Ultra Low Noise Amplifier
RF Port Bias-T Feedthrough
1GHz ~ 2GHz

Features

- Gain: 60dB Typical
- Noise Figure: 0.7dB Typical
- P1dB Output Power: +19dBm Typical
- Supply Voltage: +11.75V

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test and Measurement

Electrical Specifications, TA = +25°C, Vcc = +11.75V

Parameter	Min.	Typ.	Max.	Units
Frequency Range	1		2	GHz
Gain	58	60		dB
Gain Flatness		±0.5	±1.0	dB
Gain Variation Over Temperature (-40°C ~ +85°C)		±1.5		dB
Noise Figure	0.5	0.7	1.0	dB
Input VSWR		1.6	2.6	:1
Output VSWR		1.8	2.5	:1
Output 1dB Compression Point (P1dB)	16	19		dBm
Saturated Output Power (Psat)		21		dBm
Output Third Order Intercept (IP3)		28		dBm
Supply Current (Vcc=+11.75V) Supplied through RF Output Port		230	250	mA
Isolation S12		-65		dB
Impedance	50			Ohms
Weight	1.2 Max.			ounces
Input / Output Connectors	SMA-Female			
Finish	Gold Plated			
Material	Aluminum			
Package Sealing	Epoxy Sealed (Standard)			
	Hermetically Sealed (Optional)			

Ultra Low Noise Amplifier With Internal Bias-T 1GHz ~ 2GHz

RF-LAMBDA USA www.rflambda.com
Sales: sales@rflambda.com Technical : support@rflambda.com

Absolute Maximum Ratings

Operating Voltage	+8V~ +15V
RF Input Power	-40dBm

Biasing Up Procedure

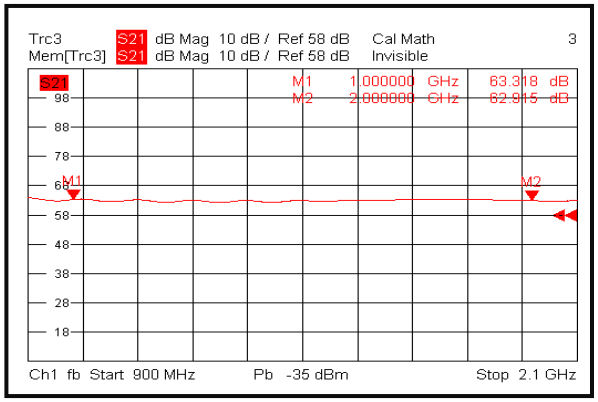
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +11.75V biasing
Power OFF Procedure	
Step 1	Turn off +11.75V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications and Test Standards

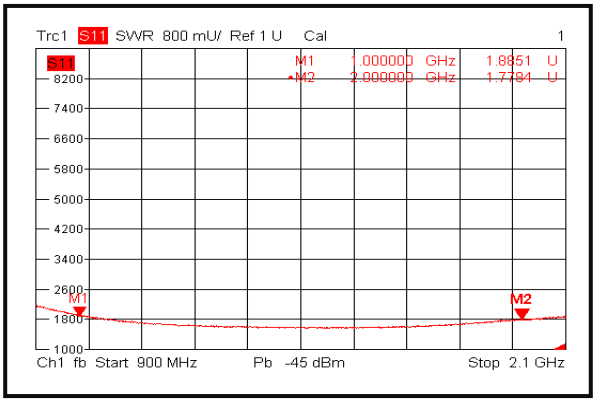
Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours
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	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)

Typical Performance Plots

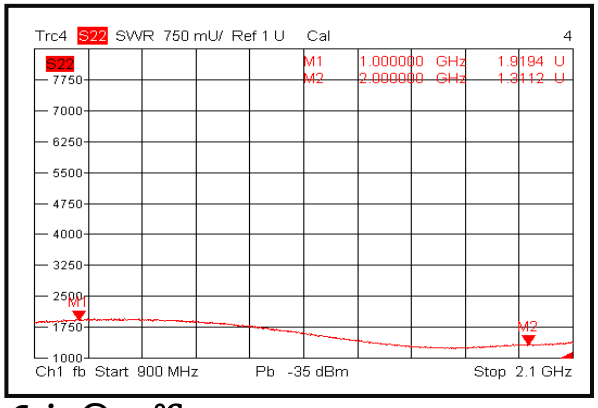
Gain @+25℃



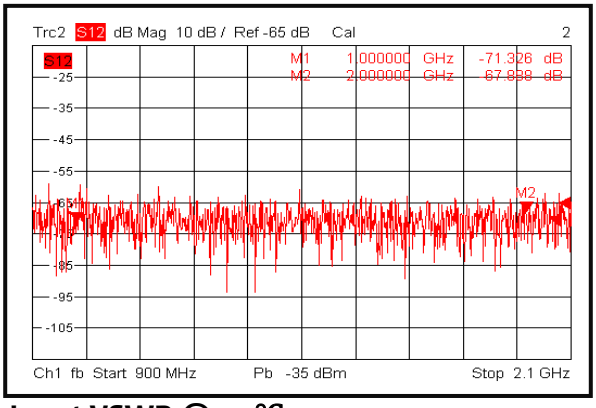
Input VSWR @+25℃



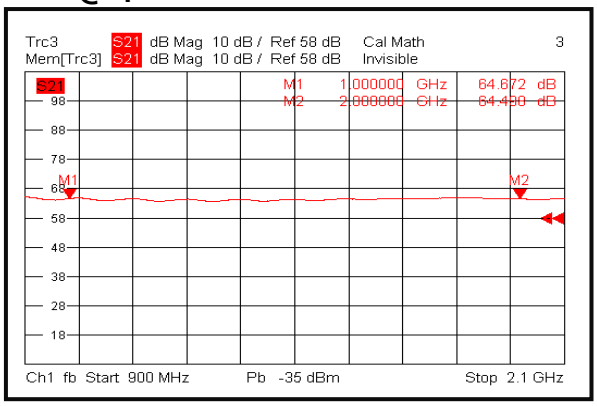
Output VSWR @+25℃



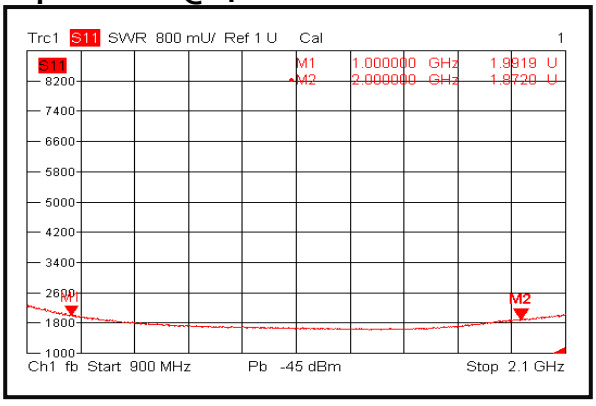
Isolation @+25℃



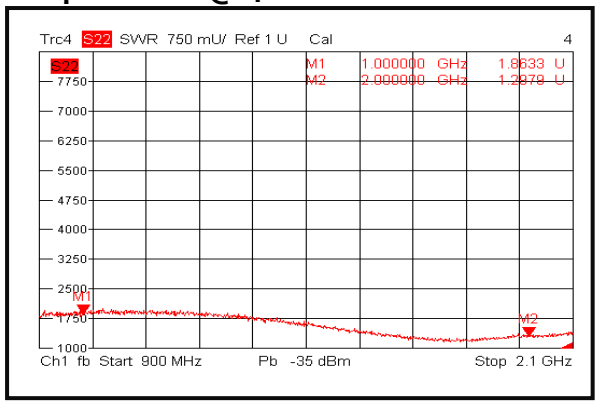
Gain @-40℃



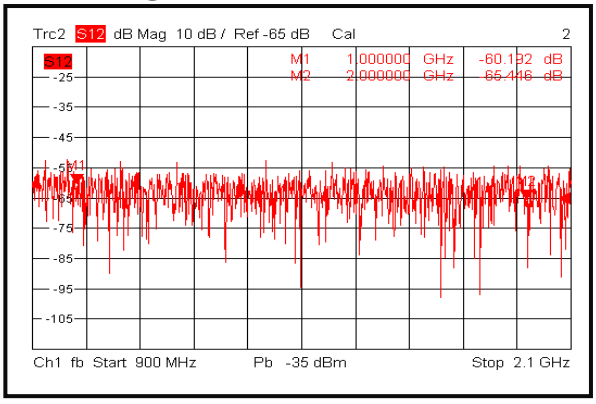
Input VSWR @-40℃



Output VSWR @-40℃

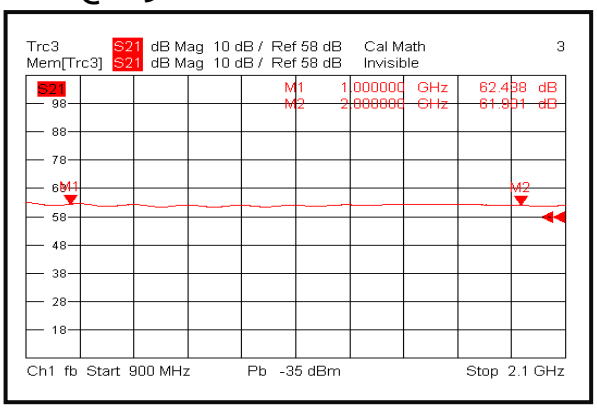


Isolation @-40℃

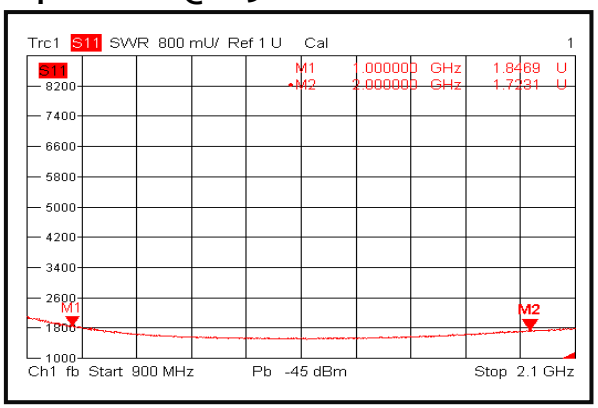


Ultra Low Noise Amplifier With Internal Bias-T 1GHz ~ 2GHz

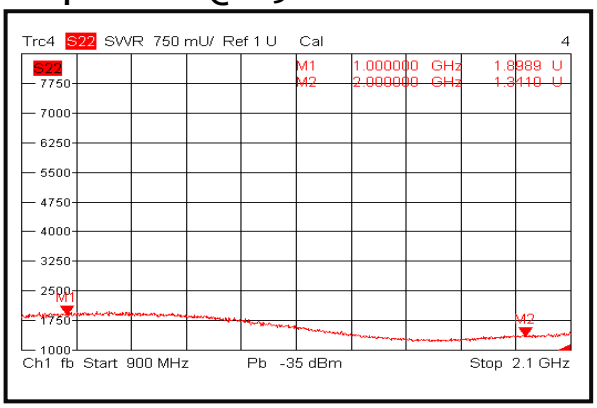
Gain @+85℃



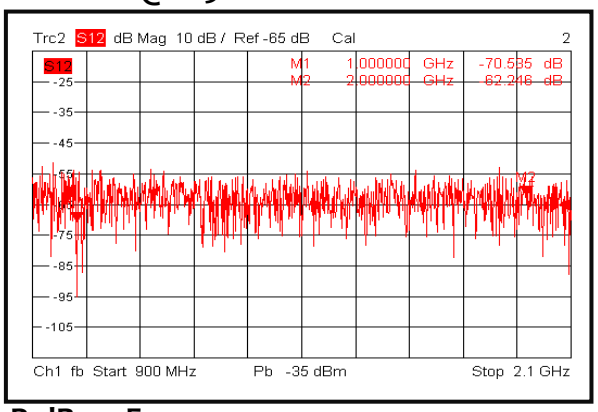
Input VSWR @+85℃



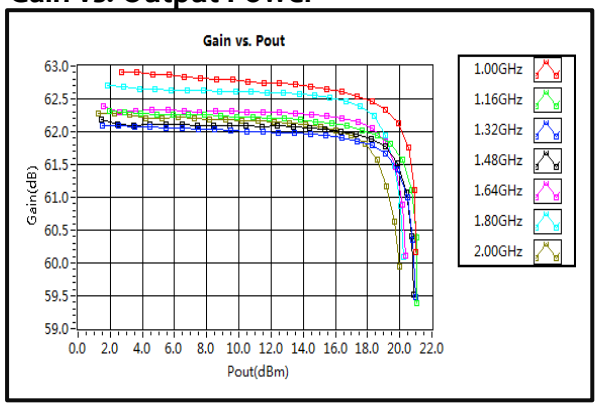
Output VSWR @+85℃



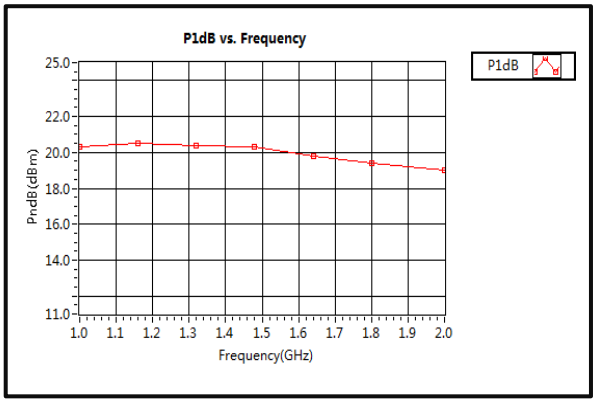
Isolation @+85℃



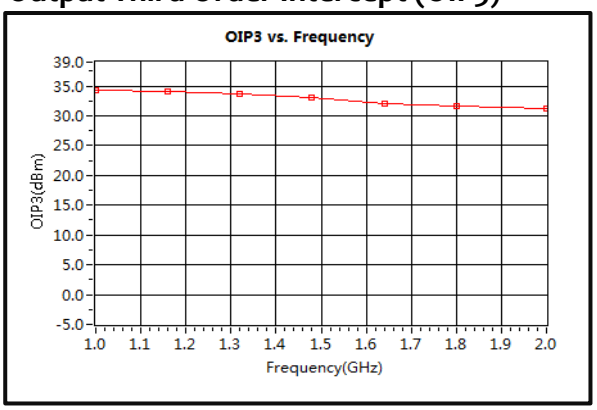
Gain vs. Output Power



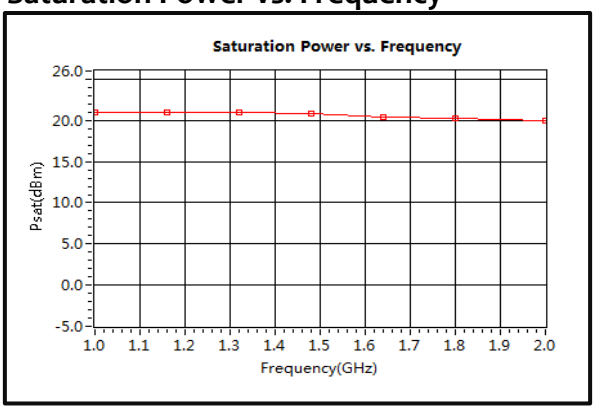
P1dB vs. Frequency



Output Third Order Intercept (OIP3)

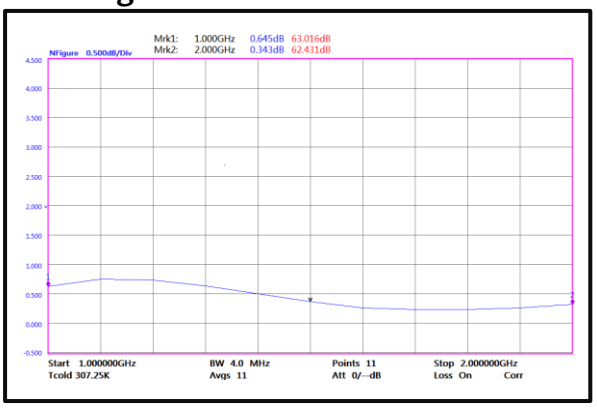


Saturation Power vs. Frequency

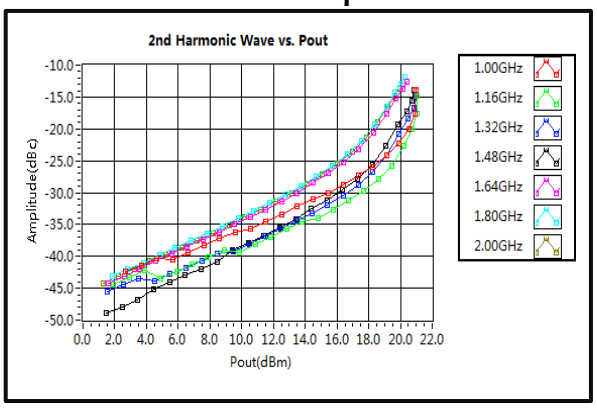


Ultra Low Noise Amplifier With Internal Bias-T 1GHz ~ 2GHz

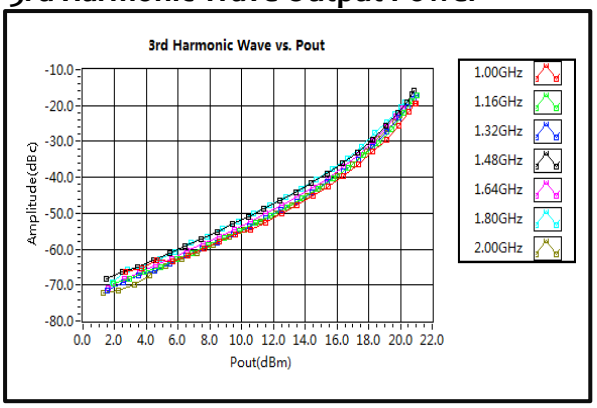
Noise Figure



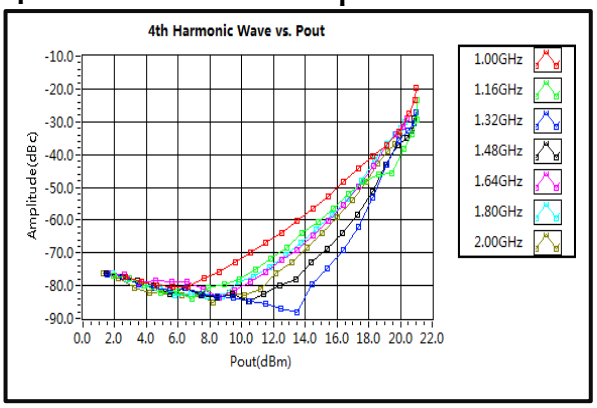
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



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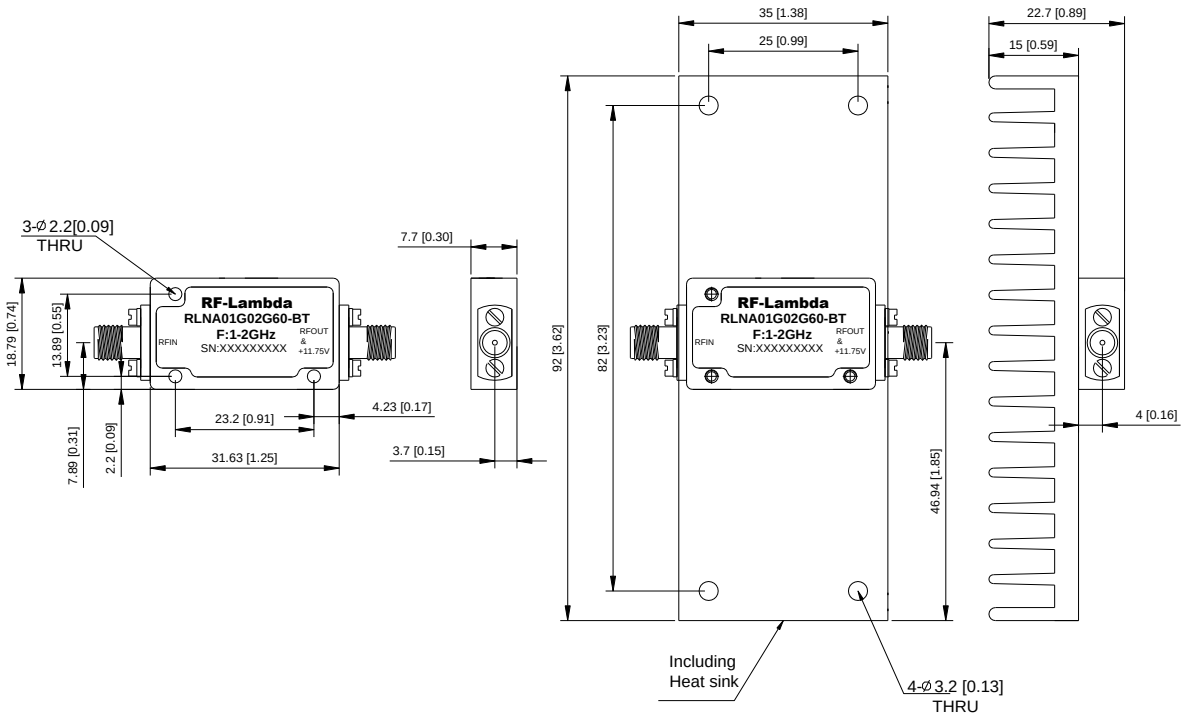
Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)

Ordering Information

Part No.	Description
RLNA01G02G60-BT	1-2GHz Ultra Low Noise Amplifier With Internal Bias-T

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