



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RLNA02G02G

Wide Band Low Noise Amplifier 2GHz~2.7GHz



Features

- Gain: 45dB Typical
- Functional Bandwidth : 1.5GHz to 3GHz
- Noise Figure: 1.0dB Typical
- P1dB Output Power: +16dBm Typical
- Supply Voltage: +12V
- 50 Ohm Matched

Typical Applications

- Wireless Infrastructure
- RF Microwave & VSAT
- Military & Aerospace
- Test Instrument
- Fiber Optics

Electrical Specifications, $T_A = +25^\circ\text{C}$, $V_{CC} = +12\text{V}$

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	2		2.7	1.5		3.0	GHz
Gain	44	45		42	45		dB
Gain Flatness		± 0.5	± 1.0		± 1.5		dB
Gain Variation Over Temperature(-45 ~ +85)		± 0.8	± 1.0		± 1.0		dB
Noise Figure		1.0	2.0		1.3	2.0	dB
Input VSWR		1.5	1.8		1.8		: 1
Output VSWR		1.6	2.0		1.8		: 1
Output 1dB Compression Point (P1dB)	15	16			16		dBm
Saturated Output Power (Psat)		18			18		dBm
Output Third Order Intercept (IP3)		27			27		dBm
Supply Current ($V_{CC}=+12\text{V}$)		225	240		225	240	mA
Isolation S12		-50			-50		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 Sealing (Standard)						
	Hermetically Seal (Optional)						

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Absolute Maximum Ratings

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

Biasing Up Procedure

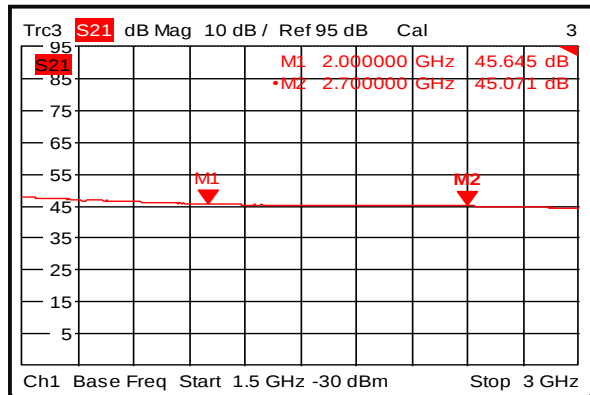
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications

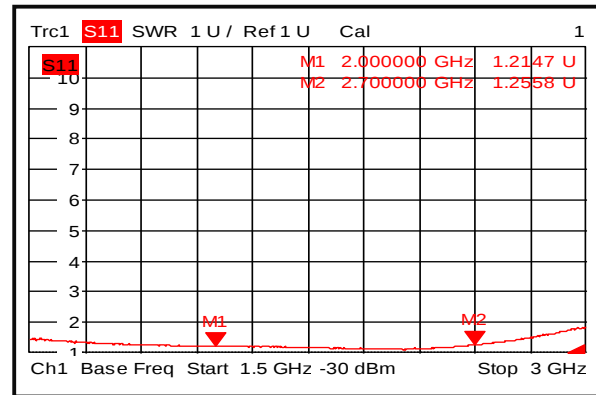
Operational Temperature (°C)	-45 to +85
Storage Temperature (°C)	-55 to +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35°C, 95%RH at 40°C
Shock	20G for 11msec half sine wave, 3 axis both directions

Typical Performance Plots

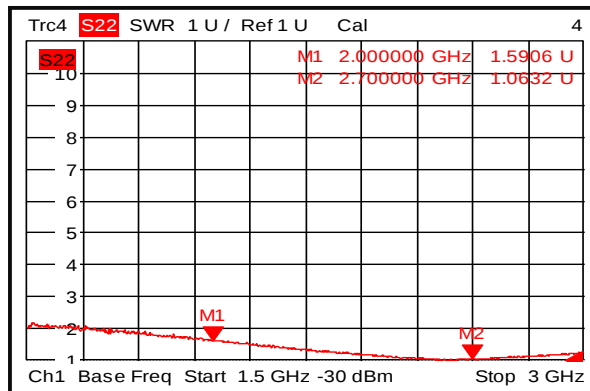
Gain @+25°C



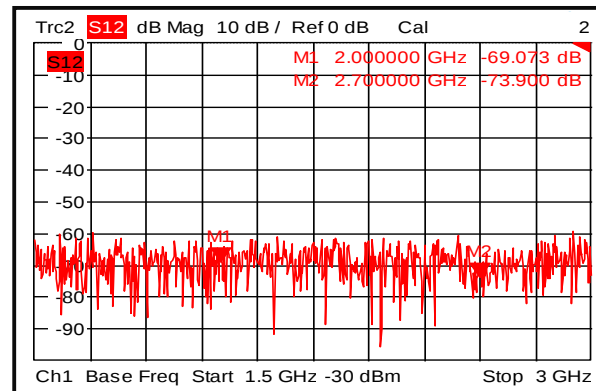
Input VSWR @+25°C



Output VSWR @+25°C



Isolation @+25°C



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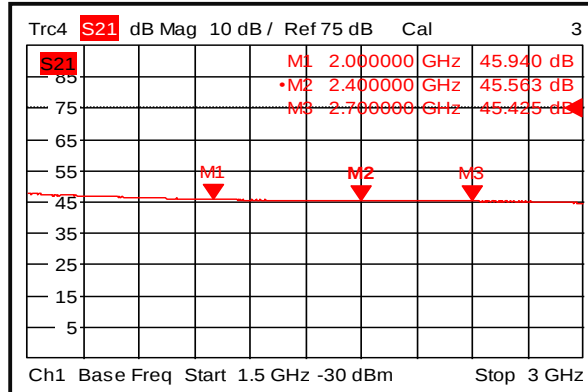


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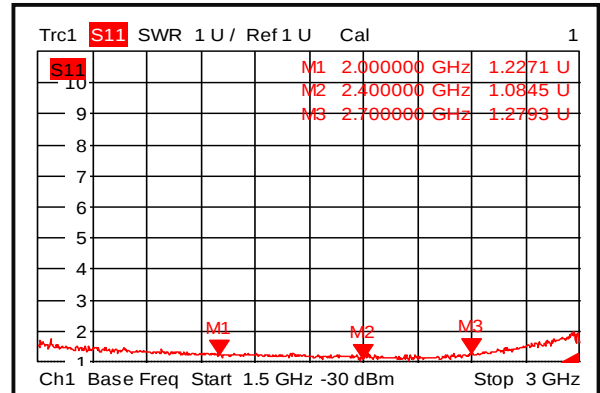
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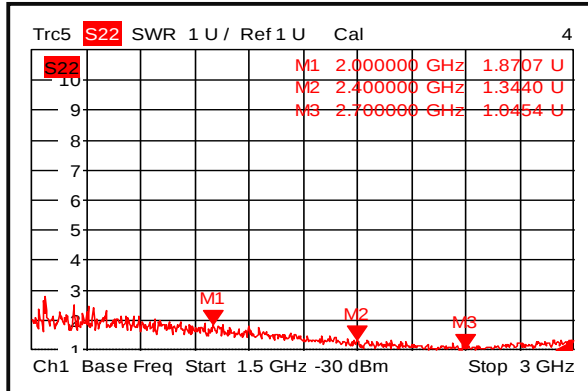
Gain @-45°C



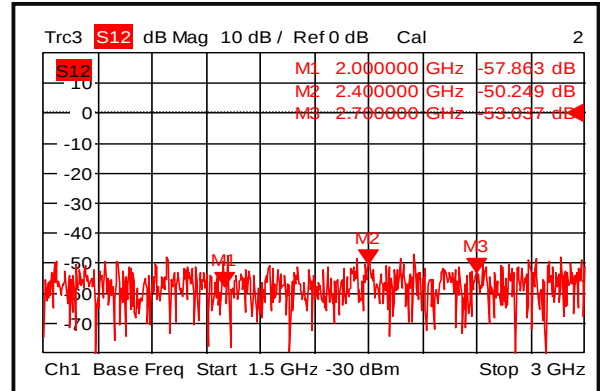
Input VSWR @-45°C



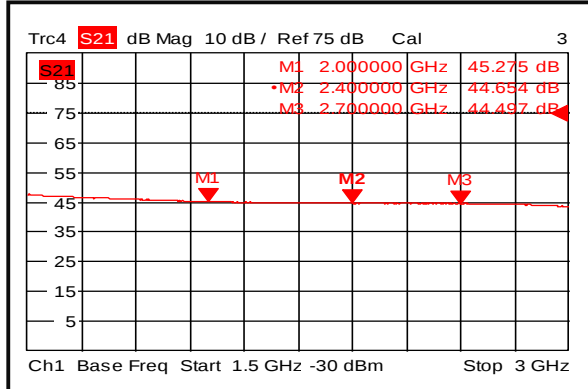
Output VSWR @-45°C



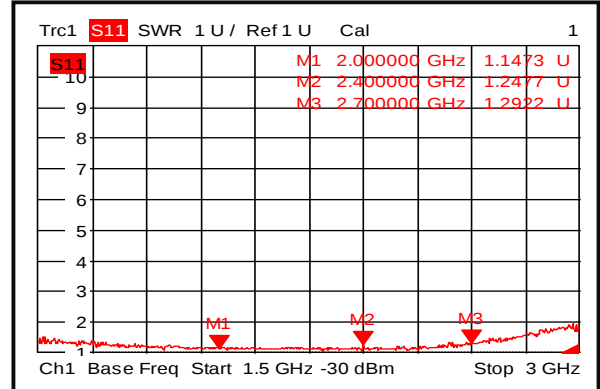
Isolation @-45°C



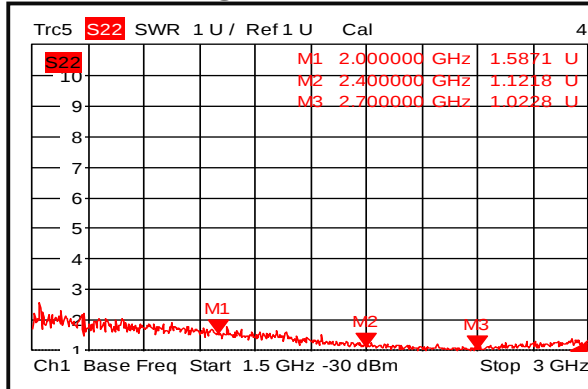
Gain @+85°C



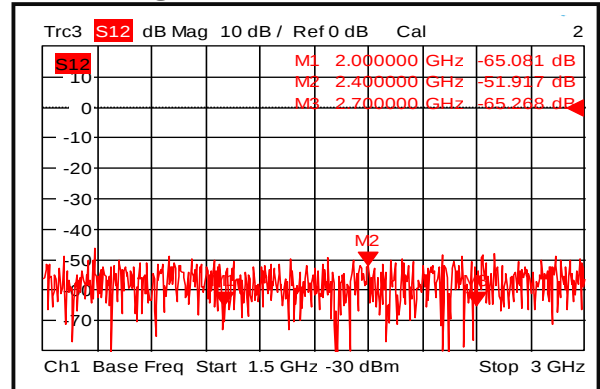
Input VSWR @+85°C



Output VSWR @+85°C



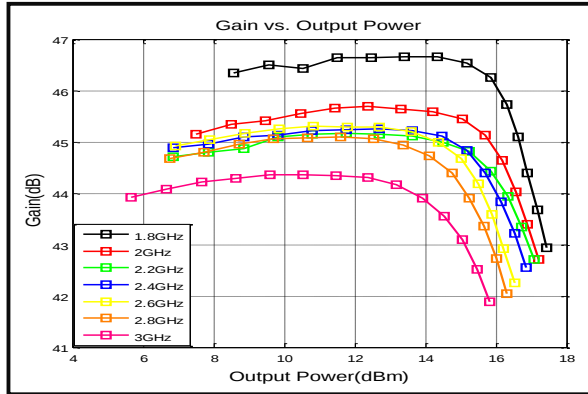
Isolation @+85°C



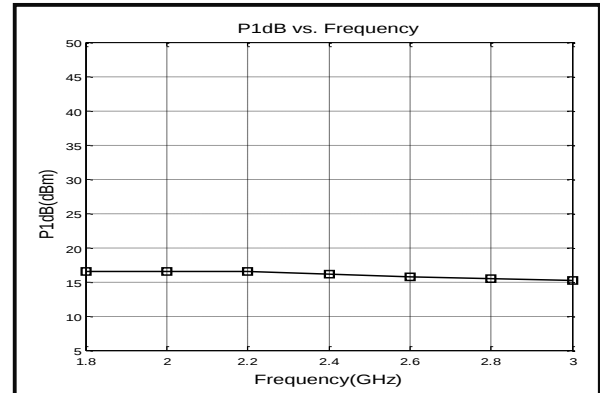
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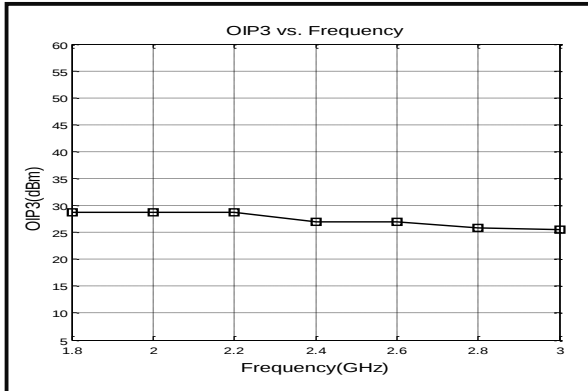
Gain vs. Output Power



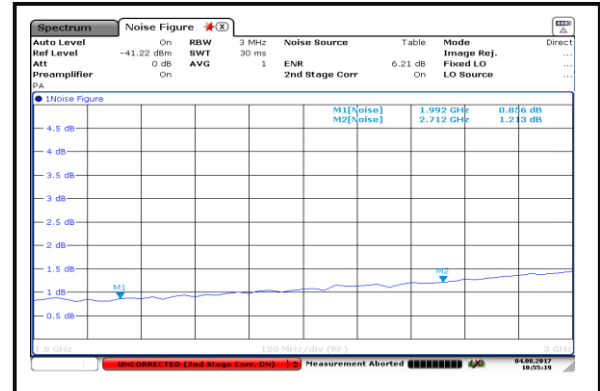
P1dB vs. Frequency



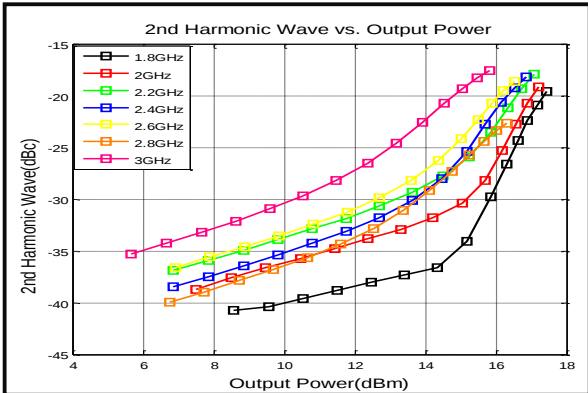
Output Third Order Intercept (IP3)



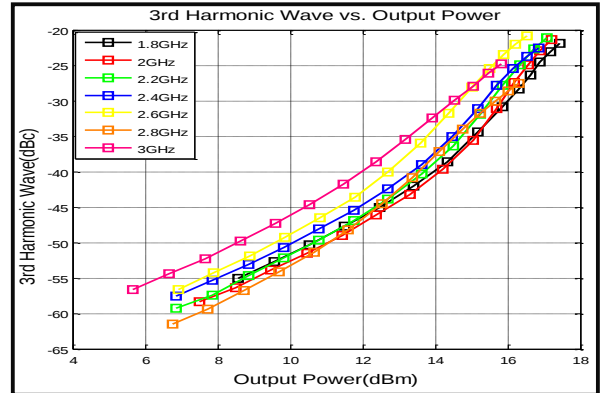
Noise Figure



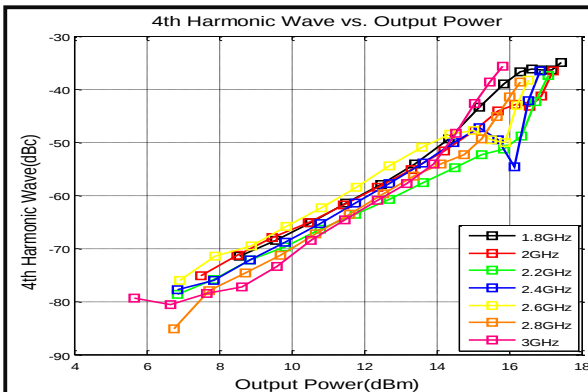
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



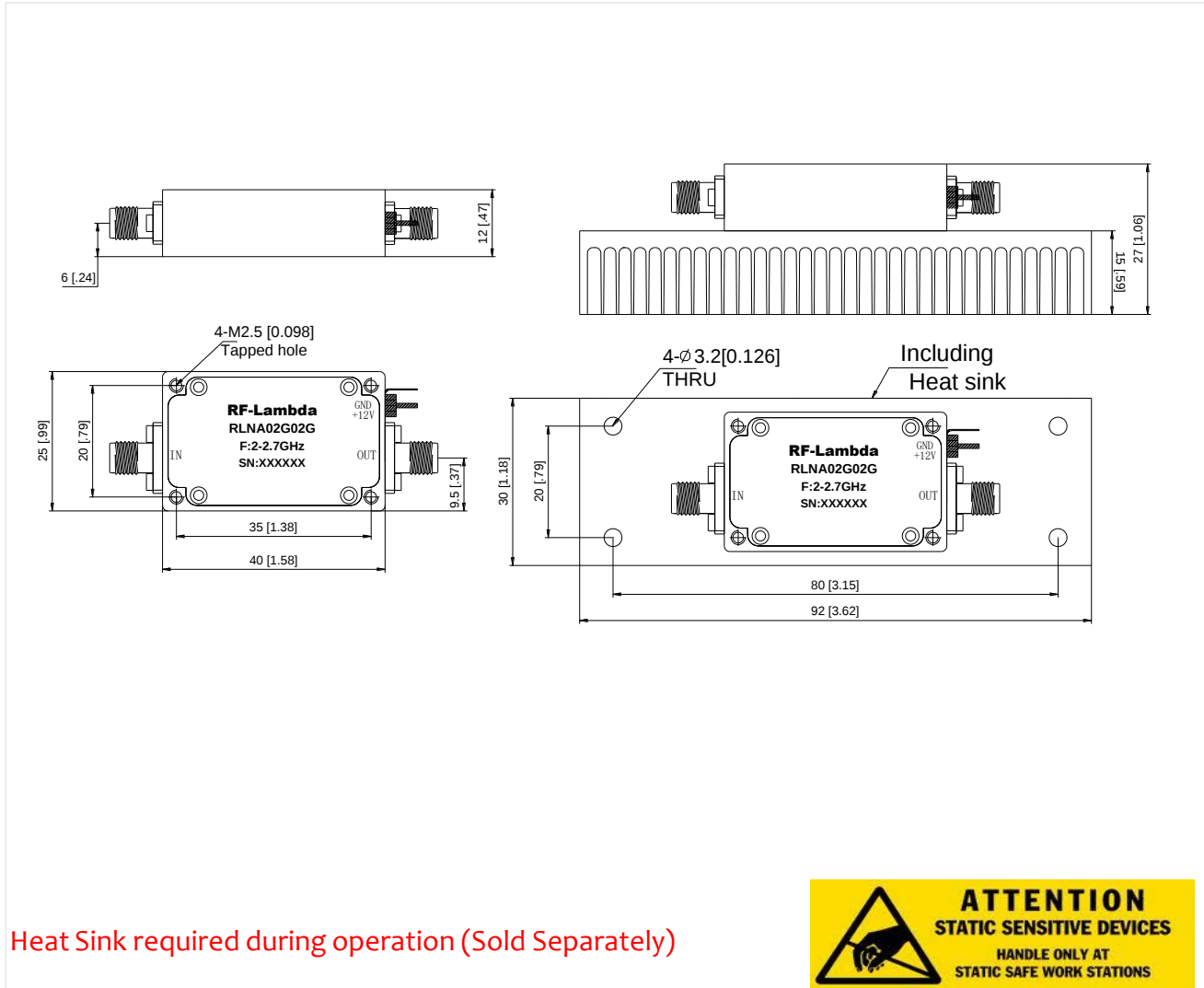
4th Harmonic Wave Output Power





Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)

Ordering Information

Part No.	ECCN	Description
RLNA02G02G	EAR99	2-2.7GHz Low Noise Amplifier

Important Notice

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