C



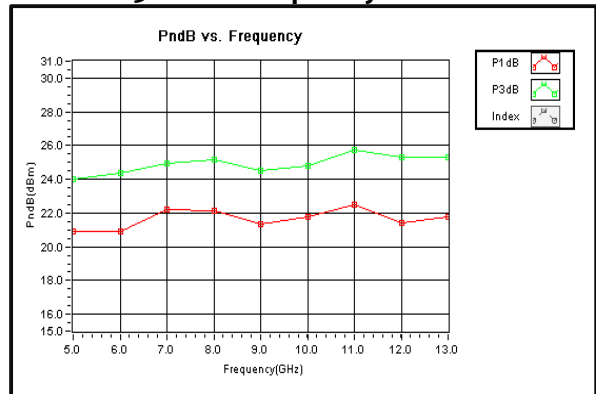
Isolation @+85°C



Gain vs. Output Power

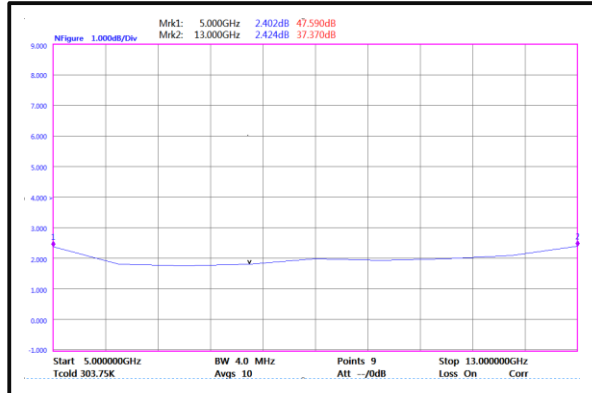


P1dB & P3dB vs. Frequency

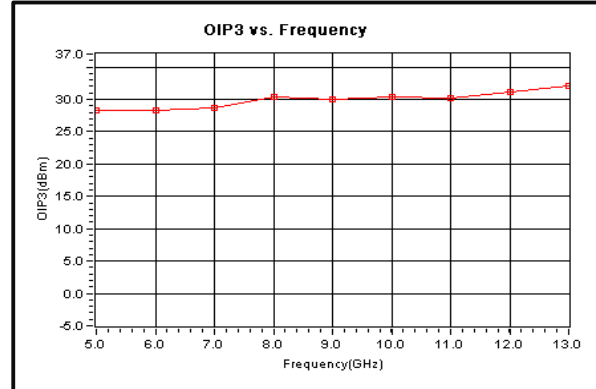




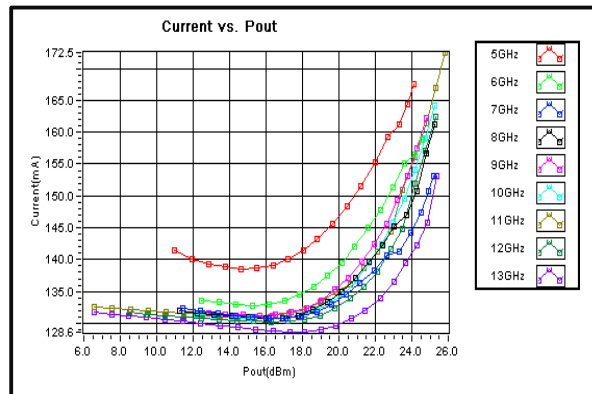
Noise Figure



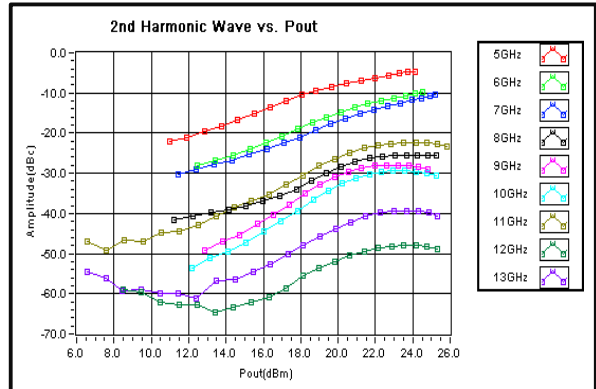
Output Third Order Intercept (IP3)



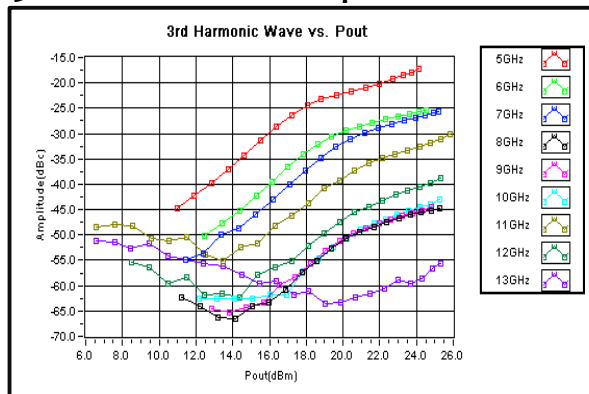
Current



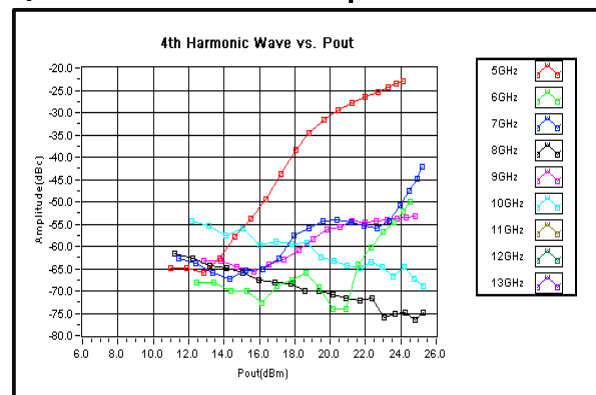
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



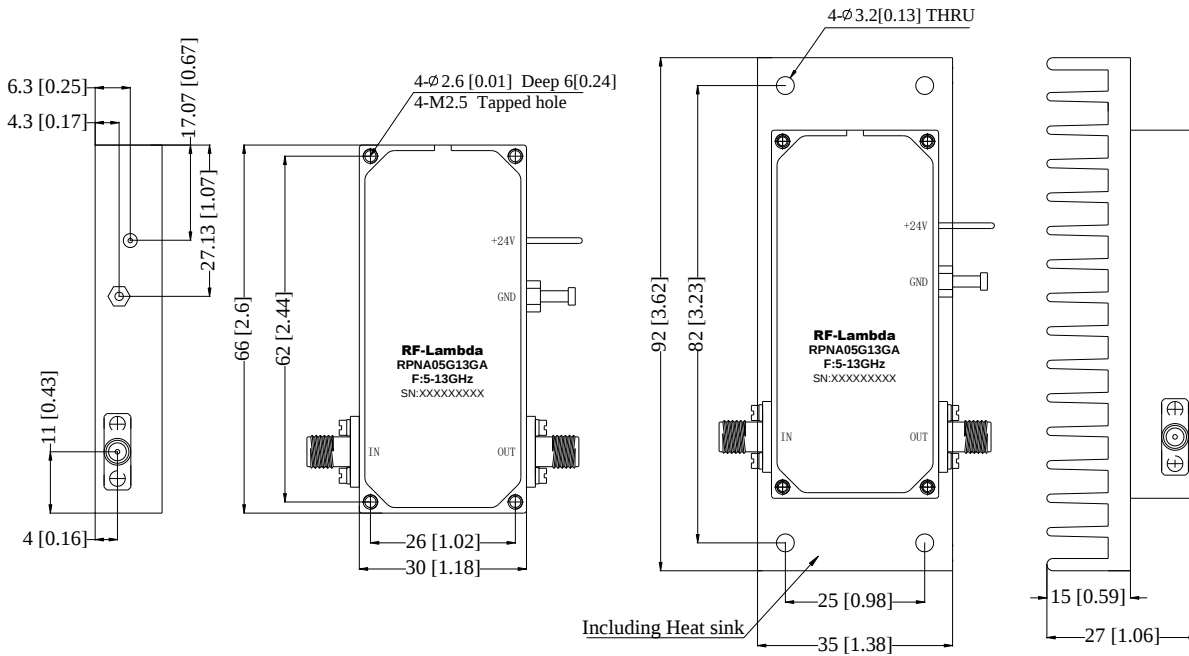
4th Harmonic Wave Output Power





Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
RPNA05G13GA	EAR99	5-13GHz Low Noise Amplifier

Important Notice

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