Ultra Wide Band Low Noise Amplifier 0.1GHz~3GHz

RoHS Compliant

Features

- Gain: 35dB Typical
- Noise Figure: 1.7dB Typical
- Output P1dB: +21dBm Full Band
- Supply Voltage: +12V @ 220mA
- 50 Ohm Matched Input / Output
- Size:1.58" 0.99" x0.47"

Typical Applications

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

Electrical Specifications, TA = +25 ° C, Vcc = +12V, 50 Ohm System

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.1		1	1		3	GHz
Gain	30	36		30	35		dB
Gain Flatness		±2.0			±1.0		dB
Gain Variation Over Temperature (-45 ~ +85)		±0.8			±0.8		dB
Noise Figure		1.0	1.5		1.7	2.5	dB
Input Return Loss		10			12		dB
Output Return Loss		10			10		dB
Output Power for 1 dB Compression (P1dB)	20	21		20	21		dBm
Saturated Output Power (Psat)		23			23		dBm
Output Third Order Intercept (IP3)		26			25		dBm
Supply Current (Idd) (Vcc=+12V)		220	250		220	250	mA
Isolation S12	60	65		55	60		dB
Input Max Power (no damage)			-5			-5	dBm
Weight	1.76						ounces
Impedance	50						Ohms
Input /Output Connector	SMA-Female						
Finishing	Standard: Gold 40 micron; Nickel 220 micron thickness						
	Option: Gold 80 micron; Nickel 180 micron thickness						
Material	Aluminum/copper						
Package Sealing	Epoxy Sealing (Standard)						
	Hermetically Sealed (Optional - Extra Cost)						

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Absolute Maximum Ratings

Operating Voltage	+12.5V
RF Input Power	-5 dBm
Operating Temperature(C°)	-45 to +85
Storage Temperature(C°)	-50 to +125

Biasing Up Procedure

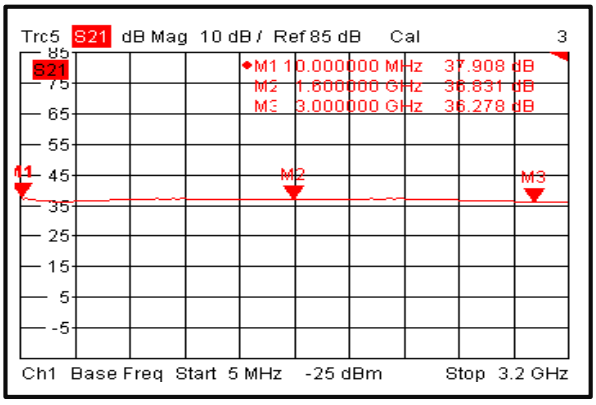
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground

Environmental Specifications

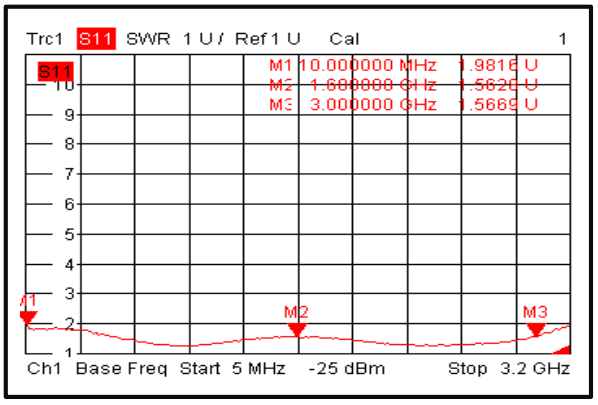
Operational Temperature (C°)	-45 to+85
Storage Temperature (C°)	-50 to +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment) 60,000 ft 1.0psi min (Hermetically Sealed Un-controlled environment - Optional)
Vibration	25g rms (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

Typical Performance Plots

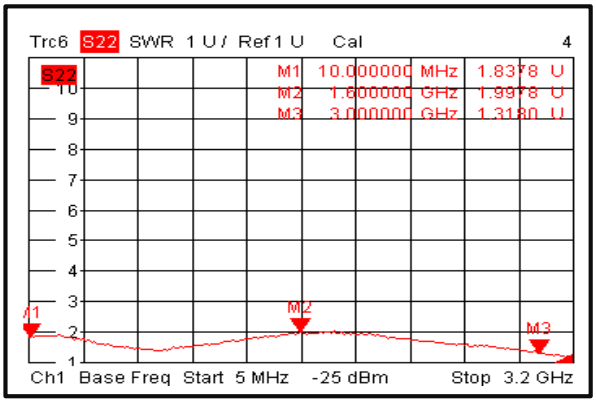
Gain



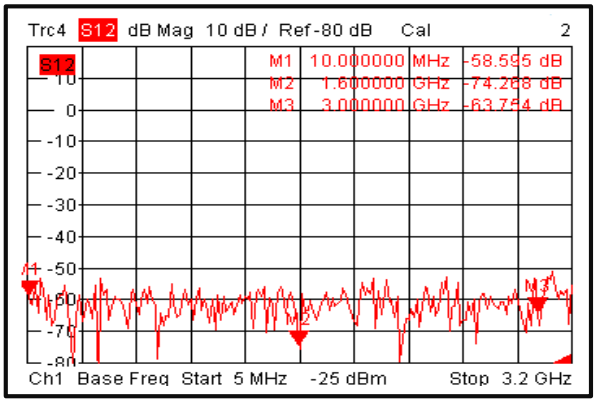
Input VSWR



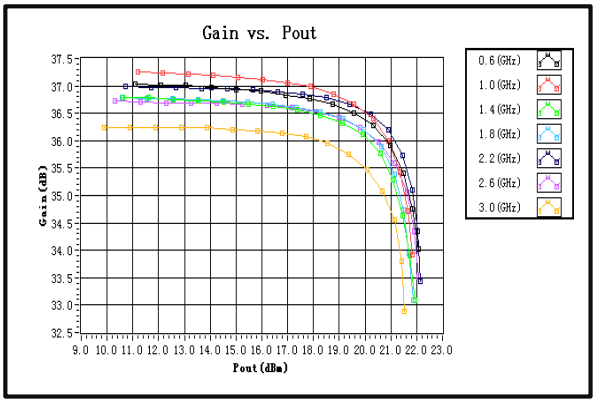
Output VSWR



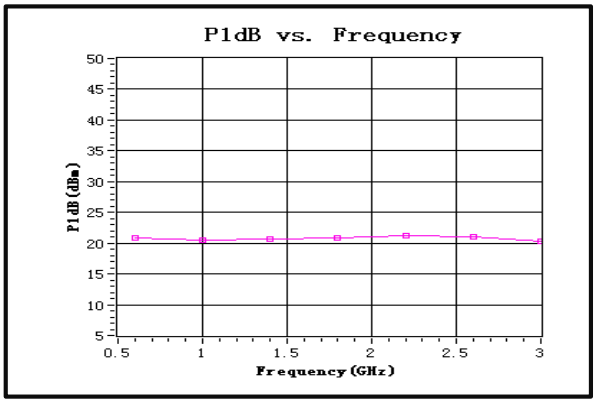
Isolation



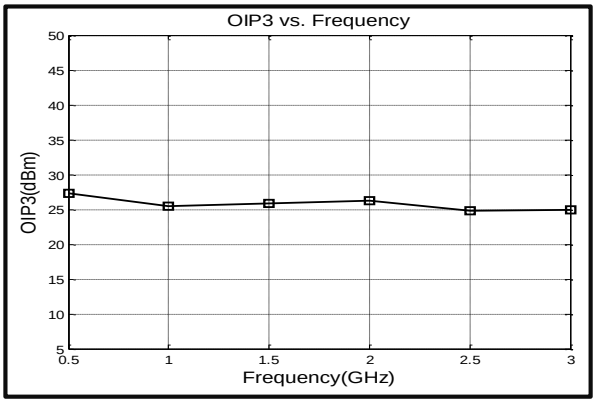
Gain vs. Output Power



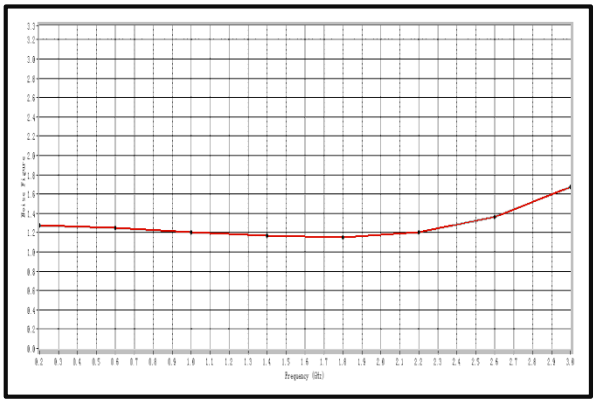
P1dB vs. Frequency



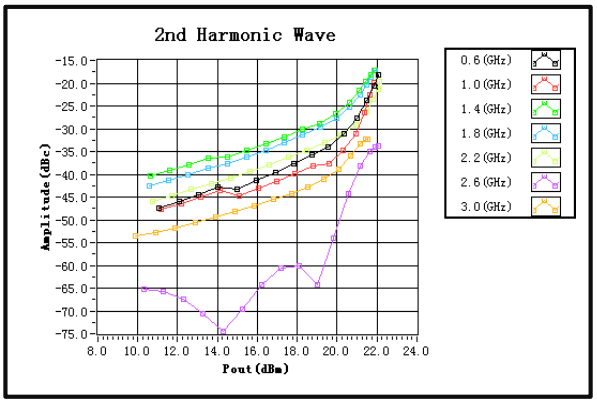
Output Third Order Intercept (IP3)



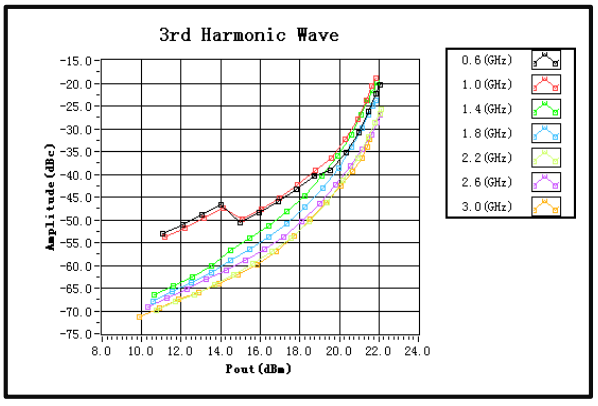
Noise Figure



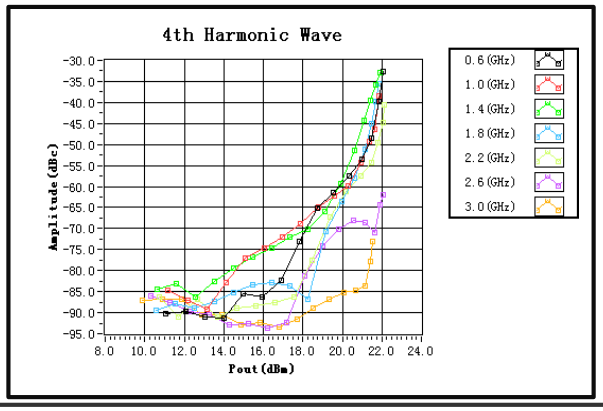
2nd Harmonic Wave Output Power



3th Harmonic Wave Output Power



4nd Harmonic Wave Output Power



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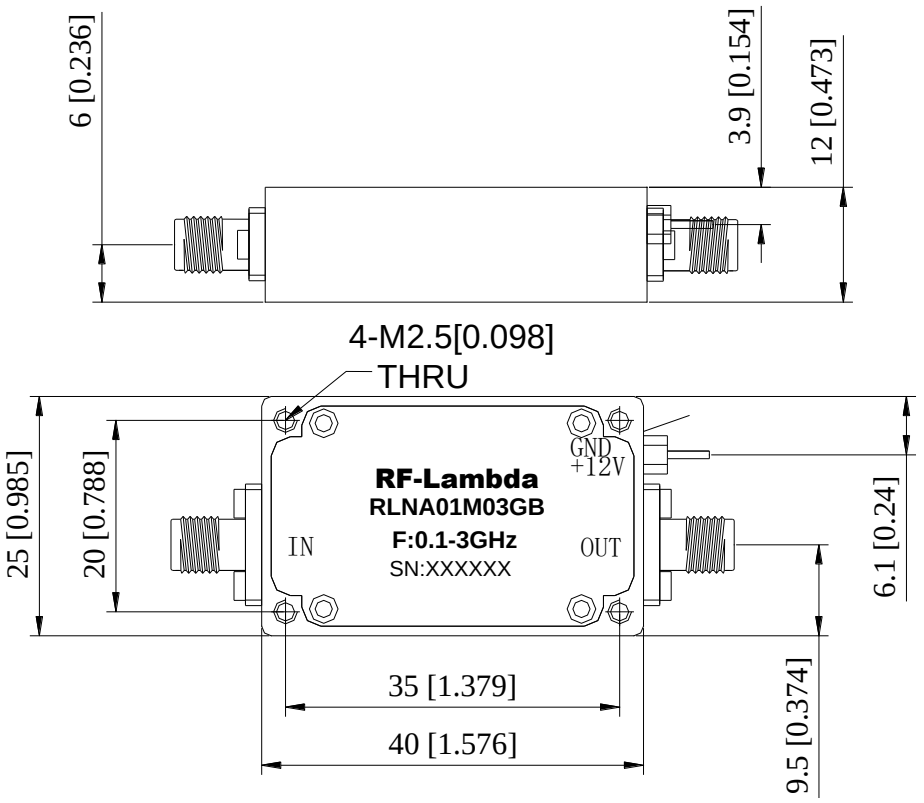
Outline Drawing:

All Dimensions in mm [inches]
Heat Sink required during operation



Ordering Information

Part No	ECCN	Description
RLNA01M03GB	EAR99	0.1-3GHz LNA Amplifier

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