



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RLNA01G02GA

Wide Band Low Noise Amplifier 1GHz~2GHz



Features

- Gain: 22 dB Typical
- Noise Figure: 2.7dB Typical
- P1dB Output Power: +24dBm full band
- Supply Voltage: +15V

Typical Applications

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

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

Parameter	Min.	Typ.	Max.	Units
Frequency Range	1		2	GHz
Gain	20	22	24	dB
Gain Flatness		±0.3	±0.5	dB
Gain Variation Over Temperature (-45 ~ +85)		±1.0		dB
Noise Figure		2.7	3.5	dB
Input VSWR		1.5	1.8	: 1
Output VSWR		1.5	1.8	: 1
Output 1dB Compression Point (P1dB)	24	26		dBm
Saturated Output Power (Psat)		27		dBm
Output Third Order Intercept (IP3)		35		dBm
Isolation S12		-43		dB
Supply Current (Vcc=+15V)		250	280	mA
Weight	2.47			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	+16V
RF Input Power (RFIN)	+10dBm

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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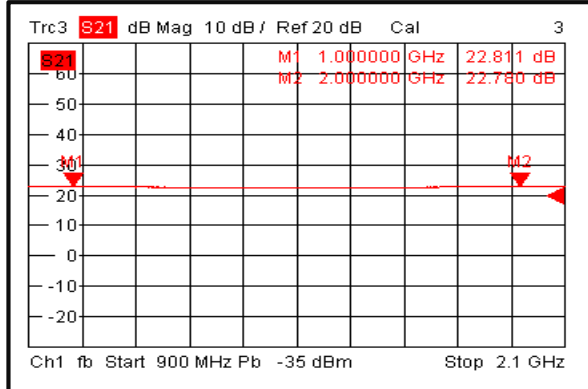
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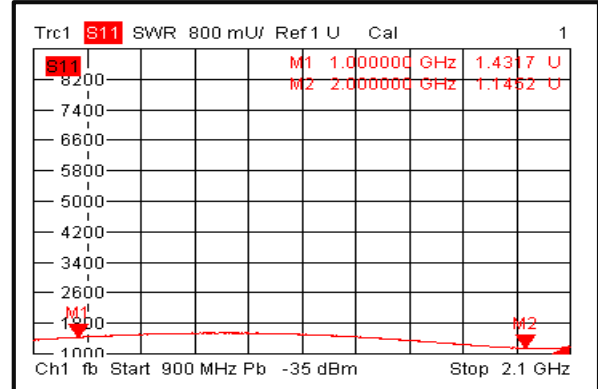
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Typical Performance Plots

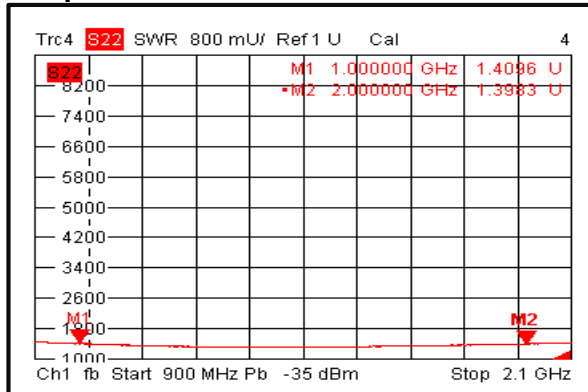
Gain



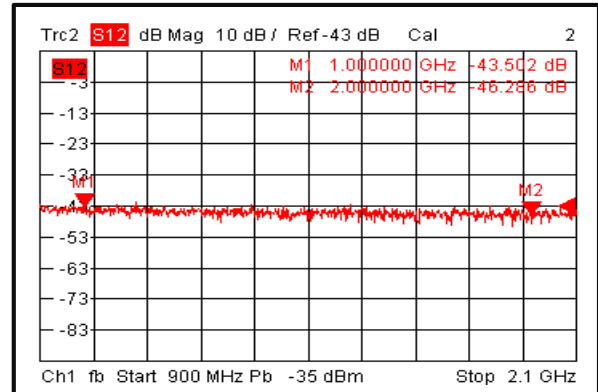
Input VSWR



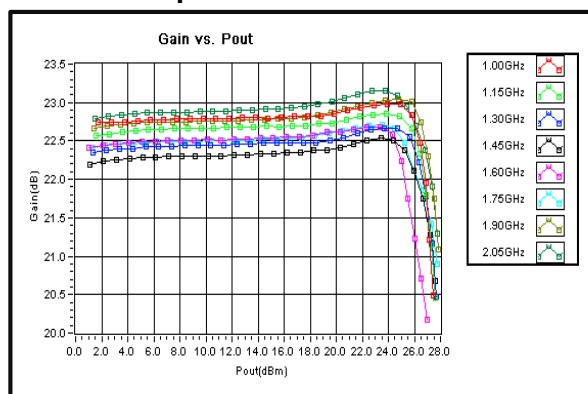
Output VSWR



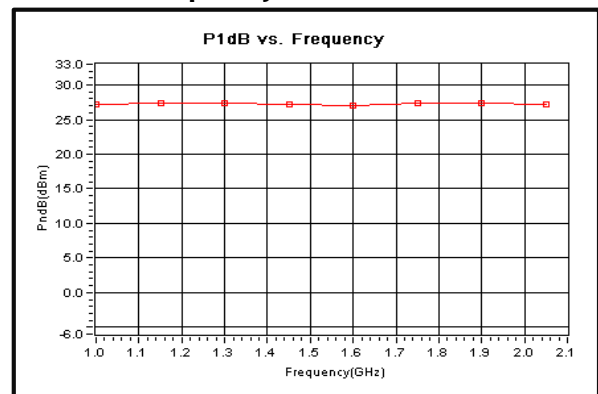
Isolation



Gain vs. Output Power



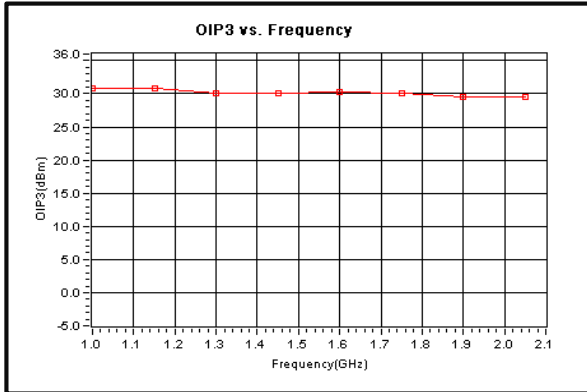
P1dB vs. Frequency



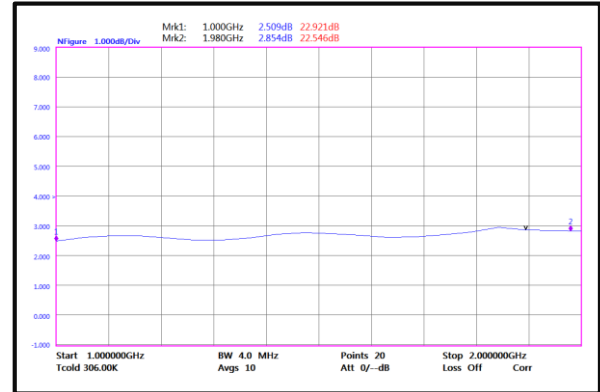
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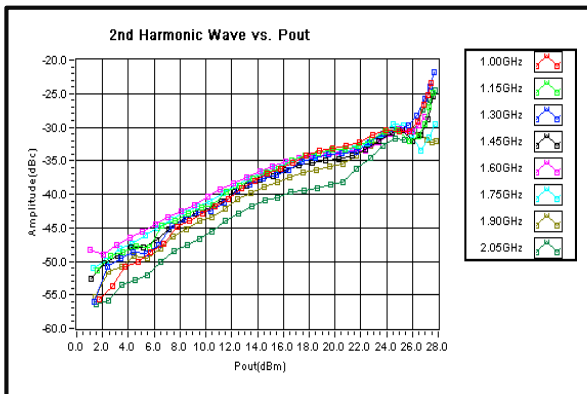
Output Third Order Intercept (IP₃)



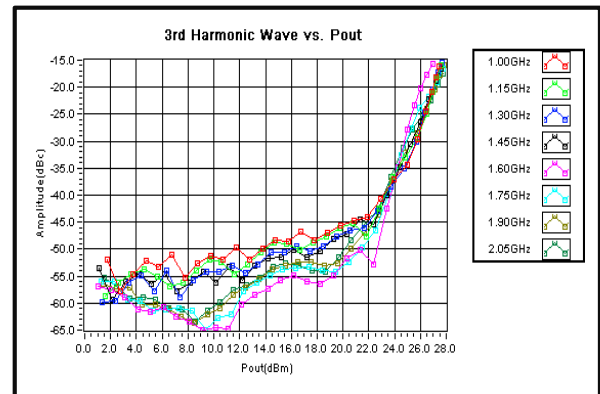
Noise Figure



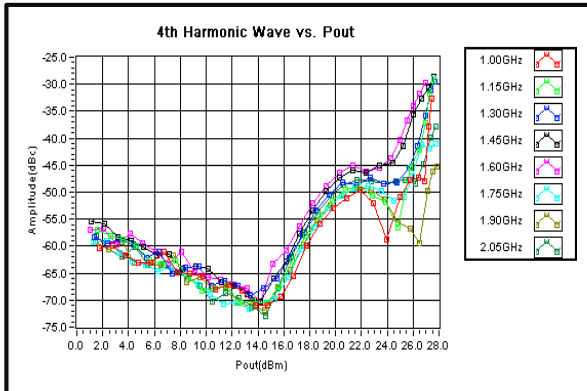
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



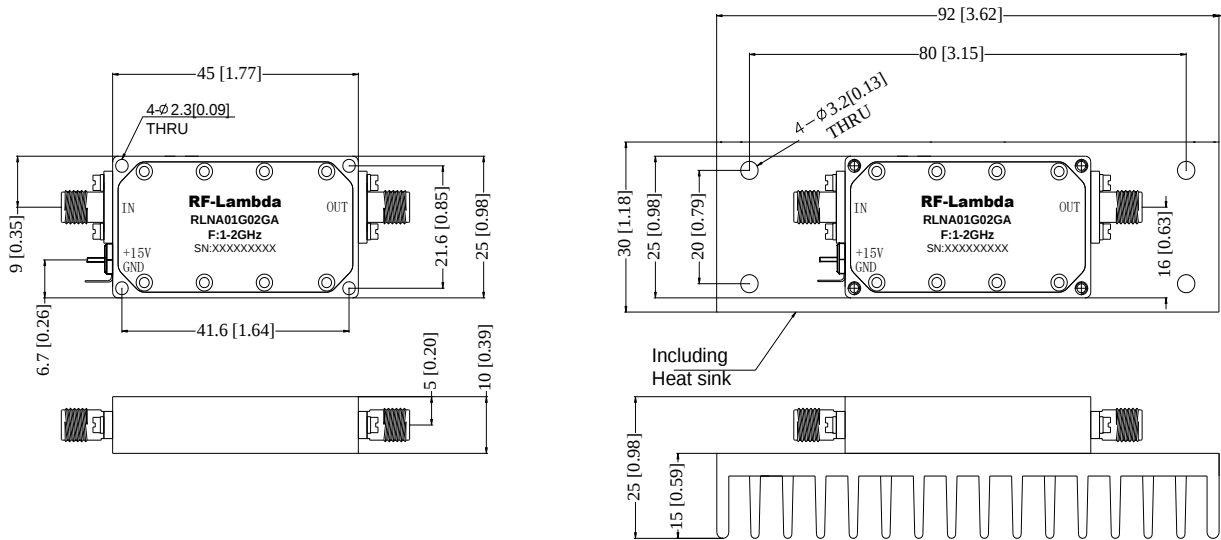
4th Harmonic Wave Output Power





Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
RLNA01G02GA	EAR99	1-2GHz Low Noise Amplifier

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