



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RLNA09G10G

Low Noise Amplifier 9.5GHz~10.8GHz



Features

- Gain: 36dB typical
- Noise Figure: 2.0dB typical
- High P1dB: +15dBm 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	Units
Frequency Range	9.5		10.8	GHz
Gain	34	36		dB
Gain Flatness		± 0.5	± 1.0	dB
Gain Variation Over Temperature ($-45 \sim +85^\circ\text{C}$)		± 0.8	± 1.0	dB
Noise Figure		2.0	2.5	dB
Input VSWR		1.6	1.8	: 1
Output VSWR		1.5	1.8	: 1
Output 1dB Compression Point (P1dB)	13	15		dBm
Saturated Output Power (Psat)		16		dBm
Output Third Order Intercept (IP3)		25		dBm
Supply Current ($V_{CC}=+12\text{V}$)		180	210	mA
Isolation S12		-60		dB
Weight	0.71			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 Sealed (Standard)			
	Hermetically Sealed (Optional)			

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Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power	-15dBm

Biasing Up Procedure

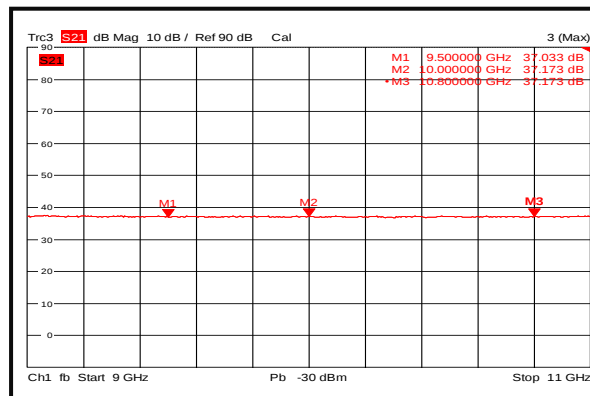
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications

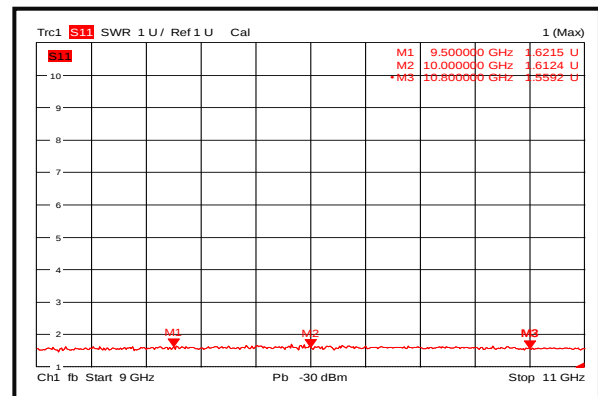
Operational Temperature (°C)	-45 to +85
Storage Temperature (°C)	-50 to +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

Typical Performance Plots

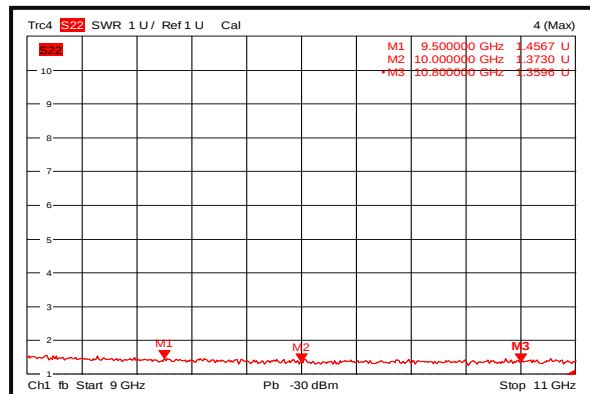
Gain @+25°C



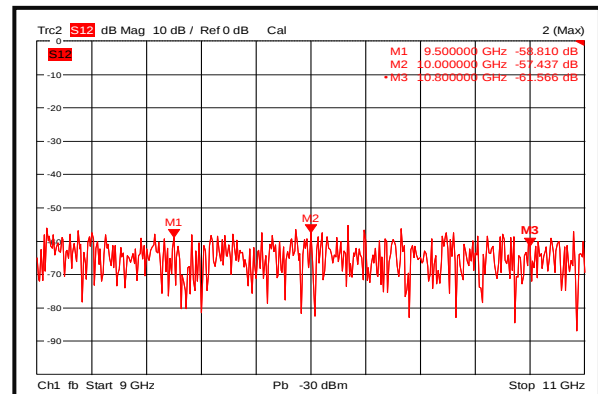
Input VSWR @+25°C



Output VSWR @+25°C



Isolation @+25°C



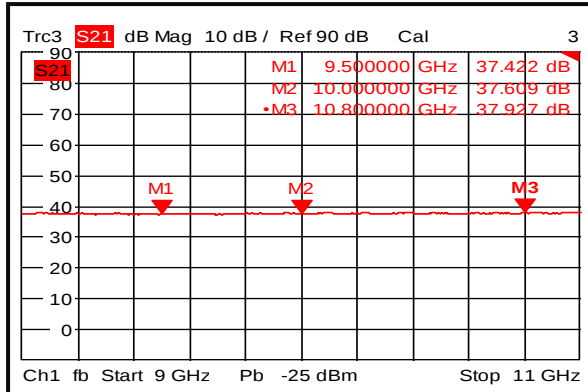


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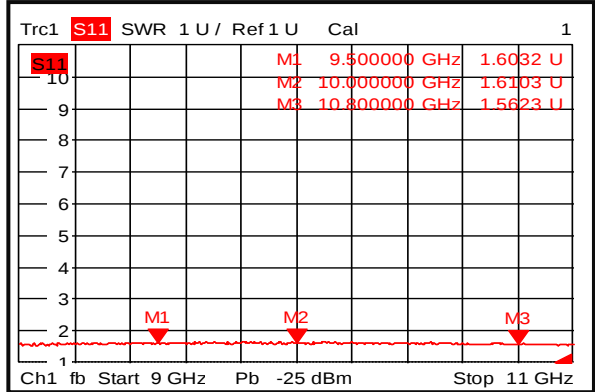
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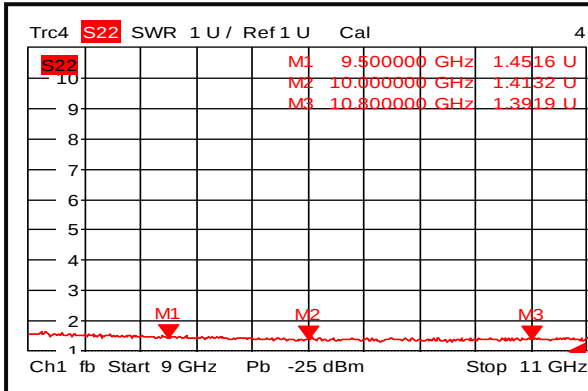
Gain @-45°C



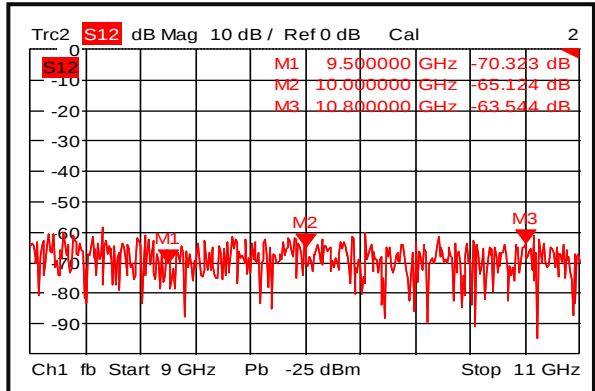
Input VSWR @-45°C



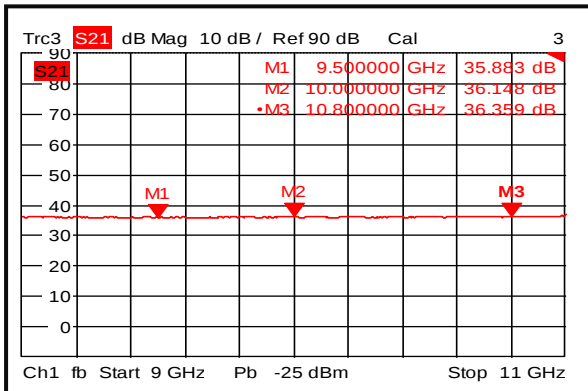
Output VSWR @-45°C



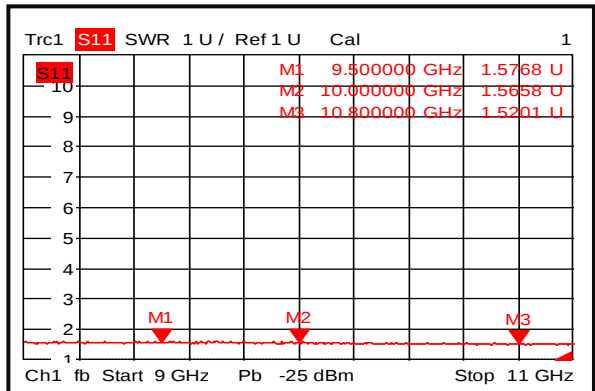
Isolation @-45°C



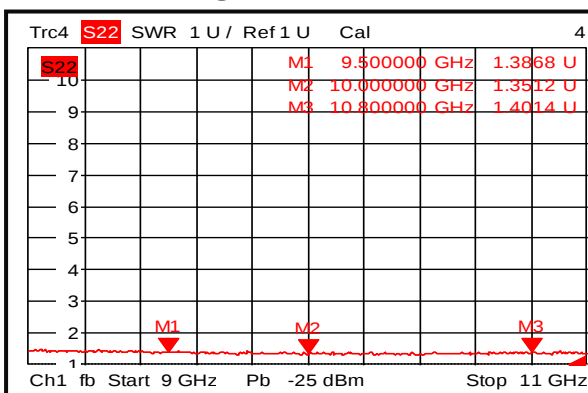
Gain @+85°C



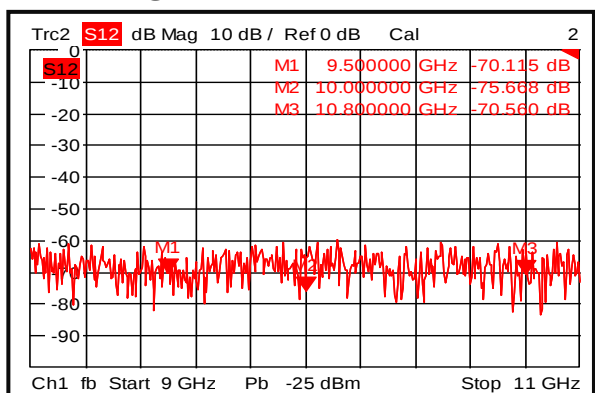
Input VSWR @+85°C



Output VSWR @+85°C



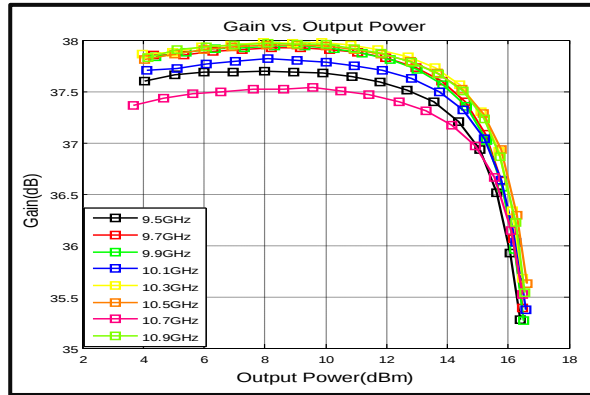
Isolation @+85°C



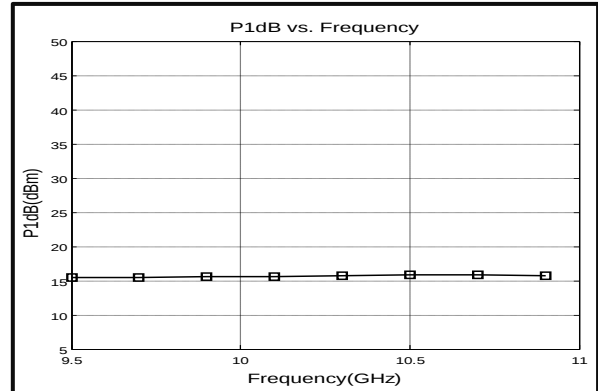
Low Noise Amplifier 9.5GHz~10.8GHz



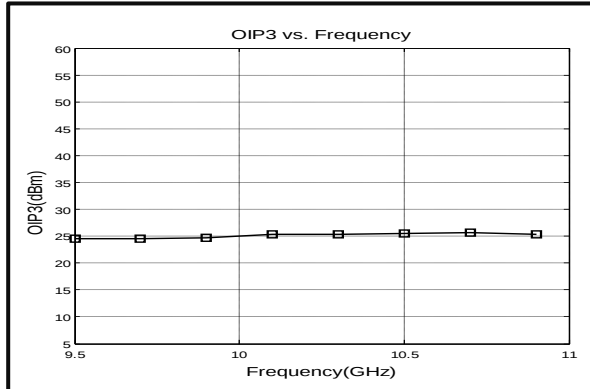
Gain vs. Output Power



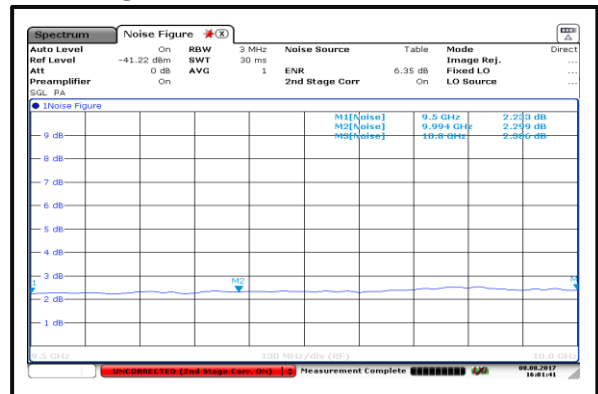
P1dB vs. Frequency



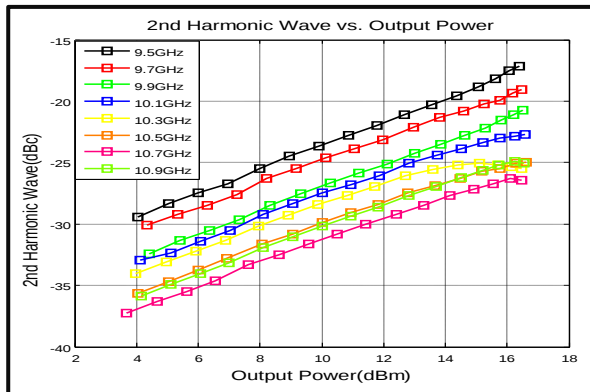
Output Third Order Intercept (IP3)



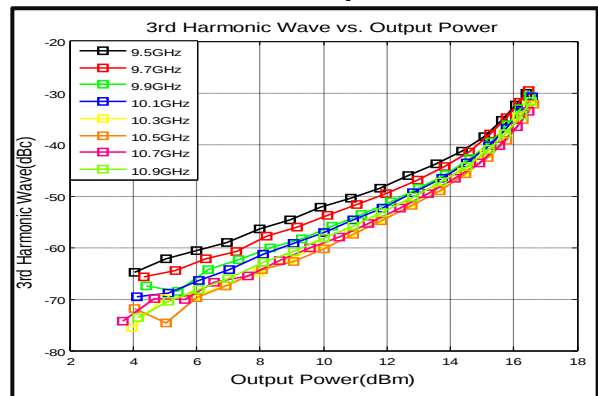
Noise Figure



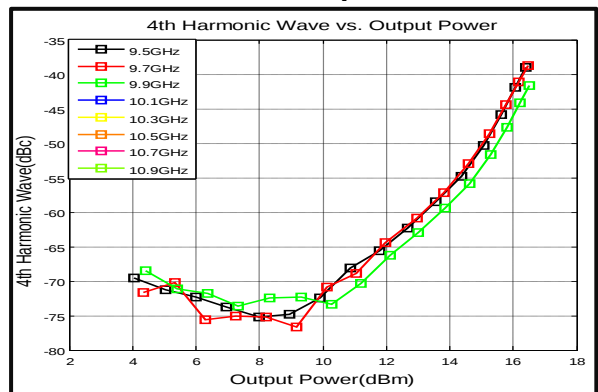
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



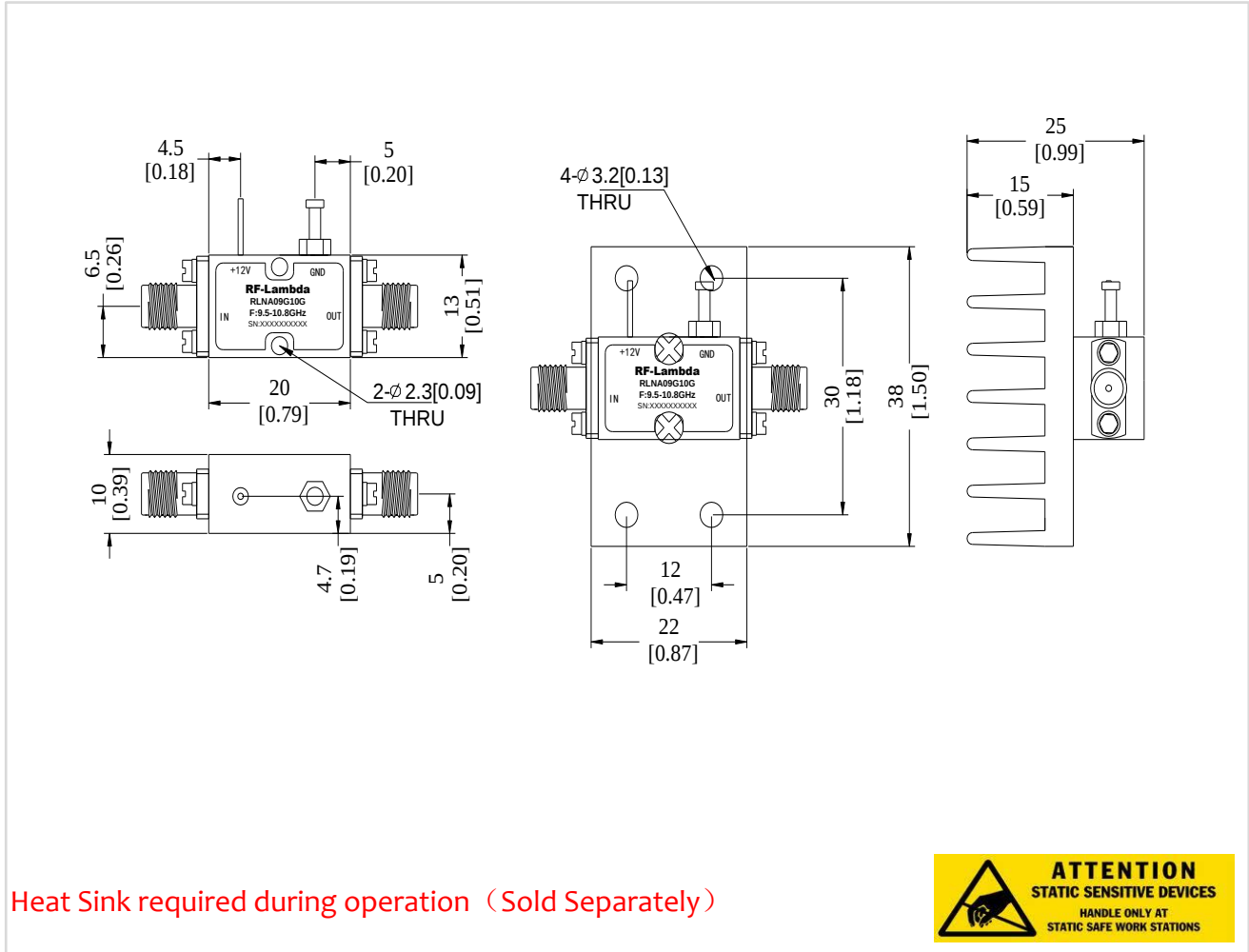
4th Harmonic Wave Output Power





Outline Drawing:

All Dimensions in mm [inches]



Ordering Information

Part No.	ECCN	Description
RLNA09G10G	EAR99	9.5-10.8GHz Low Noise Amplifier

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