



Wide Band Low Noise Amplifier 4GHz ~ 8GHz



Features

- Gain: 46dB Typical
- Noise Figure: 2.5dB Typical
- P1dB Output Power: +22dB m 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, $T_A = +25^\circ C$, $V_{CC} = +12V$

Parameter	Min.	Typ.	Max.	Units
Frequency Range	4		8	GHz
Gain	43	46		dB
Gain Flatness		±1.5	±2.0	dB
Gain Variation Over Temperature (-45 ~ +85)		±1.5		dB
Noise Figure		2.5	3.8	dB
Input VSWR		2.0		: 1
Output VSWR		2.0		: 1
Output 1dB Compression Point (P1dB)	22	23.5		dBm
Saturated Output Power (Psat)		26		dBm
Output Third Order Intercept (IP3)		35		dBm
Supply Current (I _{dd})		280	350	mA
Isolation S ₁₂		-60		dB
Weight		4.59		ounces
Impedance		50		Ohms
Input / Output Connectors	SMA - Female			
Finishing	Standard: Gold 40 micron; Nickel 220 micron thickness			
	Option: Gold 80 micron; Nickel 180 micron thickness			
Material	Aluminum			
Package Sealing	Epoxy Sealing (Standard)			
	Hermetically Sealed (Option with extra charge)			

Wide Band Low Noise Amplifier 4GHz ~ 8GHz



Absolute Maximum Ratings

Operating Voltage	+13V
RF Input Power (RFIN)(Vcc= +12V)	-10dB m

Biasing Up Procedure

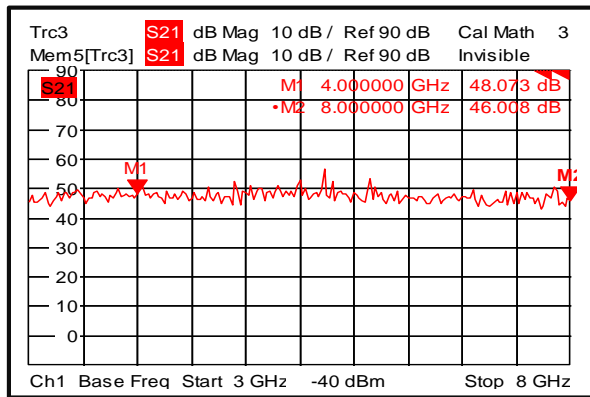
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications

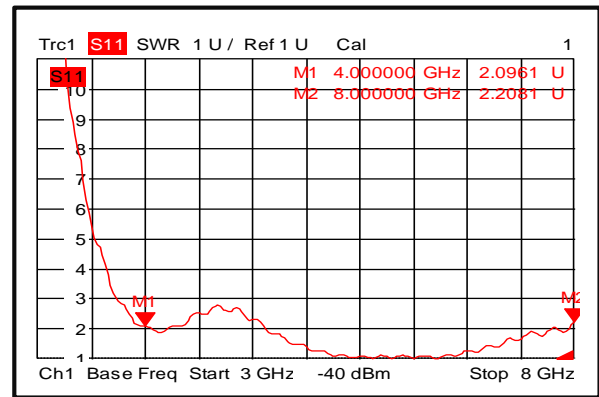
Operational Temperature (°C)	-45 ~ +85
Storage Temperature (°C)	-50 ~ +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

Typical Performance Plots

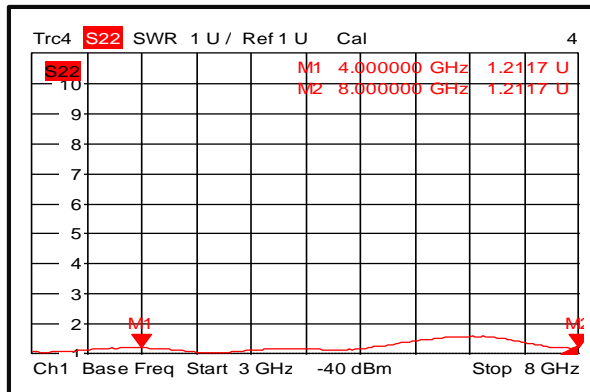
Gain



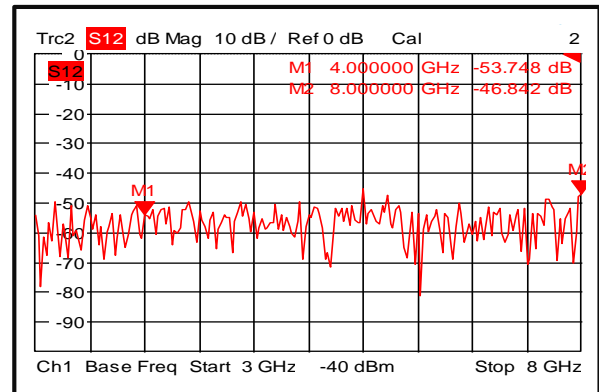
Input VSWR



Output VSWR



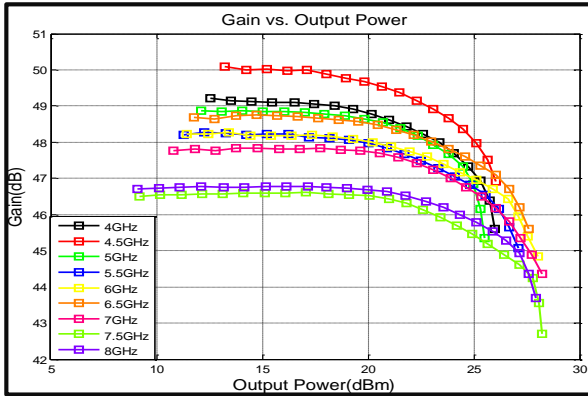
Isolation



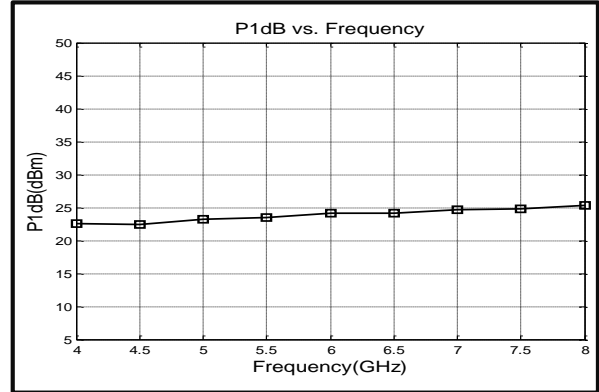
Wide Band Low Noise Amplifier 4GHz ~ 8GHz



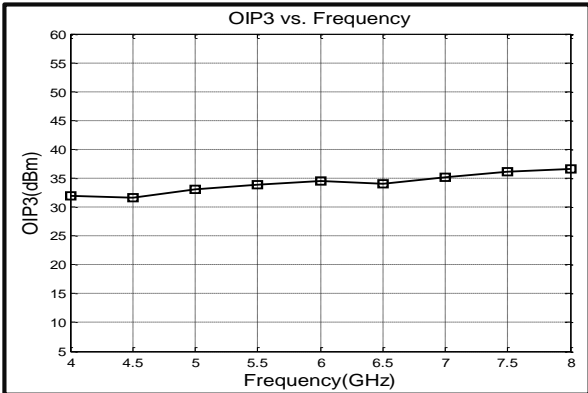
Gain vs. Output Power



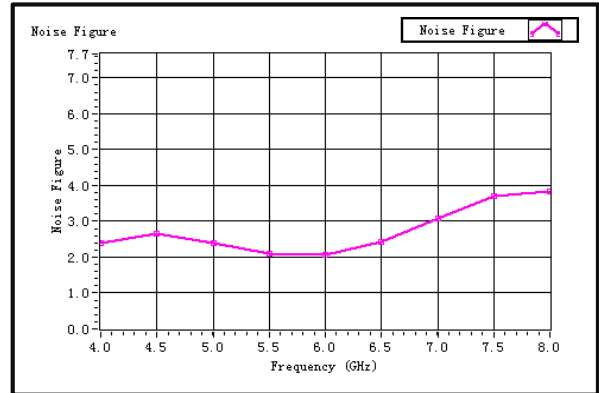
P1dB vs. Frequency



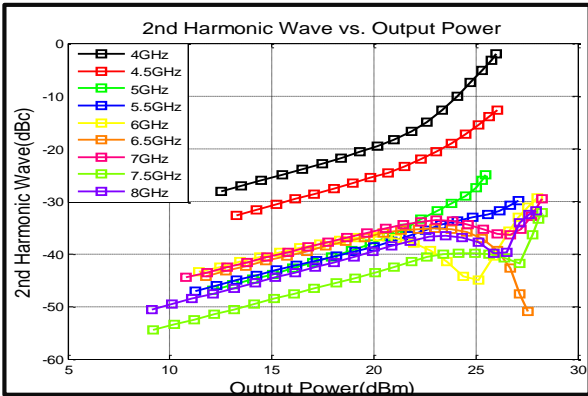
Output Third Order Intercept (IP3)



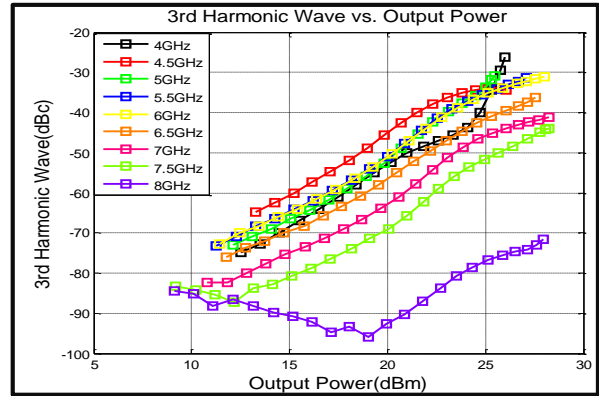
Noise Figure



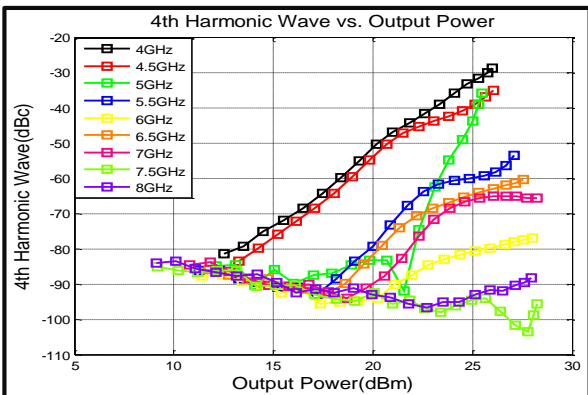
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



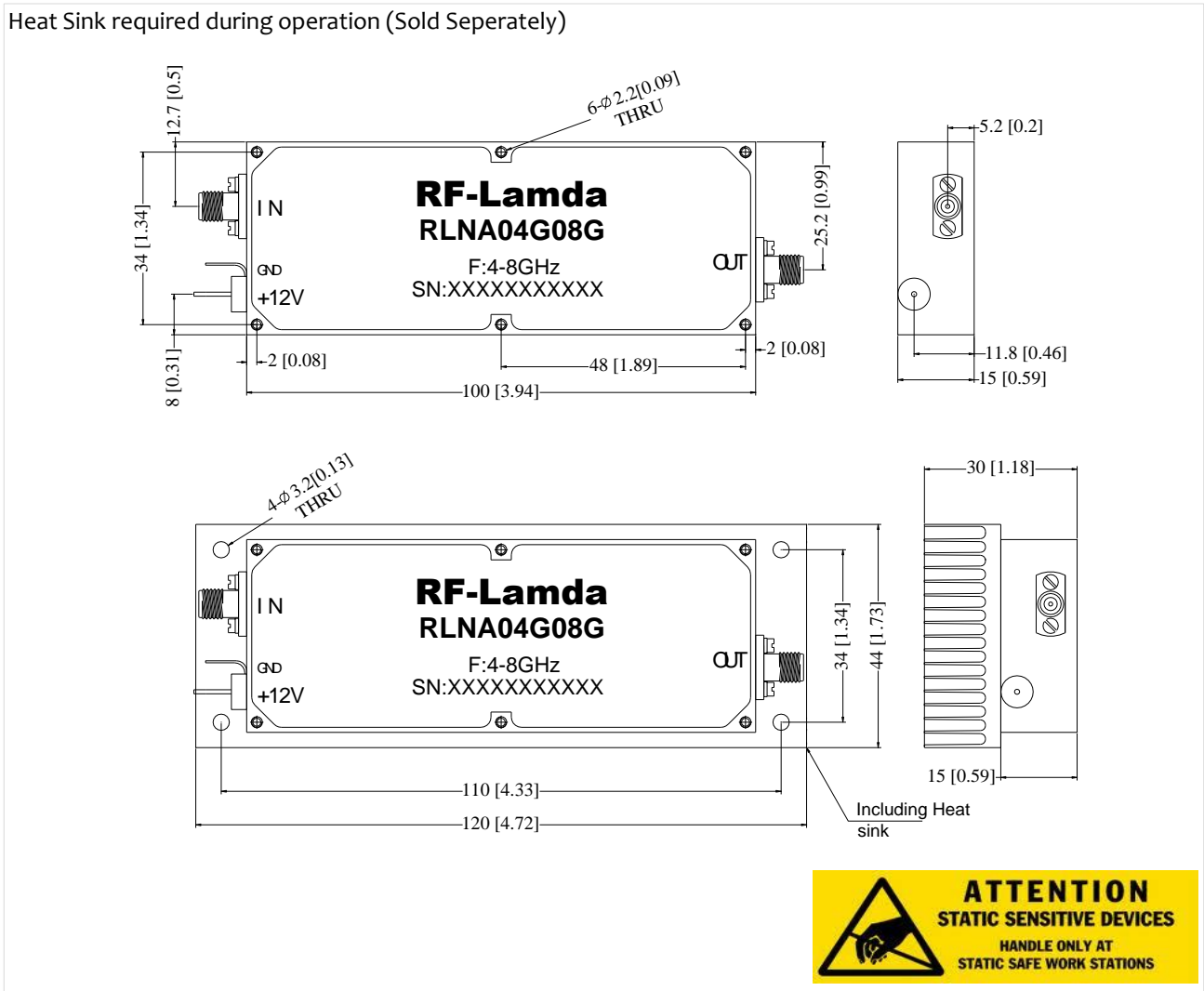
Wide Band Low Noise Amplifier 4GHz ~ 8GHz



Outline Drawing:

All Dimensions in mm [inches]

Heat Sink required during operation (Sold Separately)



Wide Band Low Noise Amplifier 4GHz ~ 8GHz

Ordering Information

Part No.	ECCN	Description
RLNA04G08G	EAR99	4-8GHz 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.