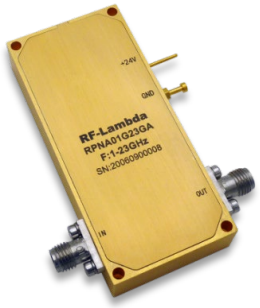
10W Front End Over Drive Protected LNA
1GHz~23GHz



Features

- Gain: 29dB Typical
- Noise Figure: 5.0dB Typical
- P1dB Output Power: +20dBm
- Supply Voltage: +24V

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test Instrument

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

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	1		12	12		23	GHz
Gain	28	31		24	27		dB
Gain Flatness		±1.5	±2.5		±1.5	±2.0	dB
Gain Variation Over Temperature (-40°C~+85°C)		±1.0			±1.5		dB
Noise Figure		3.5	4.5		5.0	8.0	dB
Input VSWR		2.0	4		1.8	2.0	: 1
Output VSWR		1.8	2.2		1.8	2.2	: 1
Output 1dB Compression Point (P1dB)	25	26		17	20		dBm
Saturated Output Power (Psat)		27			23		dBm
Output Third Order Intercept (OIP3)		36			27		dBm
Supply Current (Vcc=+24V)		250	380		250	380	mA
Isolation S12		-65			-50		dB
Weight	4.6 Max.						Ounces
Impedance	50						Ohms
Input / Output Connectors	SMA-Female						
Finish	Gold Plated						
Material	Aluminum						
Package Sealing	Epoxy Sealed (Standard)						
	Hermetically Sealed (Optional)						

10W Front End Over Drive Protected LNA 1GHz~23GHz

Absolute Maximum Ratings

Operating Voltage	+28V
RF Input Power	+40dBm @+25℃

Biasing Up Procedure

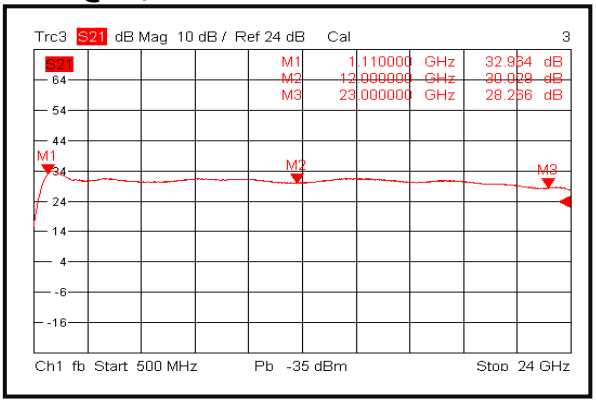
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +24V biasing
Power OFF Procedure	
Step 1	Turn off +24V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications and Test Standards

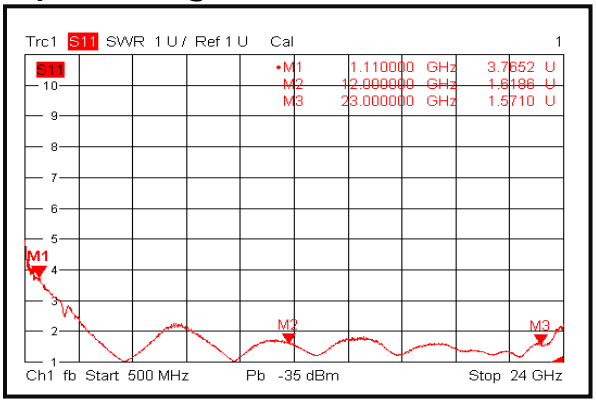
Parameter	Description
Operational Temperature	-40℃~+85℃ (Case Temperature)
Storage Temperature	-50℃~+105℃
Thermal Shock	-40℃ → +85℃ (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85℃ for 72 Hours
Shock	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	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

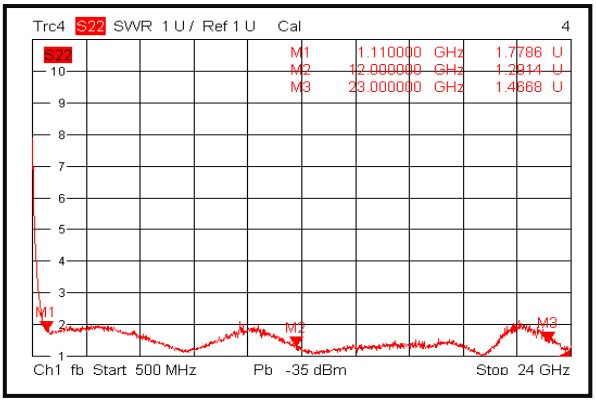
Gain @+25℃



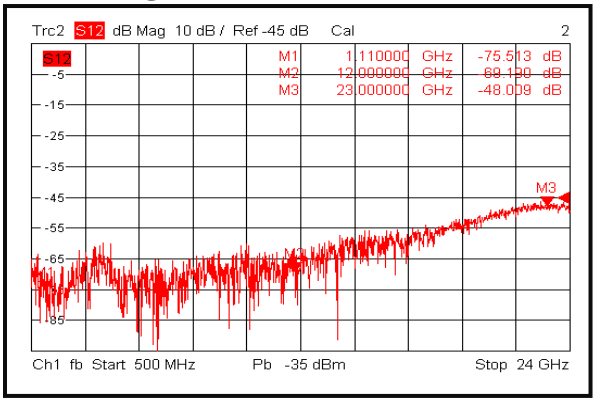
Input VSWR @+25℃



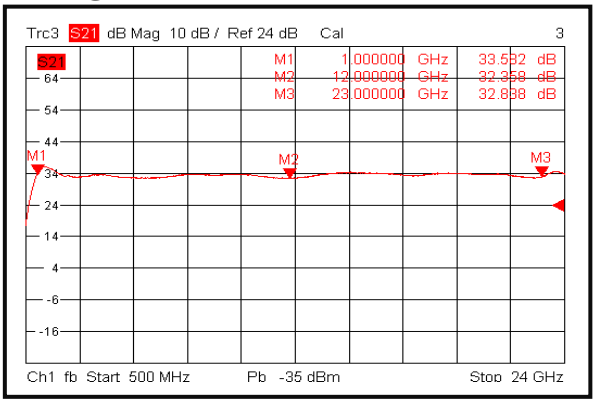
Output VSWR @+25℃



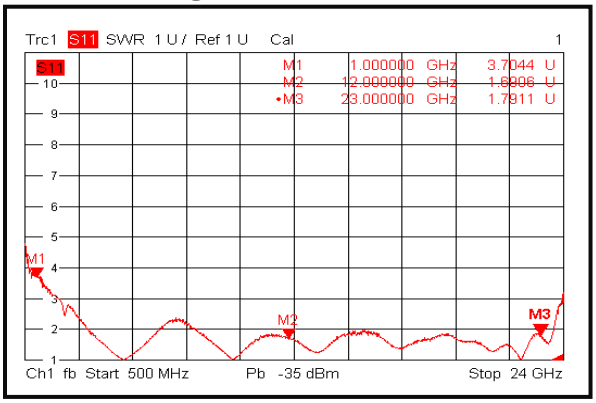
Isolation @+25℃



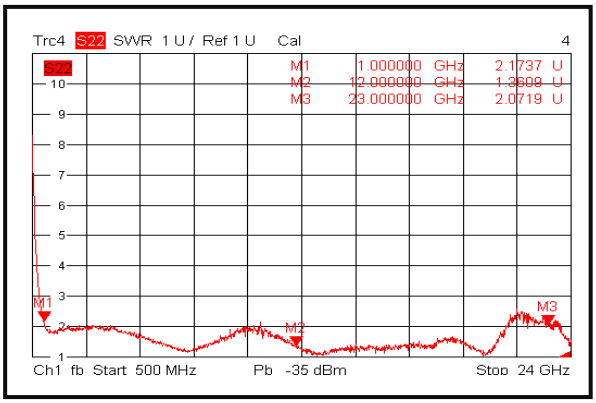
Gain @-40℃



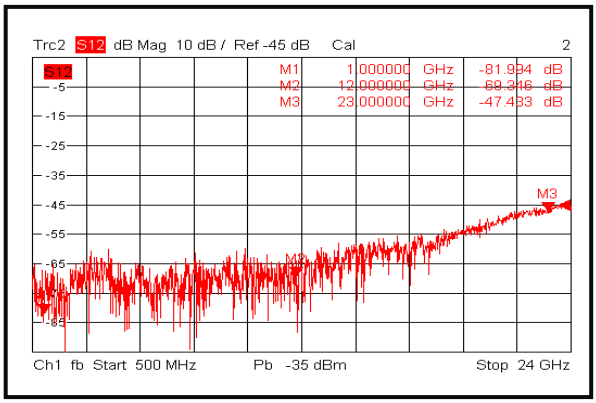
Input VSWR @-40℃



Output VSWR @-40℃

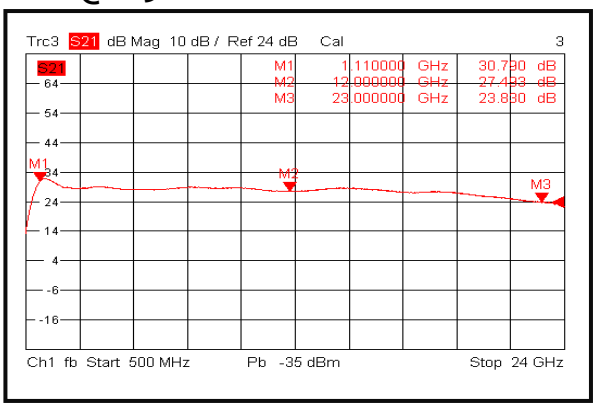


Isolation @-40℃

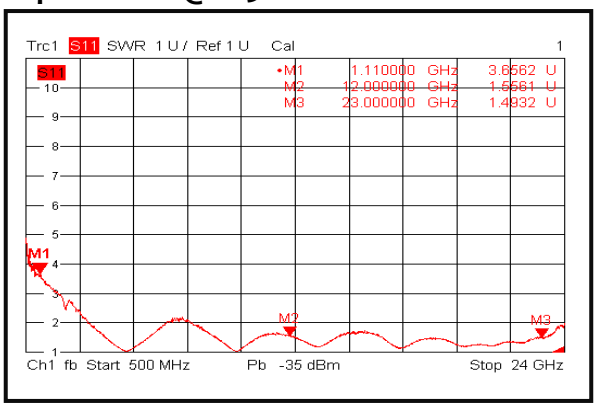


10W Front End Over Drive Protected LNA 1GHz~23GHz

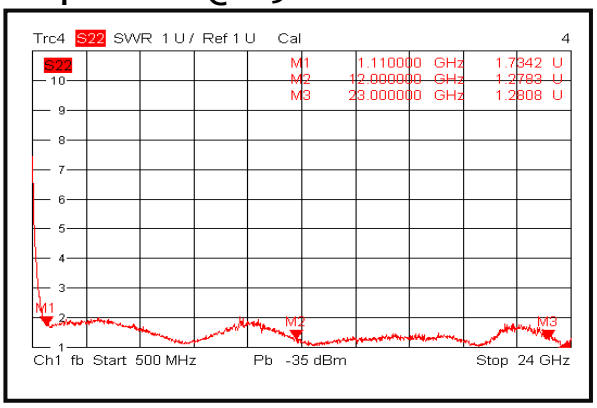
Gain @+85℃



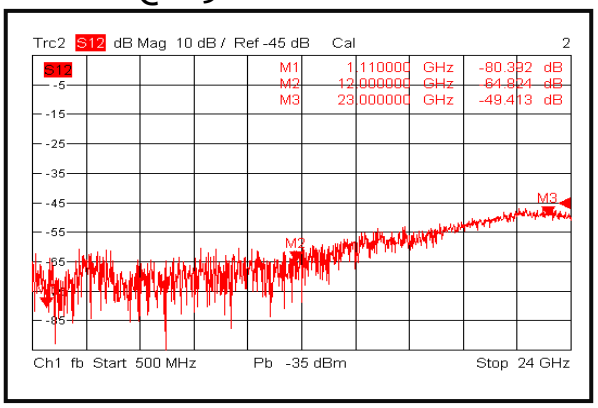
Input VSWR @+85℃



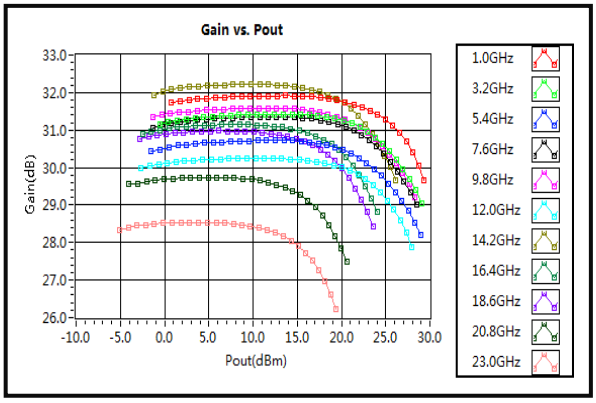
Output VSWR @+85℃



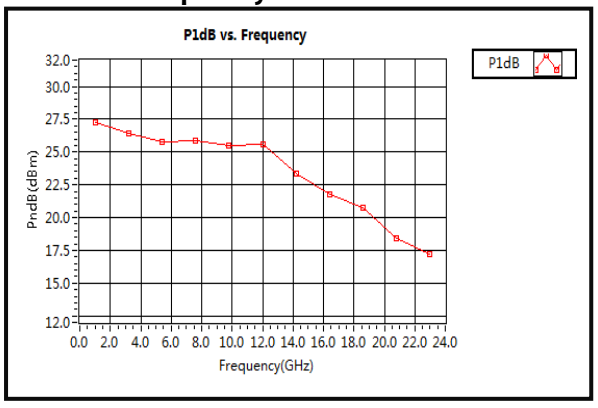
Isolation @+85℃



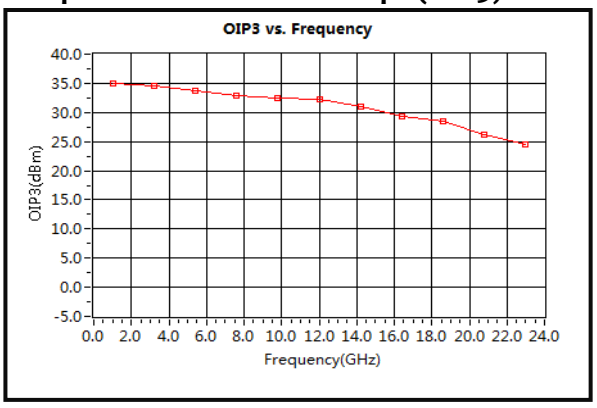
Gain vs. Output Power



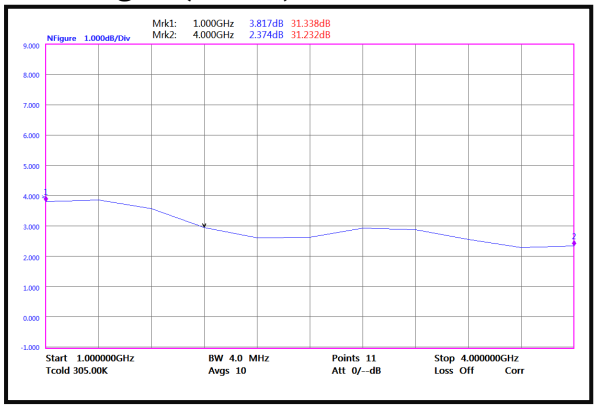
P1dB vs. Frequency



Output Third Order Intercept (OIP3)

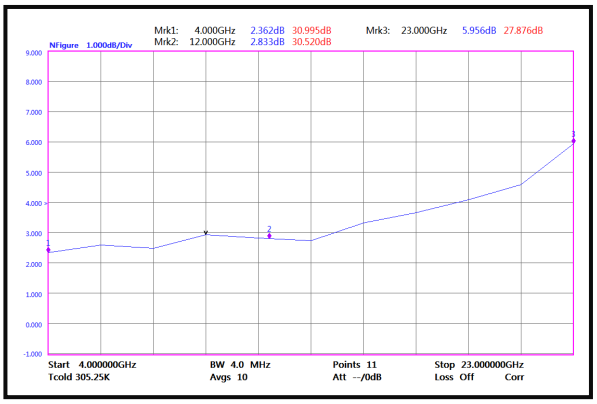


Noise Figure(1-4GHz)

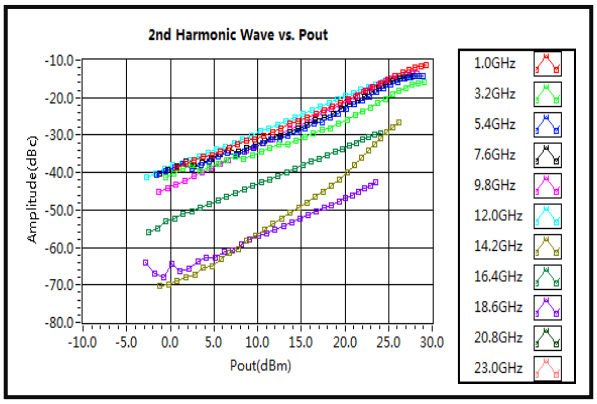


10W Front End Over Drive Protected LNA 1GHz~23GHz

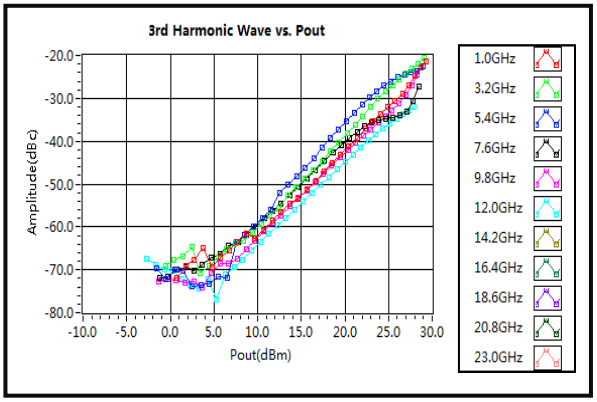
Noise Figure(4-23GHz)



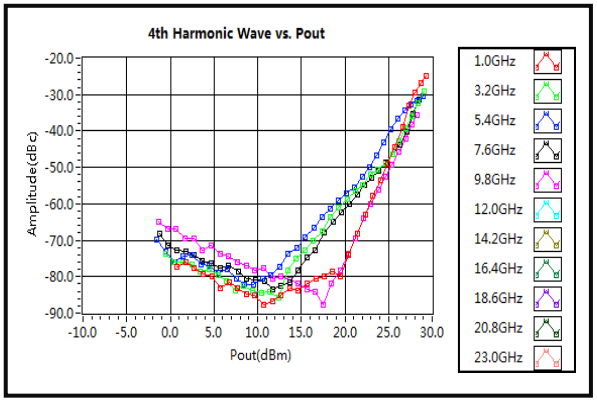
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



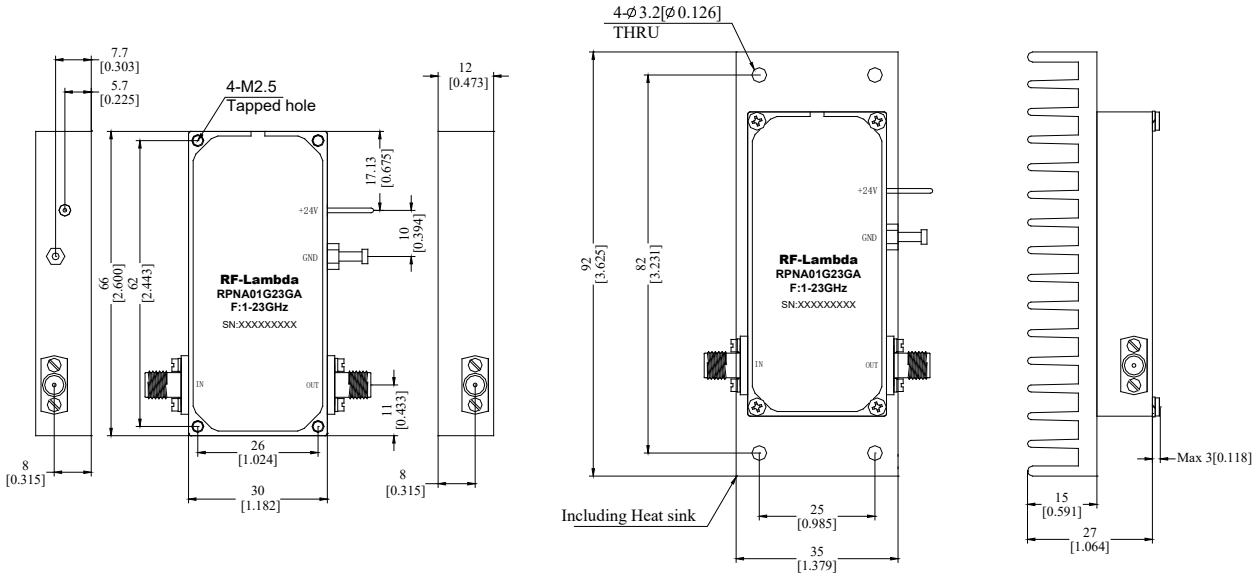
4th Harmonic Wave Output Power



10W Front End Over Drive Protected LNA 1GHz~23GHz

Outline Drawing:

All Dimensions in mm [inches]
Housing Tolerances ±0.1 [0.004]



Heat Sink required during operation (Sold Separately)

Ordering Information

Part No.	Description
RPNA01G23GA	1-23GHz Low Noise Amplifier

Important Notice

The information contained herein is believed to be reliable. RF-Lambda makes no warranties regarding the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for any of the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for the use of the information contained herein. The information contained herein is provided "AS IS, WHERE IS" and with all faults, and the entire risk associated with such information is entirely with the user. All information contained herein is subject to change without notice. Customers should obtain and verify the latest relevant information before placing orders for RF-Lambda products. The information contained herein or any use of such information does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other intellectual property rights, whether with regard to such information itself or anything described by such information.
RF-Lambda products are not warranted or authorized for use as critical components in medical, life-saving, or life sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death.

10W Front End Over Drive Protected LNA 1GHz~23GHz