



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

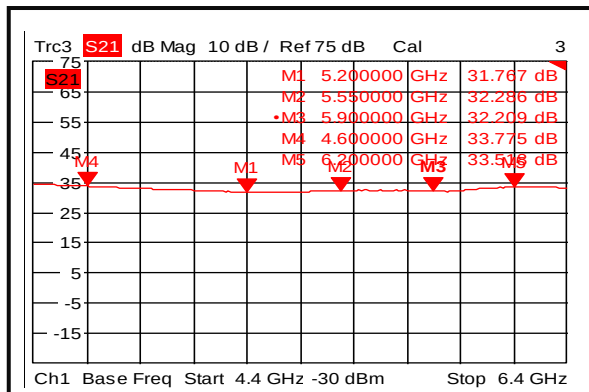
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications

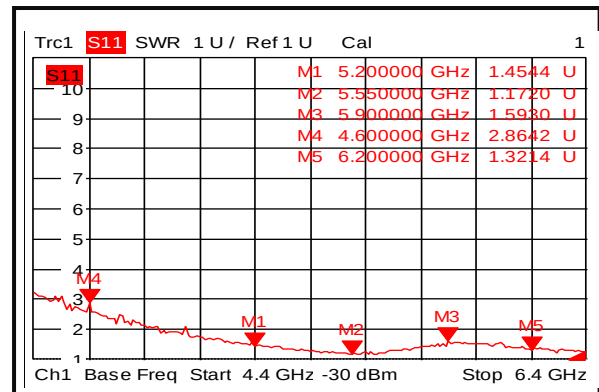
Operational Temperature (°C)	-45 to +85
Storage Temperature (°C)	-55 to +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

Typical Performance Plots

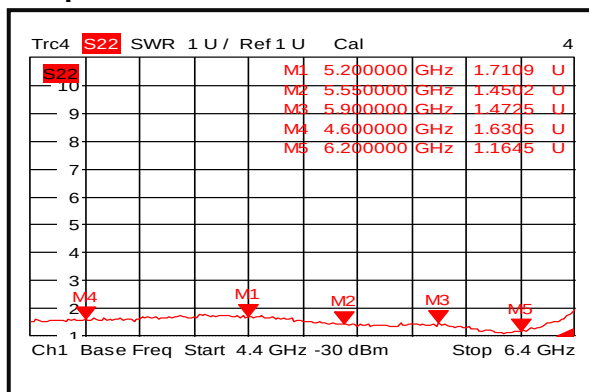
Gain



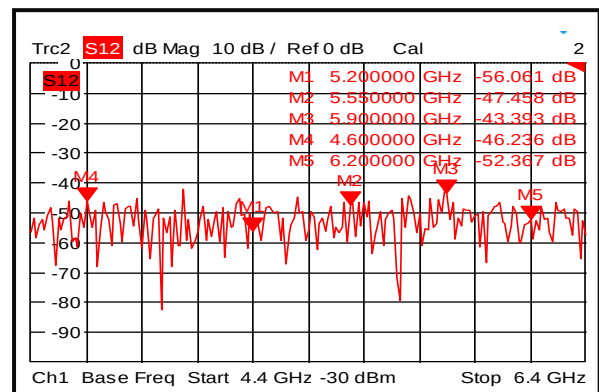
Input VSWR



Output VSWR



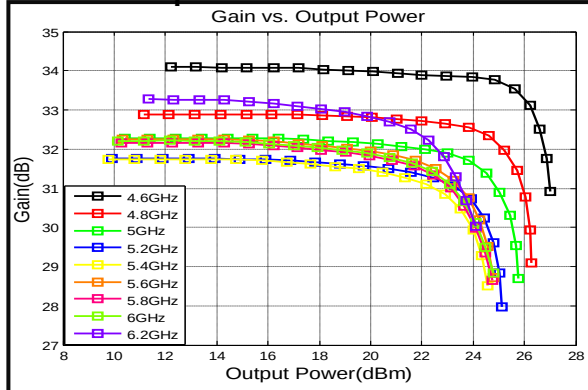
Isolation



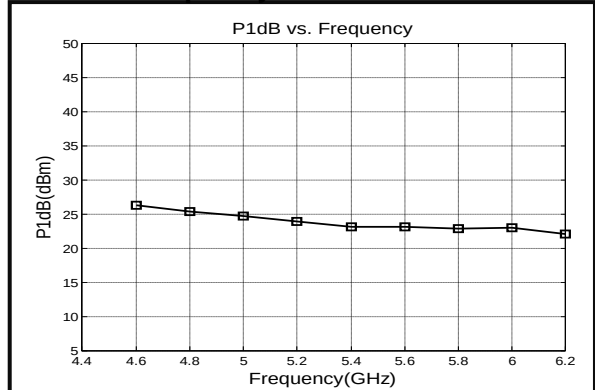
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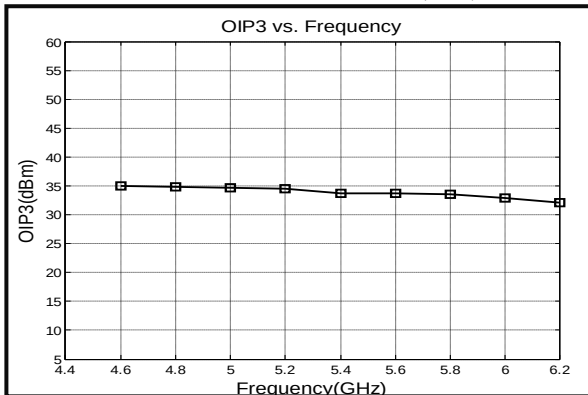
Gain vs. Output Power



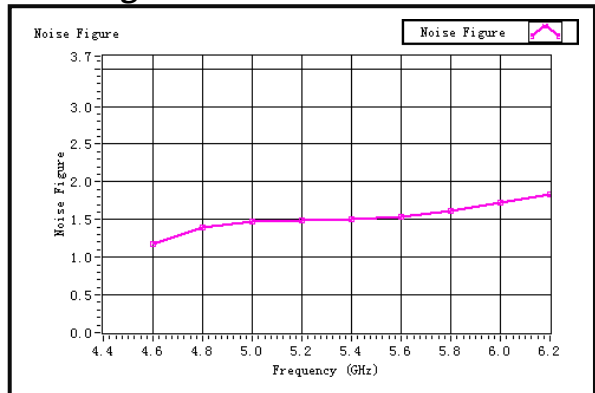
P1dB vs. Frequency



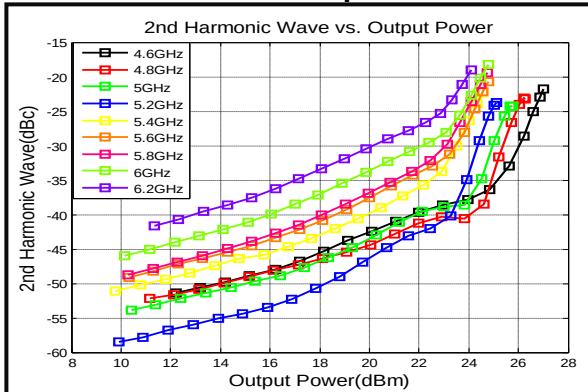
Output Third Order Intercept (IP3)



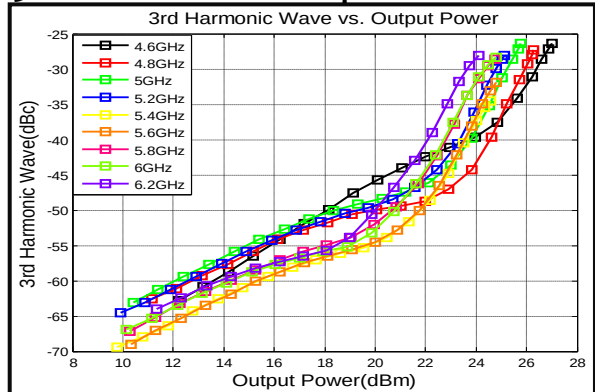
Noise Figure



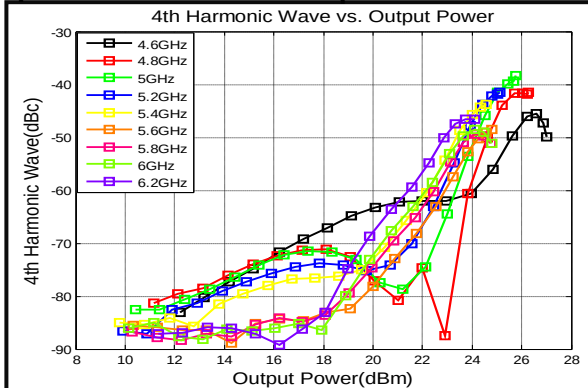
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



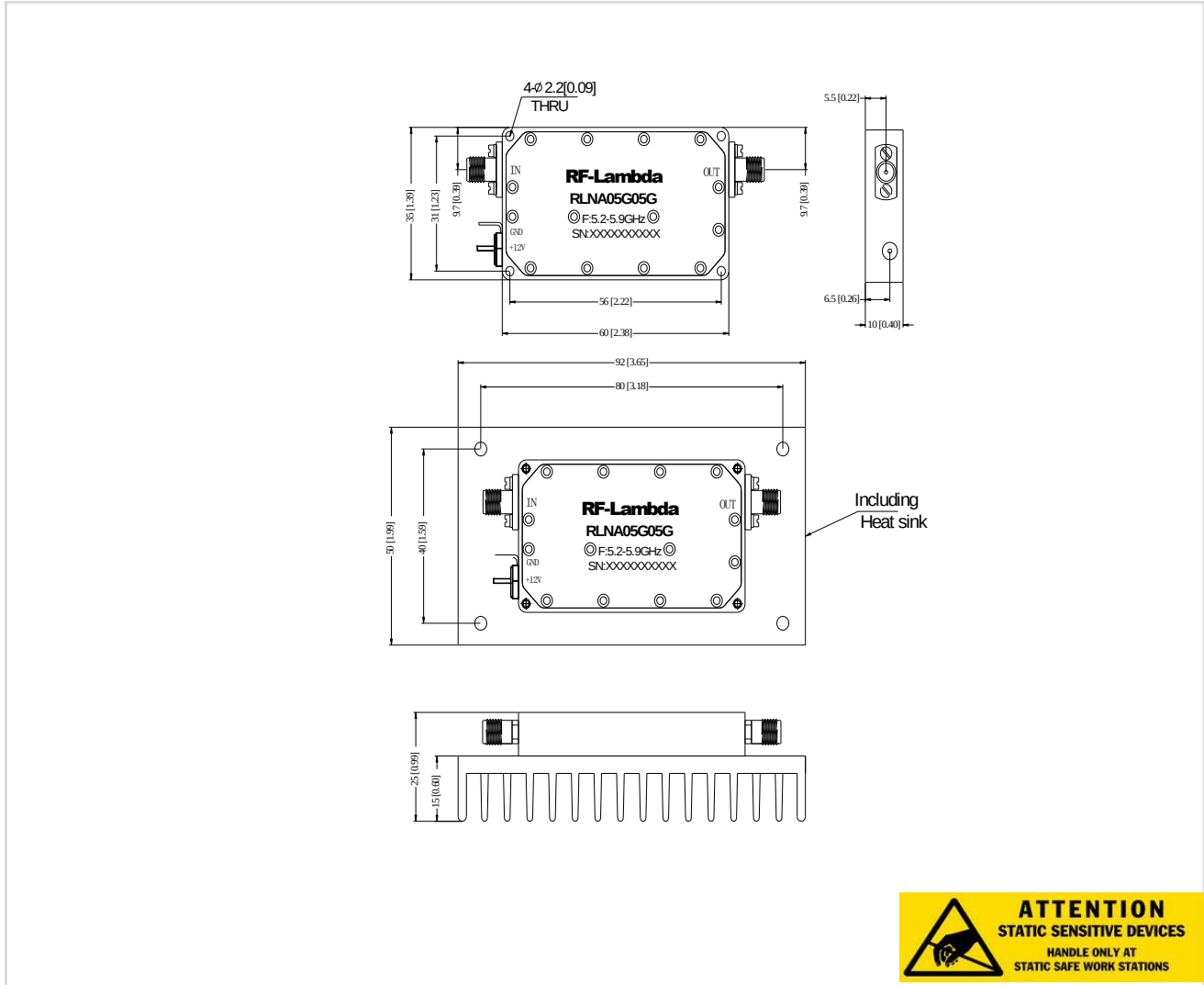
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Outline Drawing:

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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