



Ultra Wide Band Low Noise Amplifier 0.01GHz~15GHz



Features

- Gain: 32 dB Typical
- Noise Figure: 2.5dB Typical
- P1dB Output Power: +26dBm Typical
- Supply Voltage: +12V @ 320 mA
- 50 Ohm Matched Input / Output
- Size: 1.58x 1.18" x 0.39"

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	0.01		8	8		15	GHz
Gain	29	33		30	32		dB
Gain Flatness		±2.0	±2.5		±0.8	±1.0	dB
Gain Variation Over Temperature (-45 ~ +85)		±1.0			±1.5		dB
Noise Figure		2.5	6.0		3.0	4.0	dB
Input VSWR		1.4	1.8		1.4	1.8	: 1
Output VSWR		1.6	2.0		1.6	2.0	: 1
Output 1 dB Compression Point (P1dB)	24	26		22	24		dBm
Saturated Output Power (Psat)		28			26		dBm
Output Third Order Intercept (OIP3)		37			34		dBm
Isolation S12		-70			-60		dB
Supply Current (Vcc=+12V)		320	380		320	380	mA
Weight	4						ounces
Impedance	50						Ohms
Input / Output Connectors	SMA - Female						
Finishing	Standard: Gold 40 micron; Nickel 220 micron thickness						
	Option: Gold 80 micron; Nickel 180 micron thickness						
Material	Aluminum						
Package Sealing	Epoxy Sealing (Standard)						
	Hermetically Seal (Option with extra charge)						

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Absolute Maximum Ratings

Operating Voltage	+12V±10%
RF Input Power	+1 dB m

Biasing Up Procedure

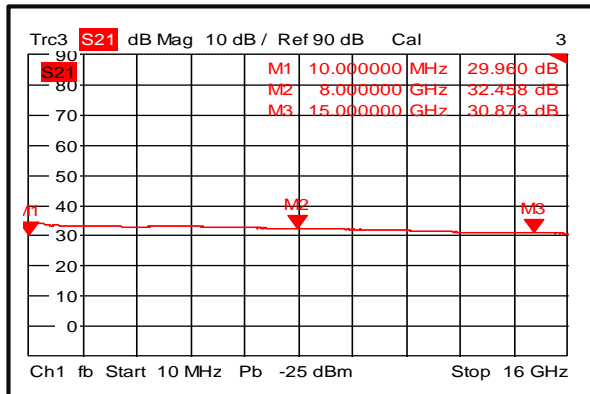
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications

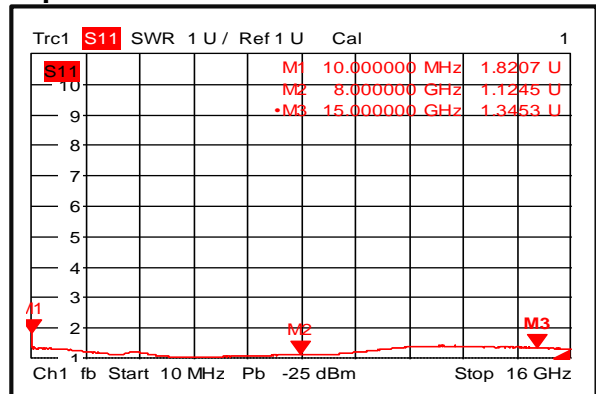
Operational Temperature (C°)	-45 to +85
Storage Temperature (C°)	-50 to +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

Typical Performance Plots

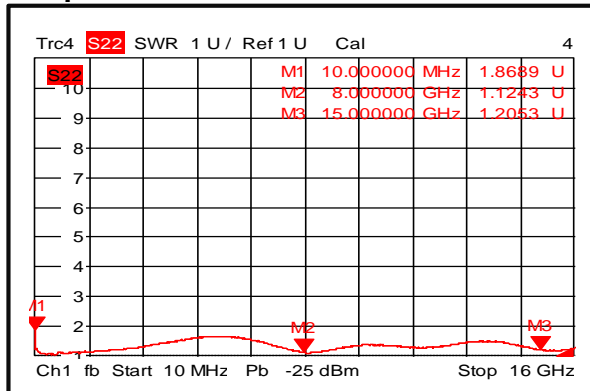
Gain



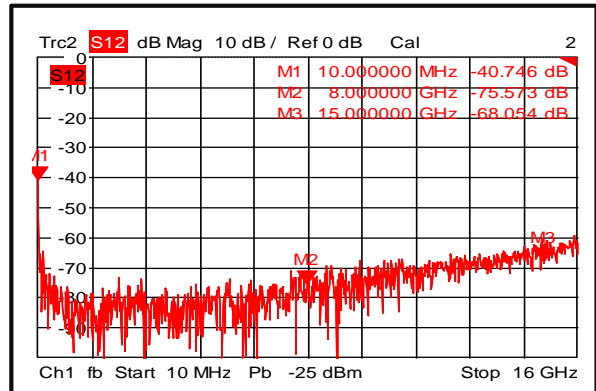
Input VSWR



Output VSWR



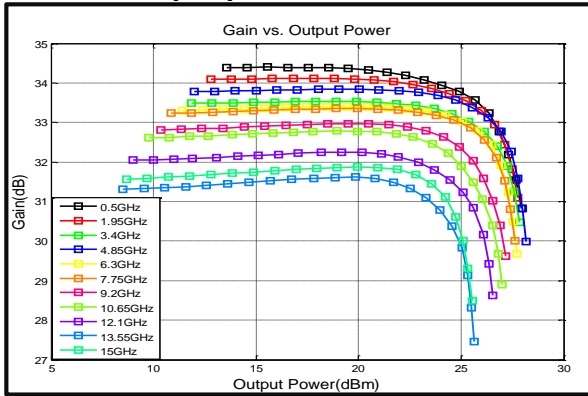
Isolation



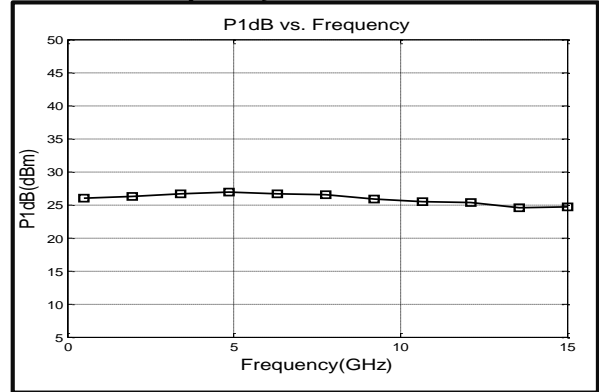
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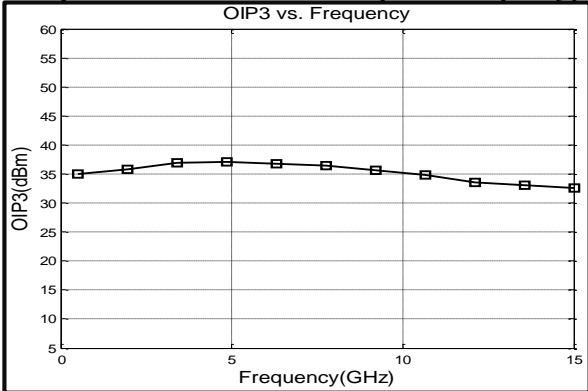
Gain vs. Output power



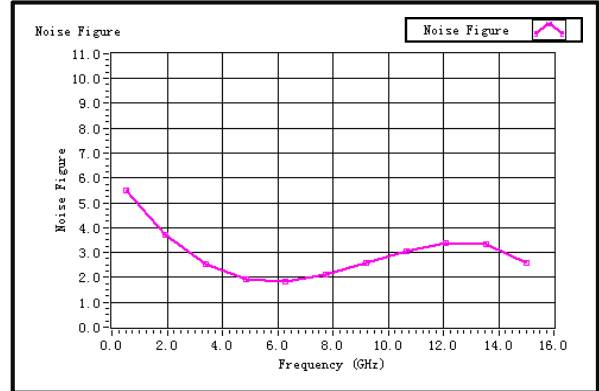
P1dB vs. Frequency



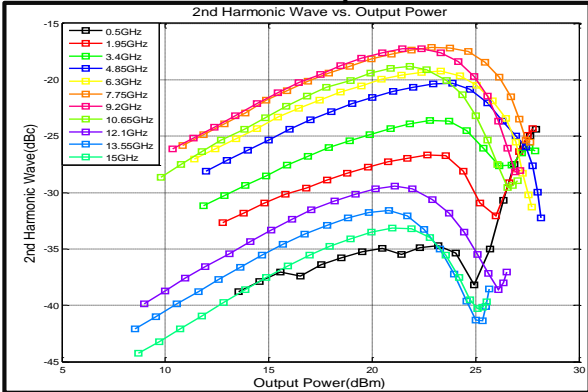
Output Third Order Intercept Point (OIP3)



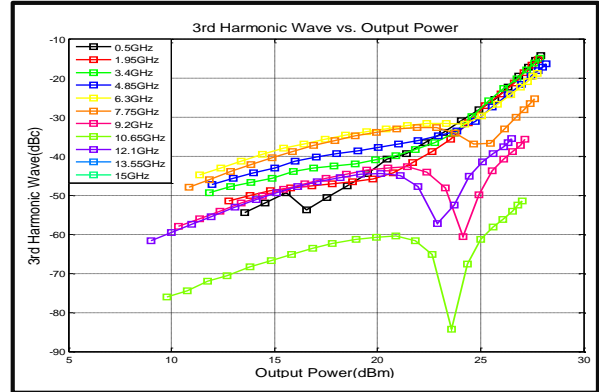
Noise Figure



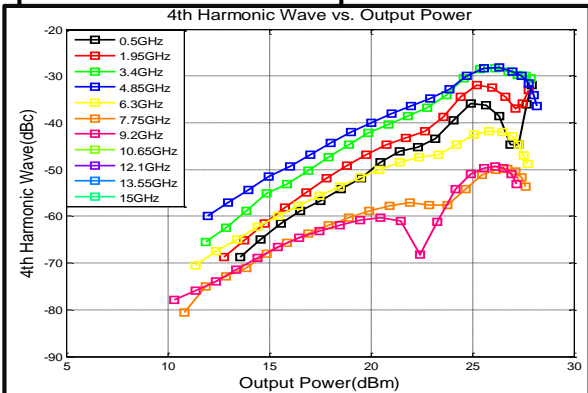
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power

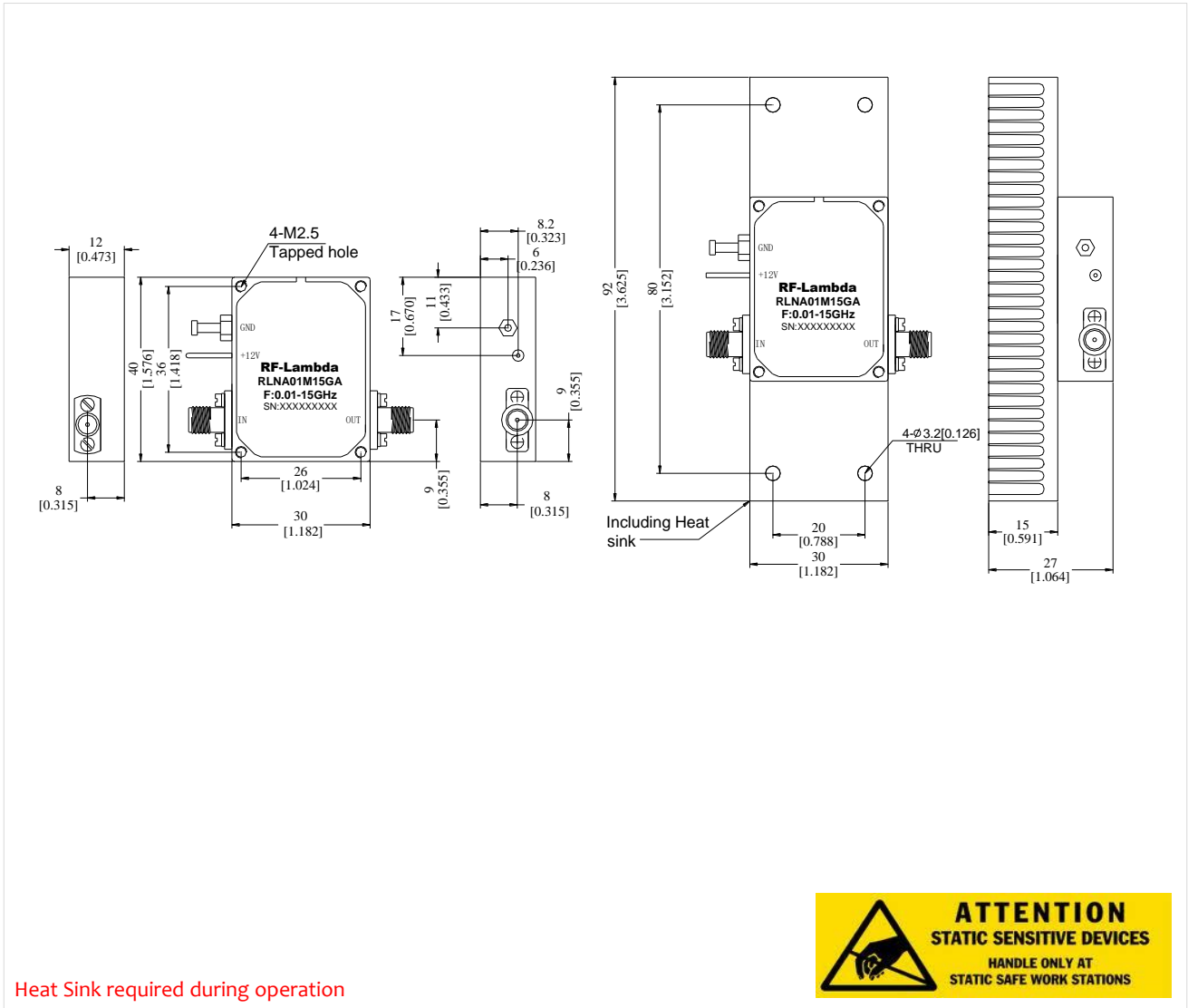


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Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation

Ordering Information

Part No.	ECCN	Description
RLNA01M15GA	EAR99	0.01-15GHz Low Noise Amplifier

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