



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RLNA05G05G

Low Noise Amplifier 5.2GHz ~ 5.9GHz



Features

- Gain: 32dB Typical
- Noise Figure: 1.5dB Typical
- P1dB Output Power: +24dBm Typical
- Supply Voltage: +12V @ 290mA
- 50 Ohm Matched Input / Output
- Size: 2.38x 1.39" x 0.4"

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	5.2		5.9	4.6		6.2	GHz
Gain	30	32		30	32		dB
Gain Flatness		± 0.3	± 0.5		± 0.5	± 1.0	dB
Gain Variation Over Temp ($-45 \sim +85^\circ\text{C}$)		± 1.0			± 1.0		dB
Noise Figure		1.5	1.8		1.5	2.0	dB
Input VSWR		1.5	2.0		1.6	2.8	: 1
Output VSWR		1.8	2.0		1.8	2.3	: 1
Output 1dB Compression Point (P1dB)	22	24		20	23		dBm
Saturated Output Power (Psat)		26			25		dBm
Output Third Order Intercept (IP3)		35			35		dBm
Isolation S12		-55			-55		dB
Supply Current ($V_{CC}=+12\text{V}$)		290	350		290	350	mA
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)						

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Absolute Maximum Ratings

Operating Voltage	+12V $\pm$ 5%
RF Input Power	-1 dBm

Biasing Up Procedure

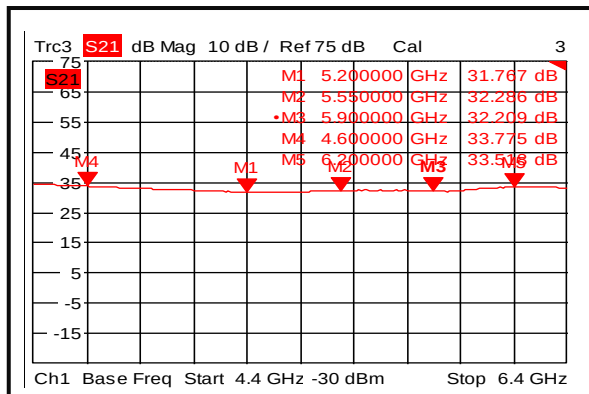
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications

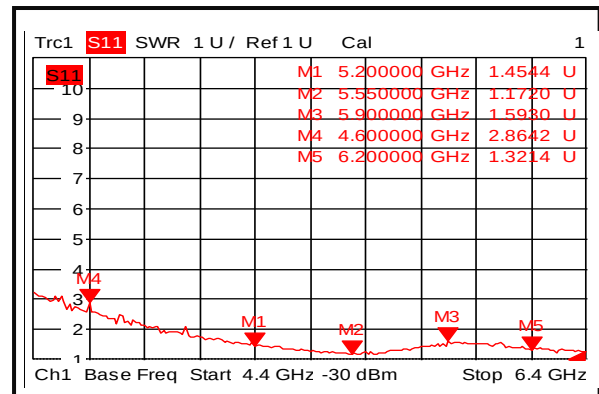
Operational Temperature (°C)	-45 to +85
Storage Temperature (°C)	-55 to +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

Typical Performance Plots

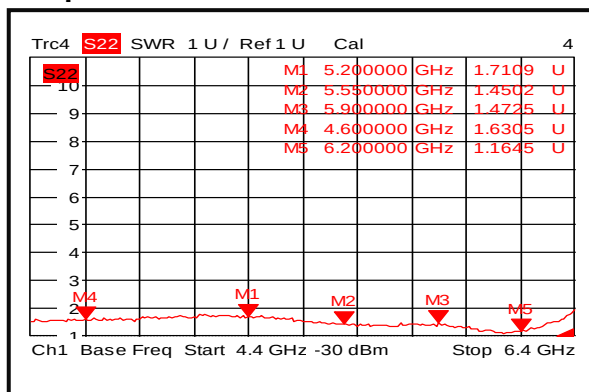
Gain



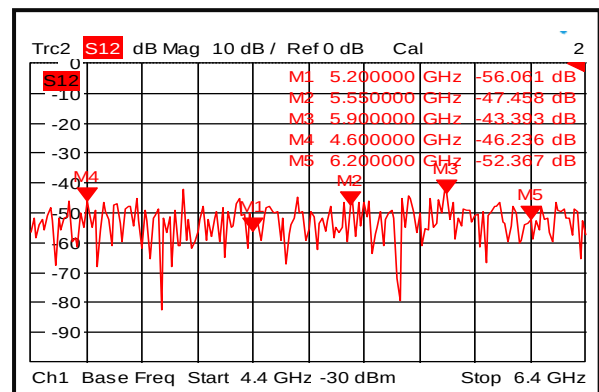
Input VSWR



Output VSWR

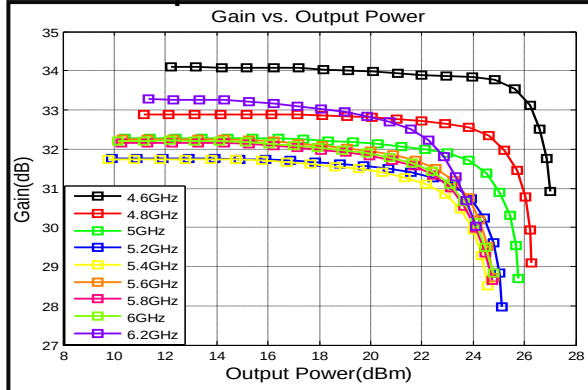


Isolation

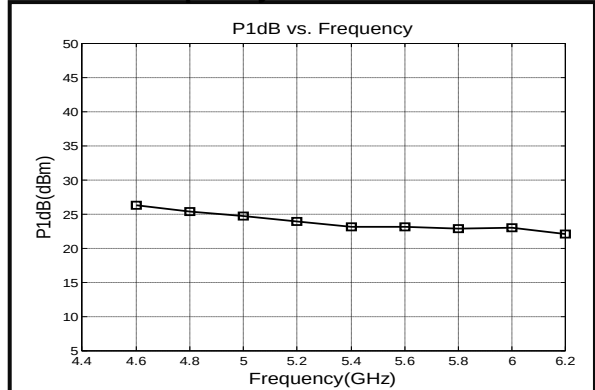




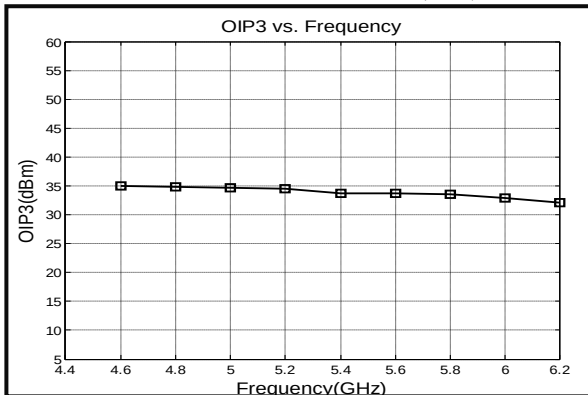
Gain vs. Output Power



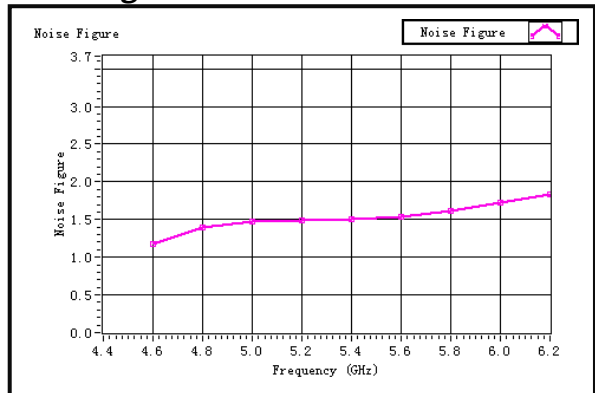
P1dB vs. Frequency



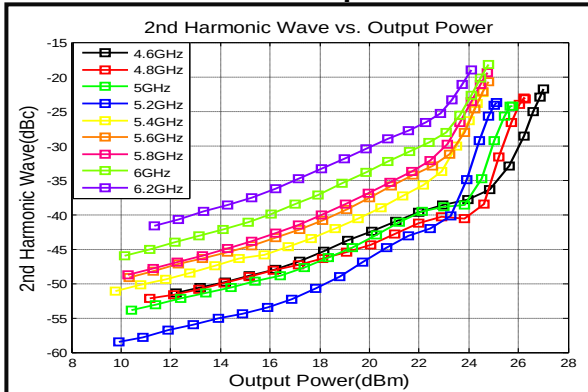
Output Third Order Intercept (IP3)



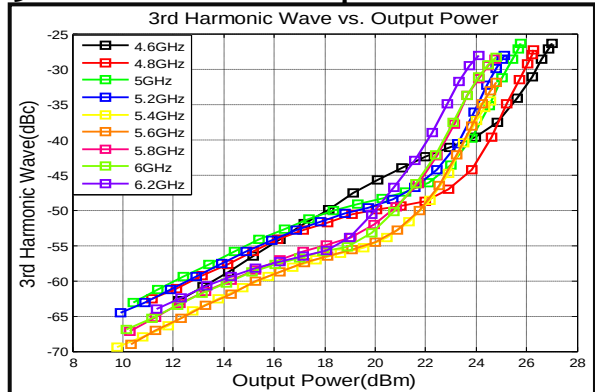
Noise Figure



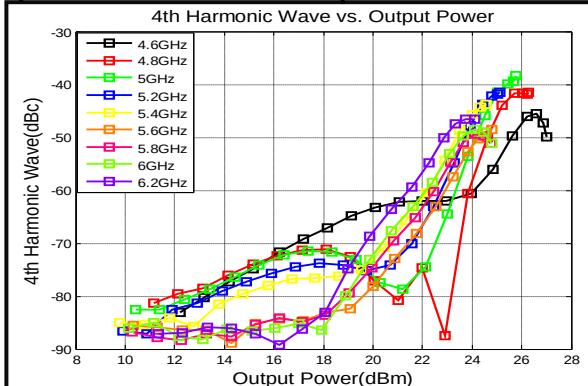
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



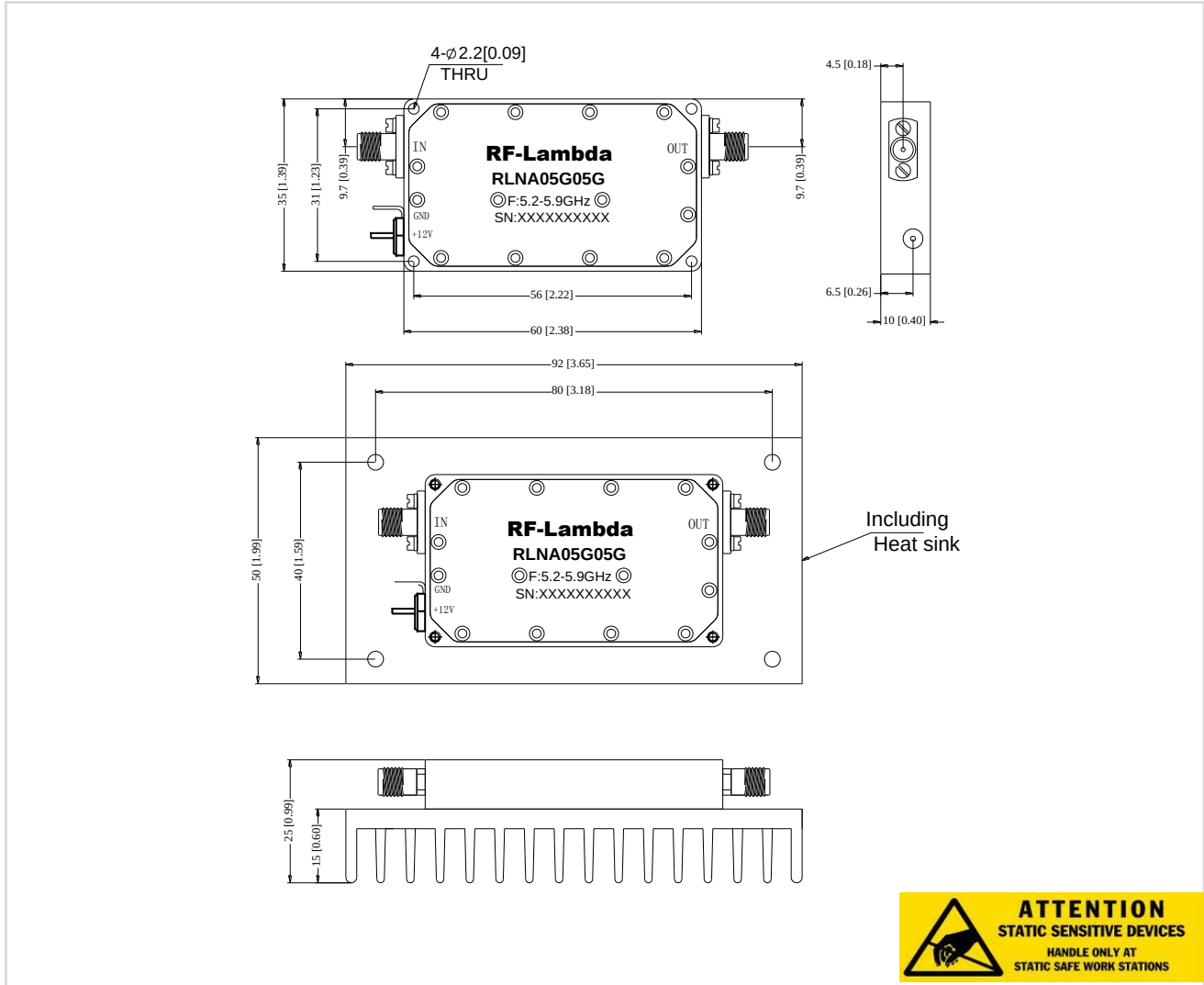
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Outline Drawing:

All Dimensions in mm [inches]

Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
RLNA05G05G	EAR99	5.2-5.9GHz Low Noise Amplifier

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