

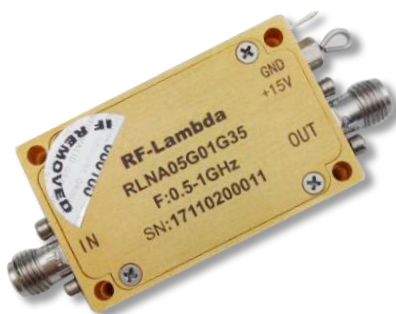


RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RLNA05G01G35

Ultra Low Noise Figure Amplifier 0.5GHz~1GHz



Features

- Gain: 45dB Typical
- Noise Figure: 0.6dB Typical
- P1dB Output Power: +21dBm Typical
- Supply Voltage: +15V
- 50 Ohm Matched

Typical Applications

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

Electrical Specifications, TA = +25°C, Vcc = +15V

Parameter	Min.	Typ.	Max.	Units
Frequency Range	0.5		1	GHz
Gain	41	45		dB
Gain Flatness		±2.5	±3.0	dB
Gain Variation Over Temperature (-45 ~ +85)		±0.8		dB
Noise Figure		0.6	0.95	dB
Input VSWR		1.5	2.0	:1
Output VSWR		2.0	2.5	:1
Output 1dB Compression Point (P1dB)	19.5	21		dBm
Saturated Output Power (Psat)		23		dBm
Output Third Order Intercept (IP3)		36		dBm
Supply Current (Vcc=+15V)		160	200	mA
Isolation S12		-55		dB
Weight	1.76			Ounces
Impedance	50			Ohms
Input / Output Connectors	SMA-Female			
Finish	Gold Plated			
Material	Aluminum			
Sealing	Hermetically Sealed (Optional)			

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Absolute Maximum Ratings

Operating Voltage	+15.5V
RF Input Power	-25dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +15V biasing
Power OFF Procedure	
Step 1	Turn off +15V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-55°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 Hours
Shock		1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	MIL-STD-883	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)		MIL-STD-883 (For Hermetically Sealed Units)



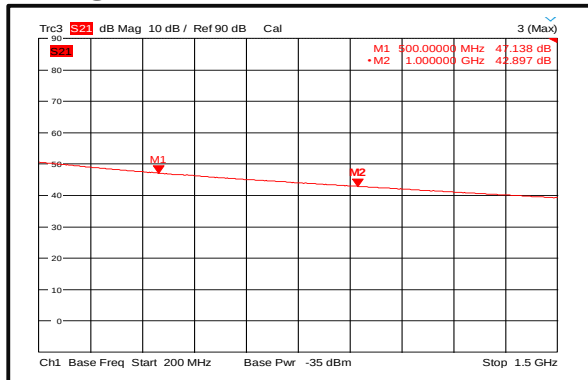
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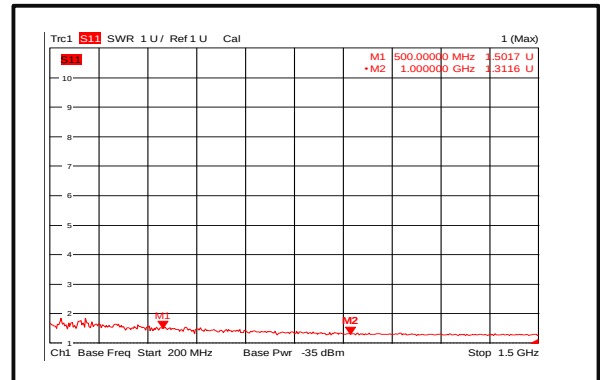
RLNA05G01G35

Typical Performance Plots

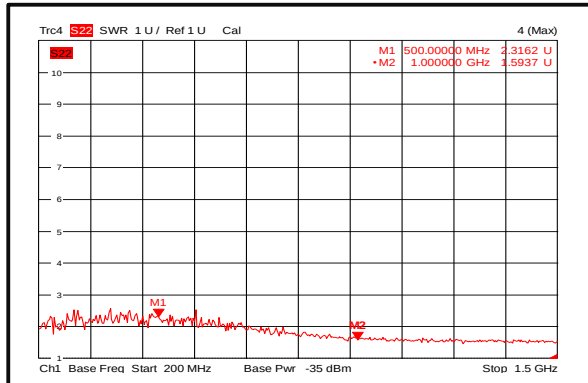
Gain @+25°C



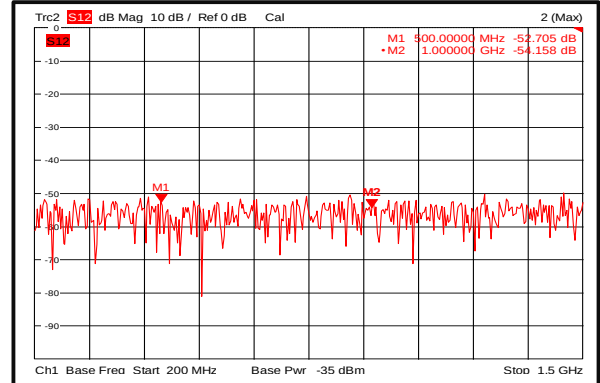
Input VSWR @+25°C



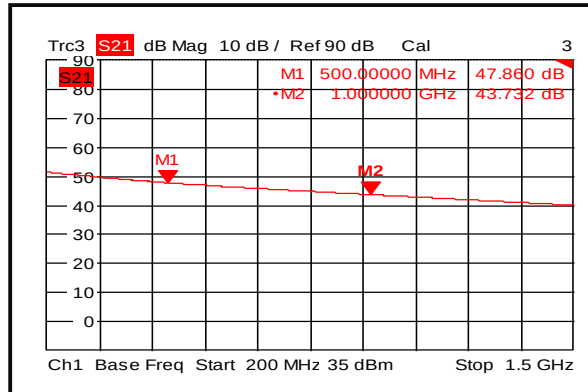
Output VSWR @+25°C



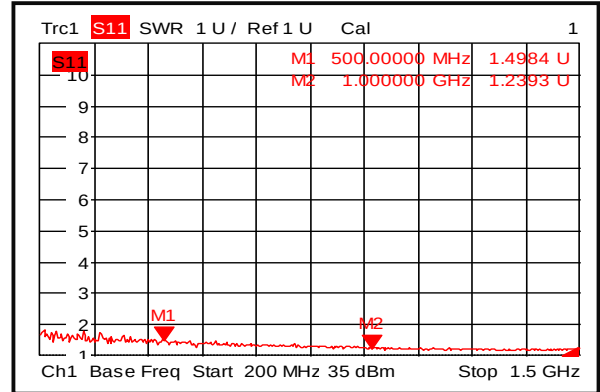
Isolation @+25°C



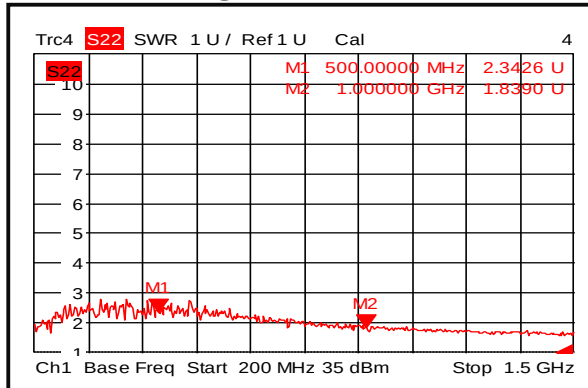
Gain @-45°C



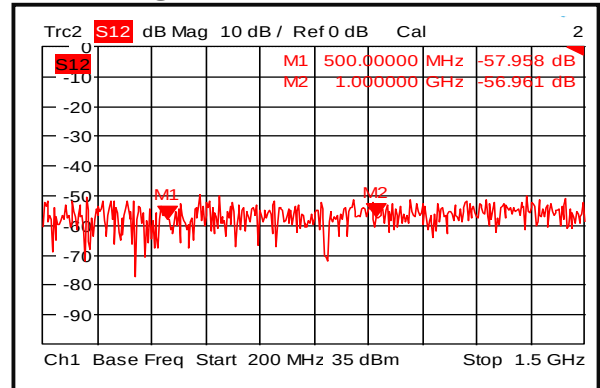
Input VSWR @-45°C



Output VSWR @-45°C



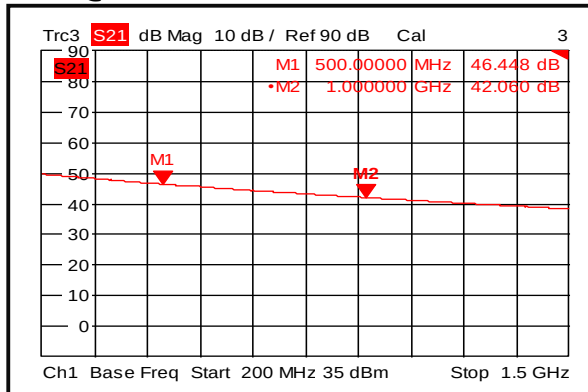
Isolation @-45°C



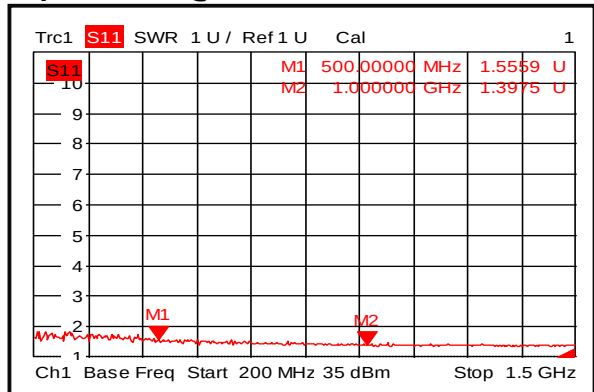
Ultra Low Noise Figure Amplifier 0.5GHz~1GHz



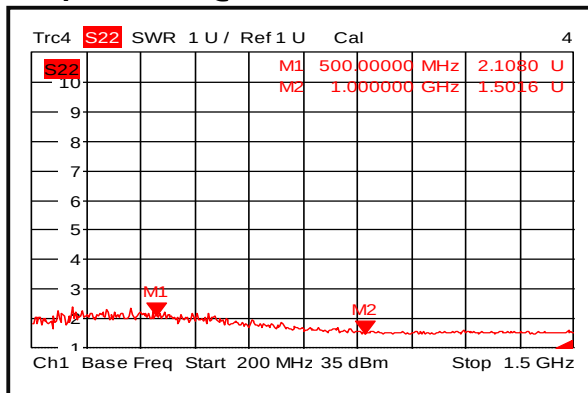
Gain @+85°C



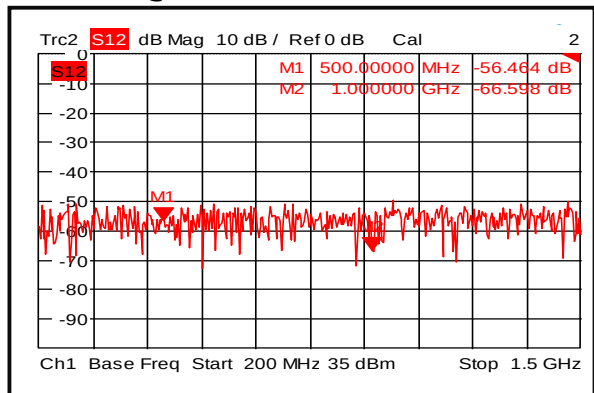
Input VSWR @+85°C



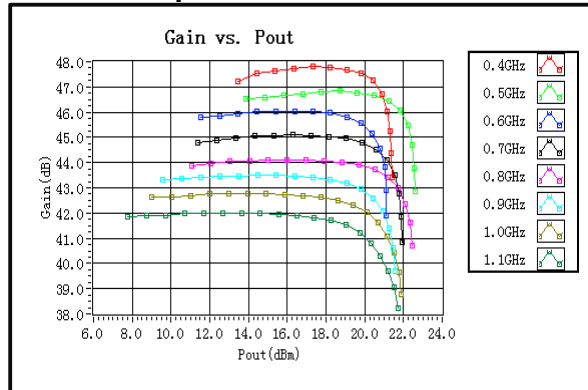
Output VSWR @+85°C



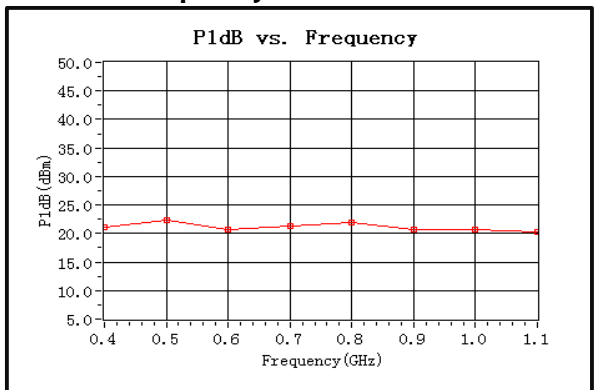
Isolation @+85°C



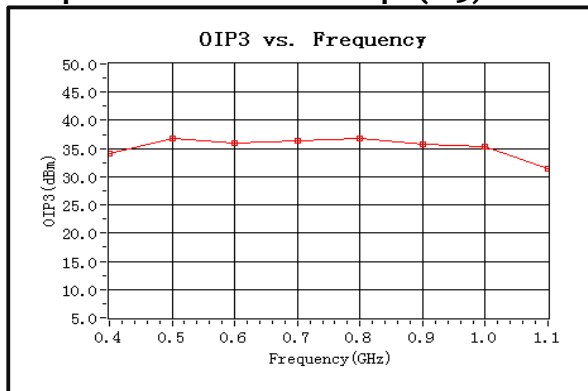
Gain vs. Output Power



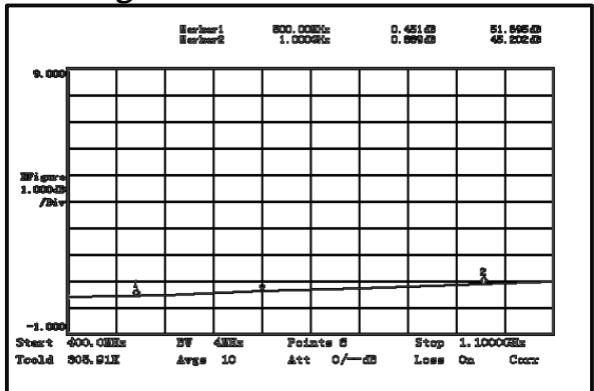
P1dB vs. Frequency



Output Third Order Intercept (IP3)

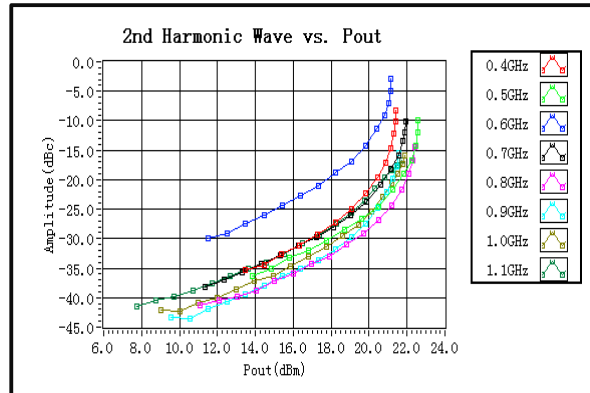


Noise Figure

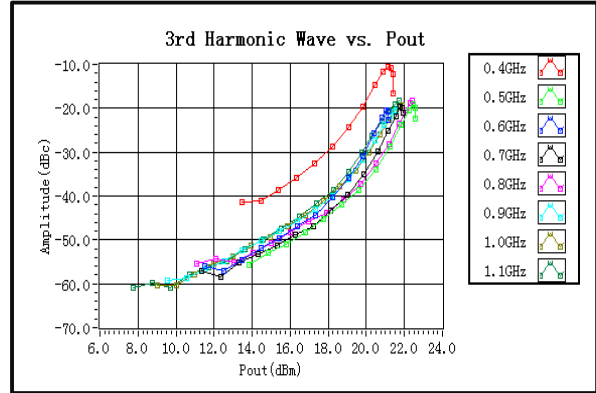




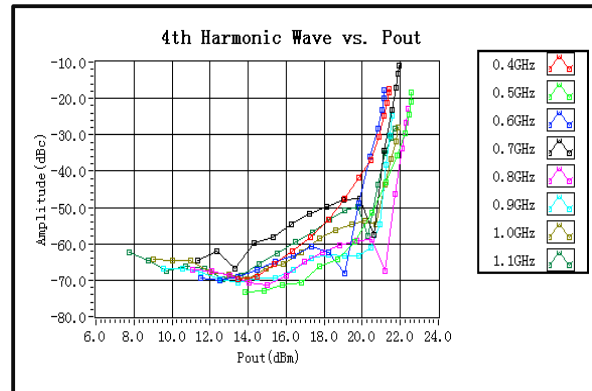
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



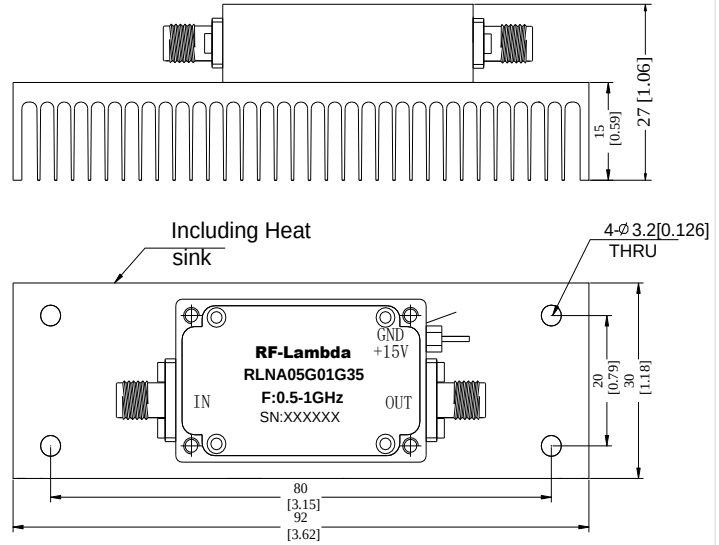
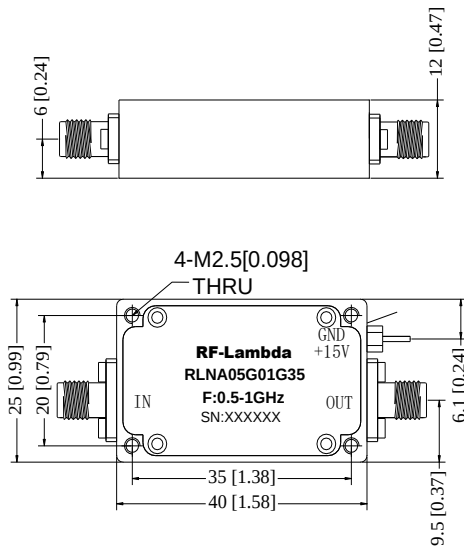
4th Harmonic Wave Output Power





Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
RLNA05G01G35	EAR99	0.5-1GHz Ultra Low Noise Figure Amplifier

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