



RF-LAMBDA

The power beyond expectations

RLNA04G08G

Wide Band Low Noise Amplifier 4GHz~8GHz



Feature

- Gain: 44 dB
- Noise Figure: 2.5dB
- P1dB Output Power: +24 dBm full band
- Supply Voltage: +12V @280mA
- 50 Ohm Matched Input / Output
- Size: 1.5" x 3.94" x 0.59"

Typical Applications

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

Electrical Specifications, $T_A = +25^{\circ} \text{C}$, With $V_{CC} = +12\text{V}$, 50 Ohm System

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	4		8				GHz
Gain	43	44					dB
Gain Flatness		± 0.8	± 1				dB
Gain Variation Over Temperature($-45 \sim +85$)		± 1.5					dB
Noise Figure		2.5	3				dB
Input Return Loss		15					dB
Output Return Loss		15					dB
Output Power for 1 dB Compression (P1dB)	24	25					dBm
Saturated Output Power (Psat)		/					dBm
Output Third Order Intercept (IP3)		/					dBm
Supply Current (I_{dd}) ($V_{CC}=+12\text{V}$)		280	350				mA
Isolation S12	58	60					dB
Input Max Power(no damage)			/				dBm
Weight	150						g
Impedance	50						Ohms
Input /Output Connector	SMA-Female						
Finishing	Standard: Gold 40 micron; Nickel 220 micron thickness						
	Option: Gold 80 micron; Nickel 180 micron thickness						
Material	Aluminum/copper						
Package Sealing	Epoxy Sealing (Standard)						
	Hermetically Seal (Option with extra charge)						

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Absolute Maximum Ratings

Operating Voltage	+12V
RF Input Power (RFIN)(Vcc= +12V)	0dB m
Storage Temperature	-50 to +125 °C
Operating Temperature	-45 to +85 °C

Biasing Up Procedure

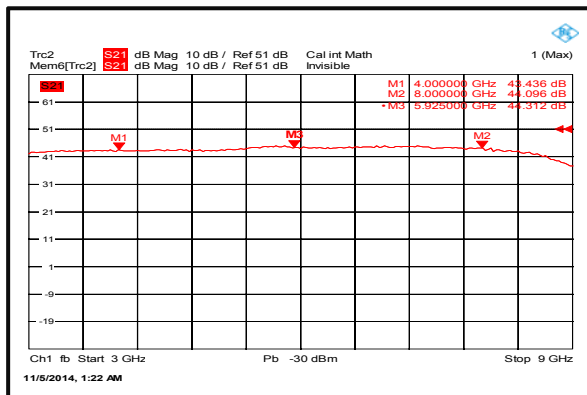
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environment specifications

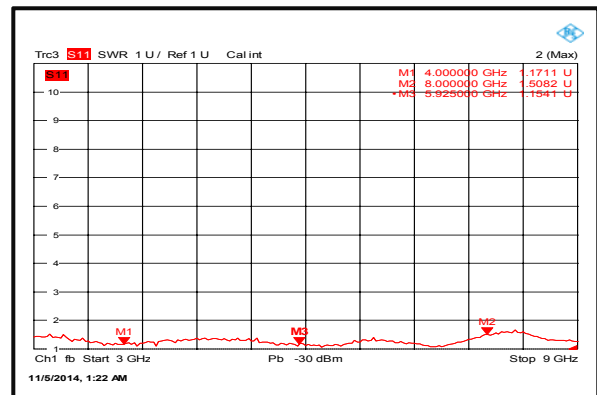
Operational Temperature (C°)	-45 ~ +85
Storage Temperature (C°)	-50 ~ +125
Altitude	30,000 ft. (Epoxy Seal Controlled environment) 60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional)
Vibration	25g rms (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH at 40°c
Shock	20G for 11msc half sin wave,3 axis both directions

performance plots

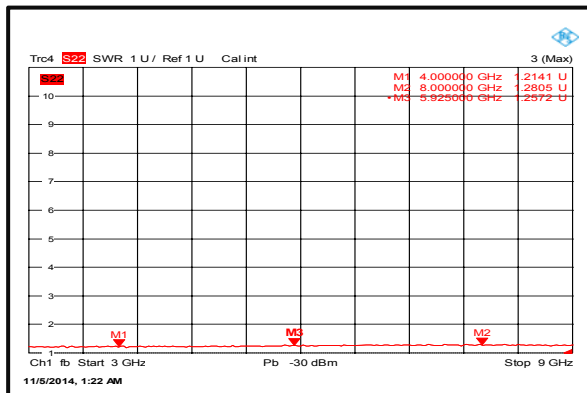
Gain



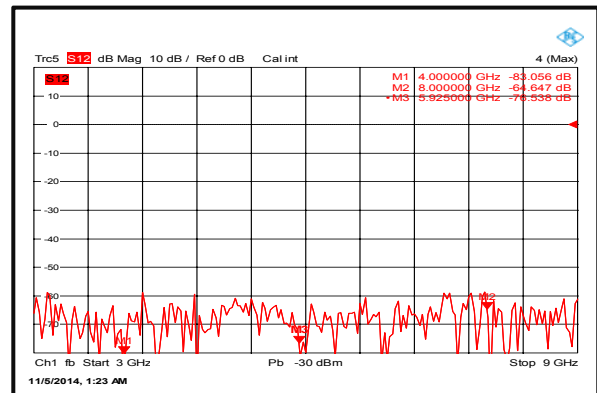
Input VSWR



Output VSWR



Isolation



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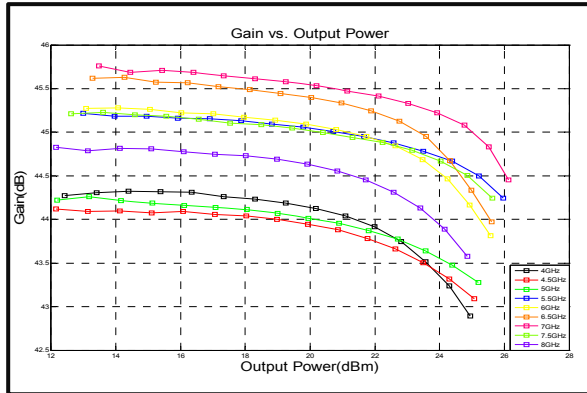


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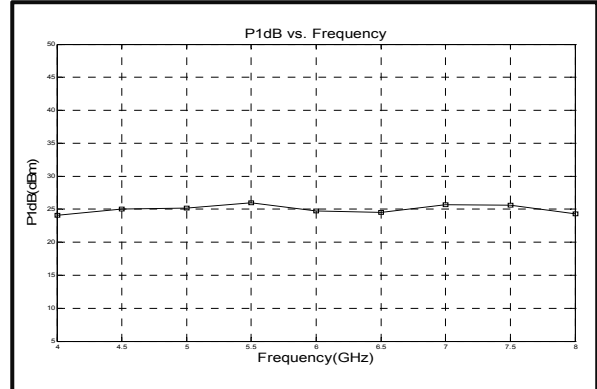
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Gain vs. output power



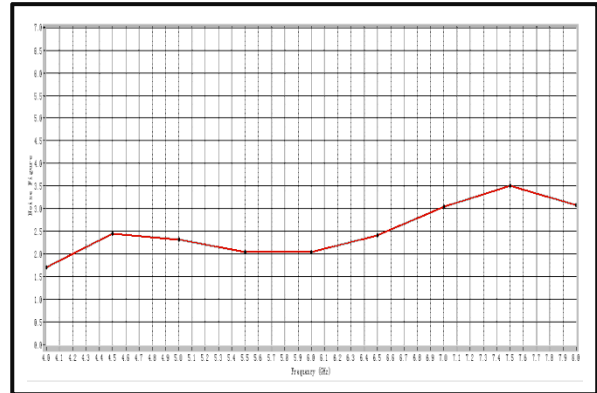
P1dB vs. Frequency



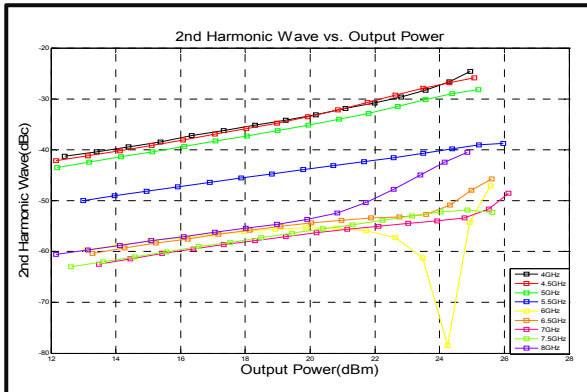
Output Third Order Intercept (IP3)



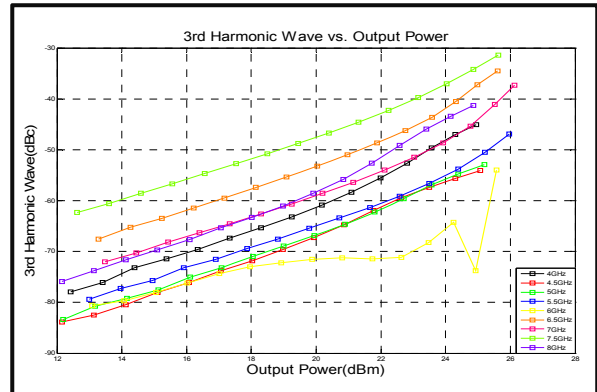
Noise Figure



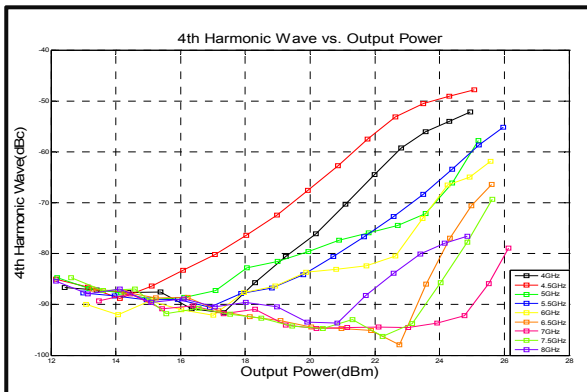
2nd Harmonic Wave output Power



3th Harmonic Wave output Power



4th Harmonic Wave output Power



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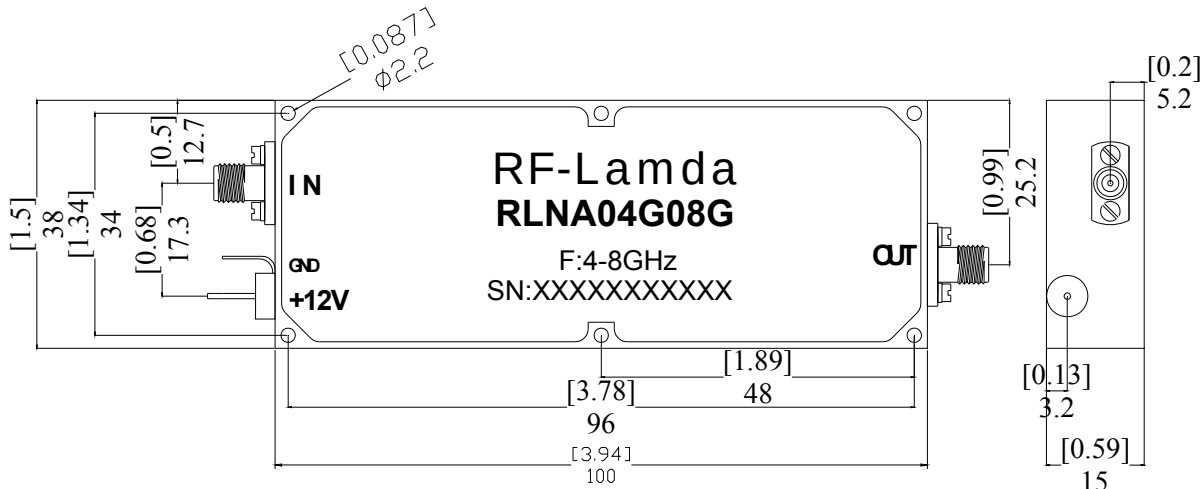
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Outline Drawing:

All Dimensions in mm (inches)

Heat Sink required during operation



Ordering Information

Part No	ECCN	Description
RLNA04G08G	EAR99	4-8GHz LNA Amplifier

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