



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RLNA08M02G

Wide Band Low Noise Amplifier 0.8GHz~2.2GHz



Features

- Gain: 49dB Typical
- Noise Figure: 1.0dB Typical
- P1dB Output Power: +20dBm Typical
- Supply Voltage: +12V

Typical Applications

- Wireless Infrastructure
- RF Microwave & VSAT
- Military & Aerospace
- Test and Measurement

Electrical Specifications, TA = +25°C, Vcc = +12V

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.8		1.5	1.5		2.2	GHz
Gain	46	49		46	49		dB
Gain Flatness		±0.5	±1.0		±0.5	±1.0	dB
Gain Variation Over Temperature (-45 ~ +85)		±0.5			±1.0		dB
Noise Figure		1.0	1.5		1.0	1.5	dB
Input VSWR		1.6	2.0		1.7	2.2	: 1
Output VSWR		1.5	1.8		1.5	2.0	: 1
Output 1dB Compression Point (P1dB)	18	20		18	19		dBm
Saturated Output Power (Psat)		23			21		dBm
Output Third Order Intercept (IP3)		31			29		dBm
Supply Current (Vcc=+12V)		240	300		240	300	mA
Isolation S12		-55			-55		dB
Weight	1.06						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 Sealing	Epoxy Sealed (Standard)						
	Hermetically Sealed (Optional)						

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Absolute Maximum Ratings

Operating Voltage	+12V $\pm$ 10%
RF Input Power	-20dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V 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)

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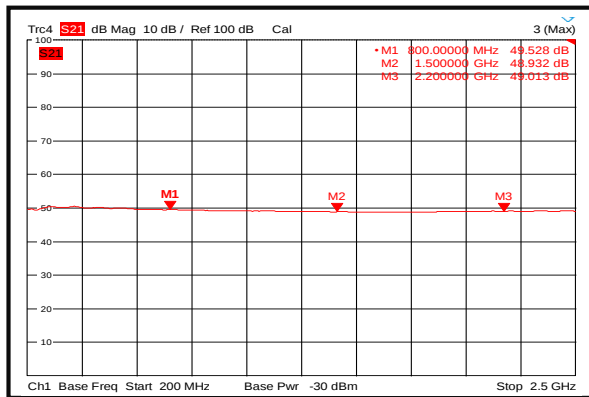
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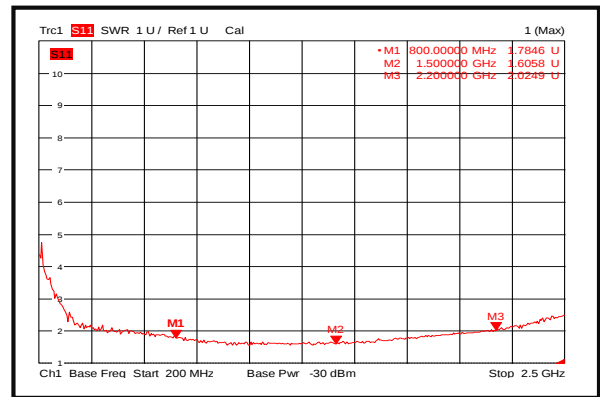
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Typical Performance Plots

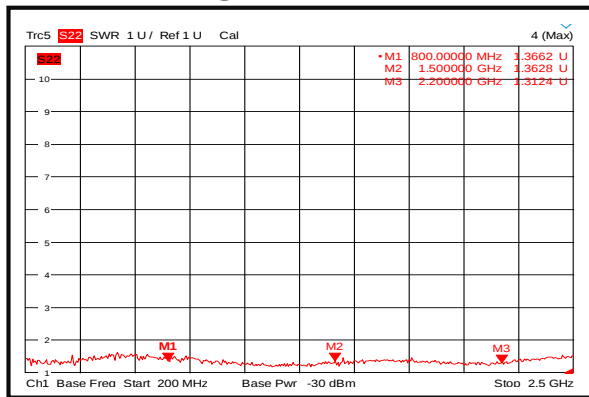
Gain @+25°C



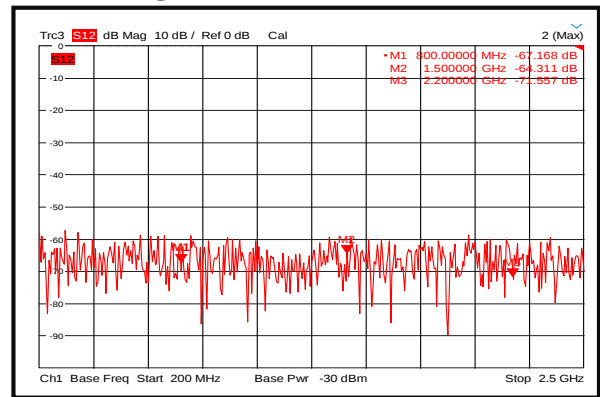
Input VSWR @+25°C



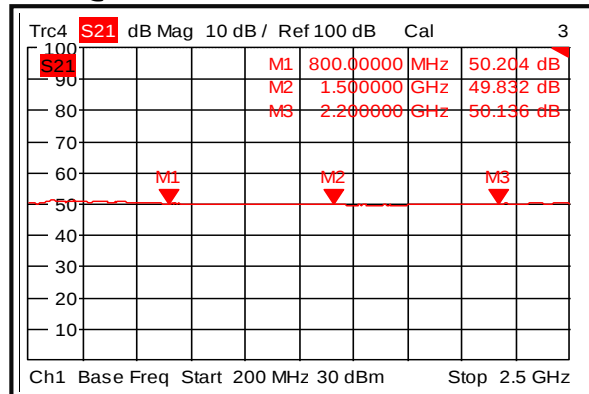
Output VSWR @+25°C



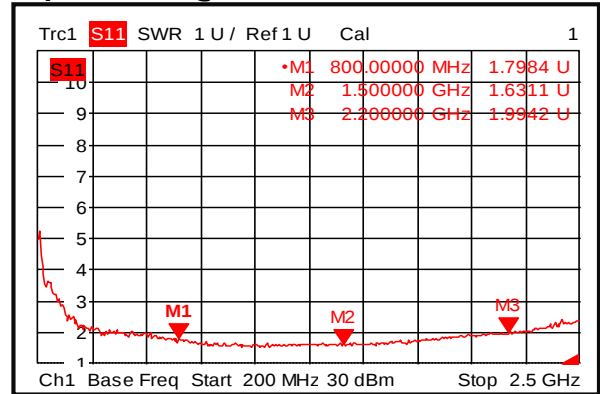
Isolation @+25°C



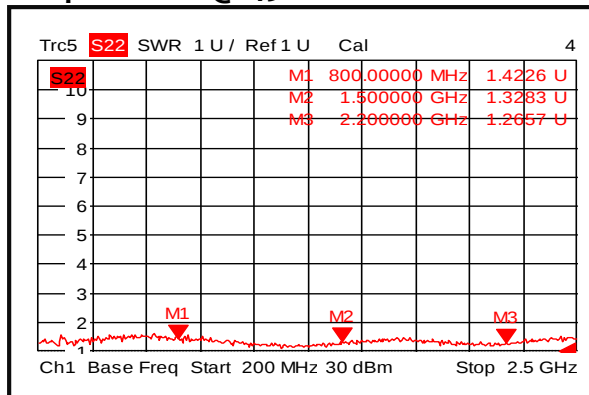
Gain @-45°C



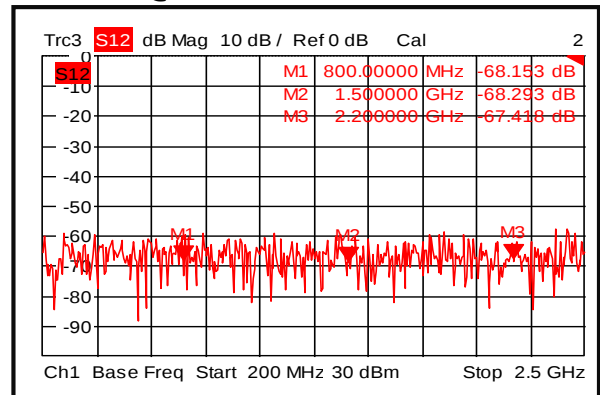
Input VSWR @-45°C



Output VSWR @-45°C



Isolation @-45°C



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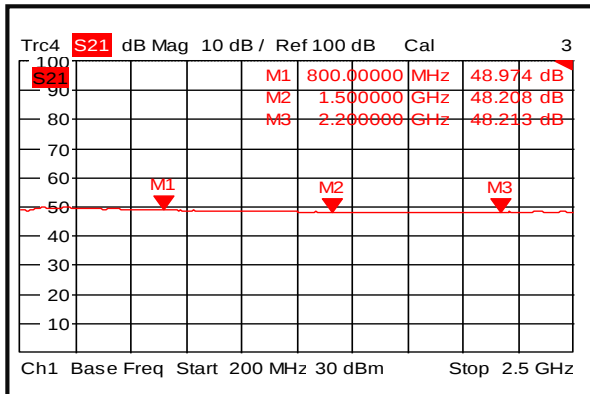


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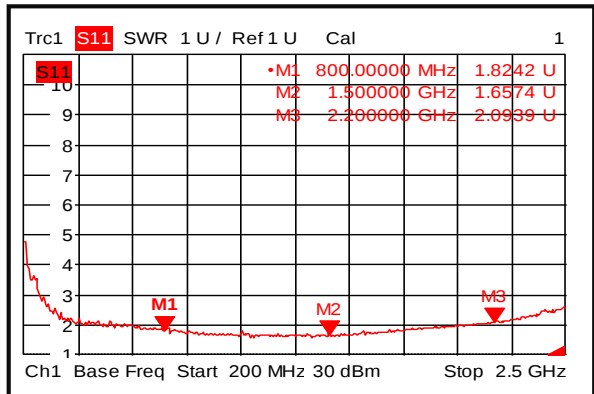
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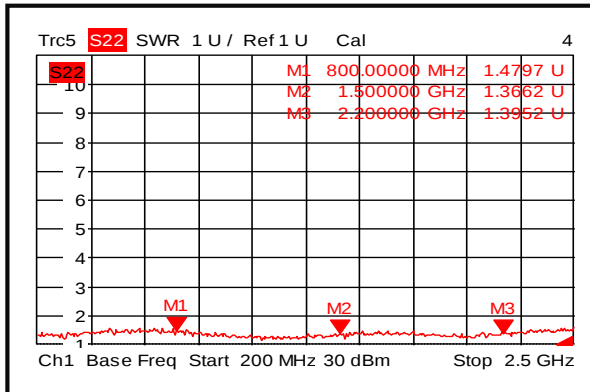
Gain @+85°C



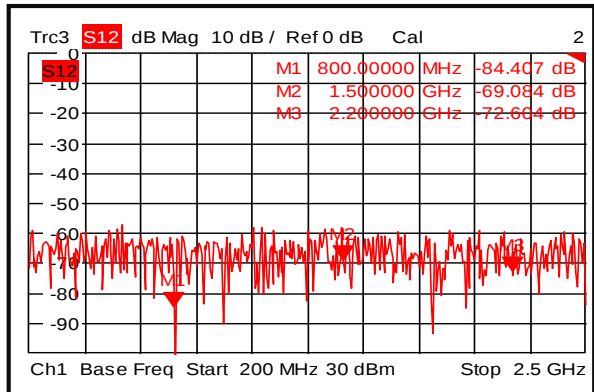
Input VSWR @+85°C



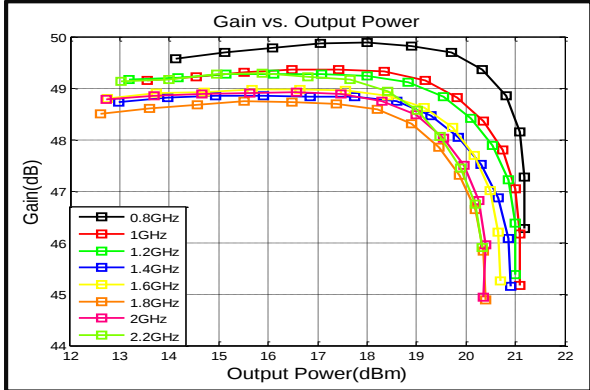
Output VSWR @+85°C



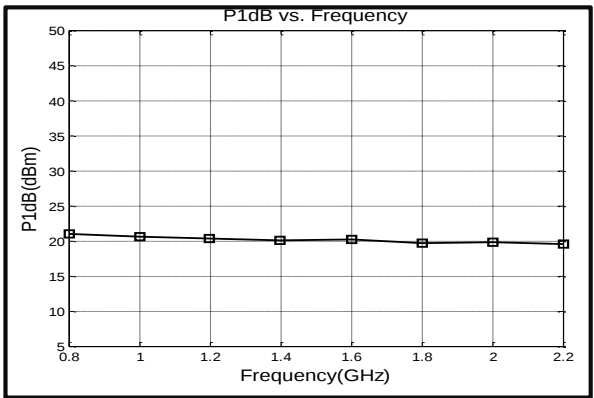
Isolation @+85°C



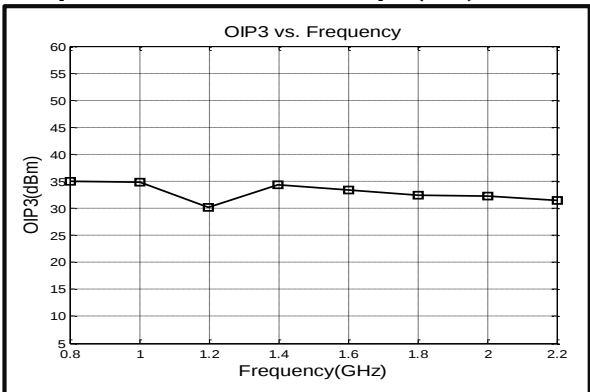
Gain vs. Output Power



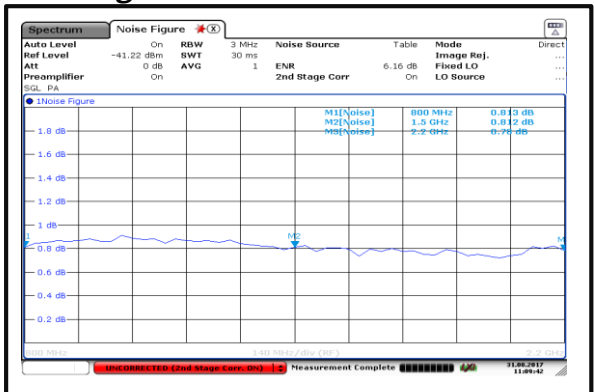
P1dB vs. Frequency



Output Third Order Intercept (IP3)



Noise Figure



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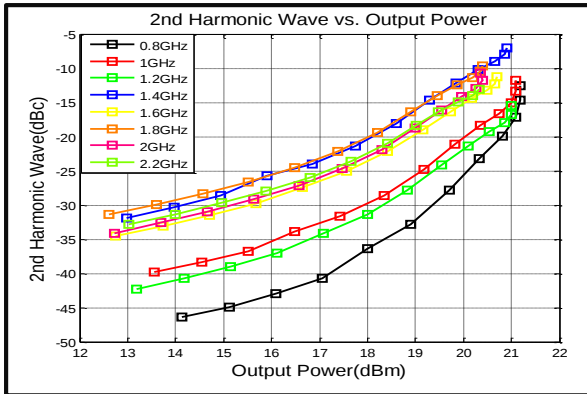


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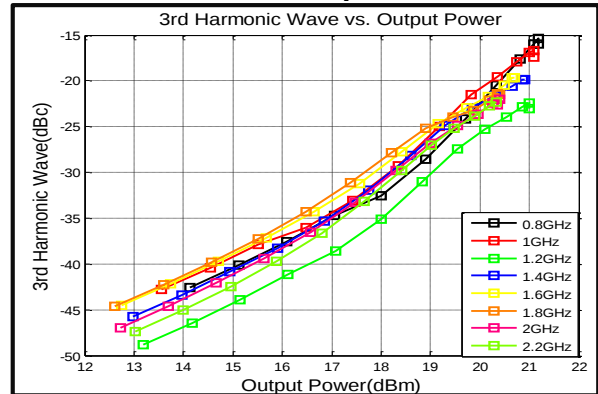
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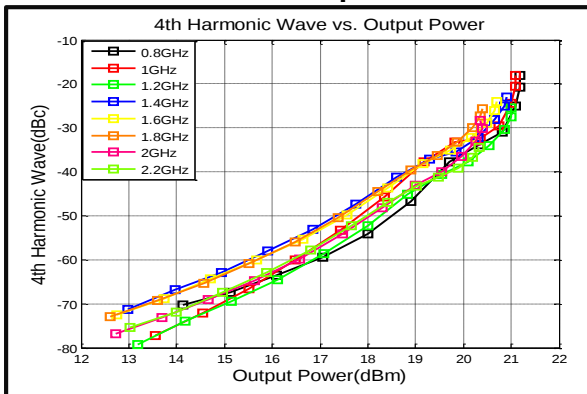
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power

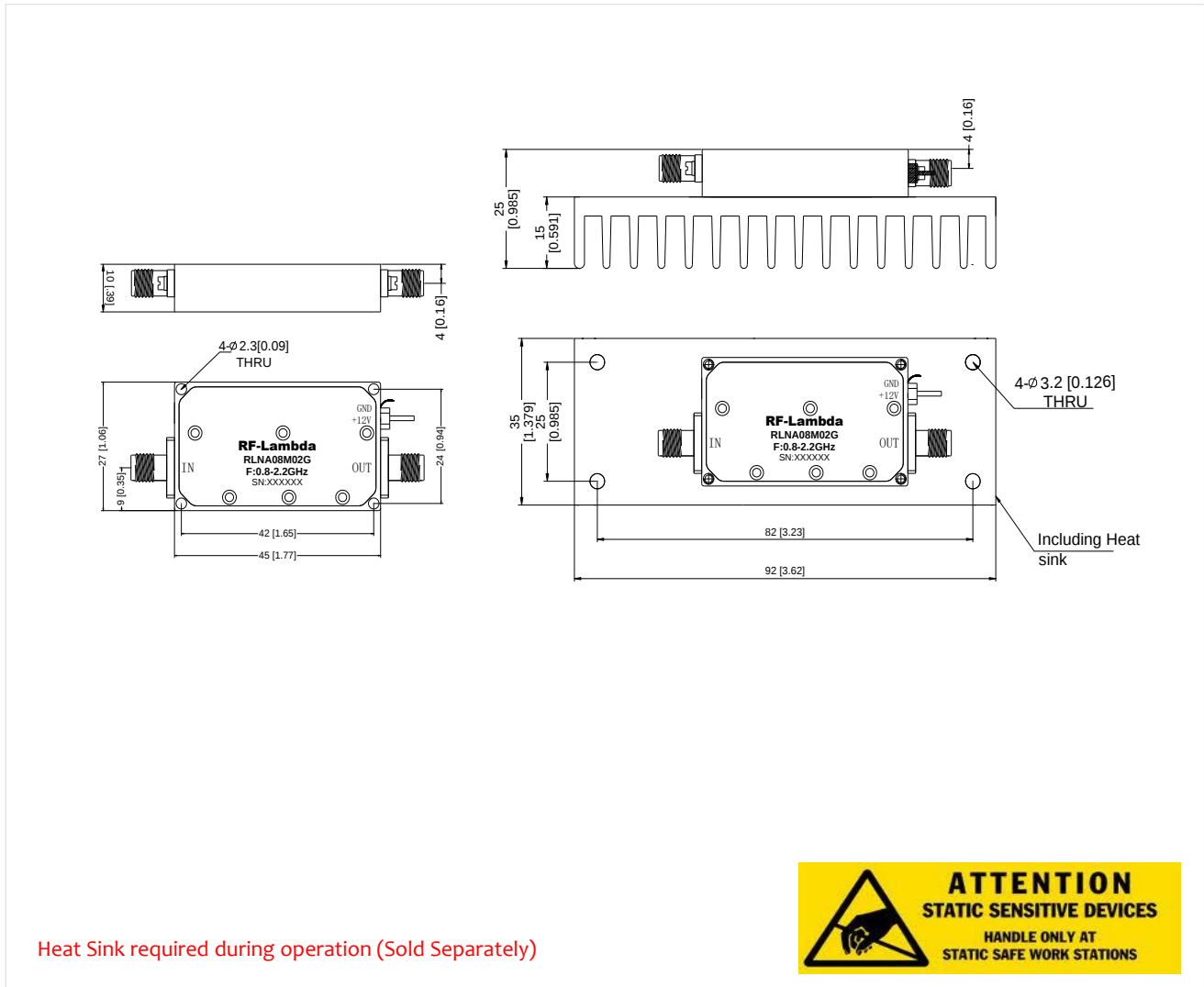


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Outline Drawing:

All Dimensions in mm [inches]



Ordering Information

Part No.	ECCN	Description
RLNA08M02G	EAR99	0.8-2.2GHz Wide band Low Noise Amplifier

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