



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RLNA01M03GA

Ultra Wide Band Low Noise Amplifier 0.01GHz~3GHz



Features

- Gain: 35dB Typical
- Noise Figure: 1.7dB Typical
- P1dB Output Power: +21dBm Typical
- Supply Voltage: +12V
- 50 Ohm Matched

Typical Applications

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

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

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.01		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		2.0			1.7		dB
Input VSWR		1.8	2.1		1.5	2.0	:1
Output VSWR		1.7	2.0		1.7	2.0	:1
Output 1dB Compression Point (P1dB)	20	21		20	21		dBm
Saturated Output Power (Psat)		23			23		dBm
Output Third Order Intercept (IP3)		26			25		dBm
Supply Current (Vcc=+12V)		220	250		220	250	mA
Isolation S12	60	65		55	60		dB
Weight	1.06						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 Sealed (Option with extra charge)						

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Absolute Maximum Ratings

Operating Voltage	+13V
RF Input Power	-5dB m

Biasing Up Procedure

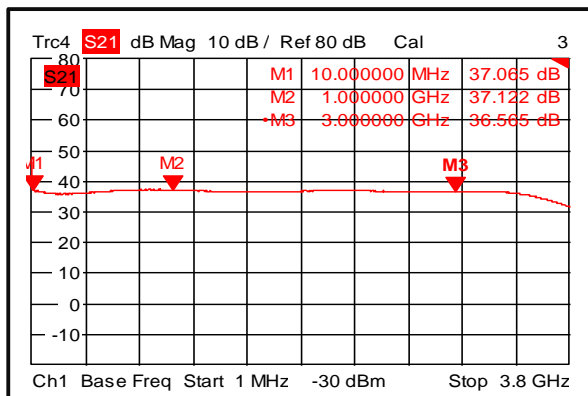
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications

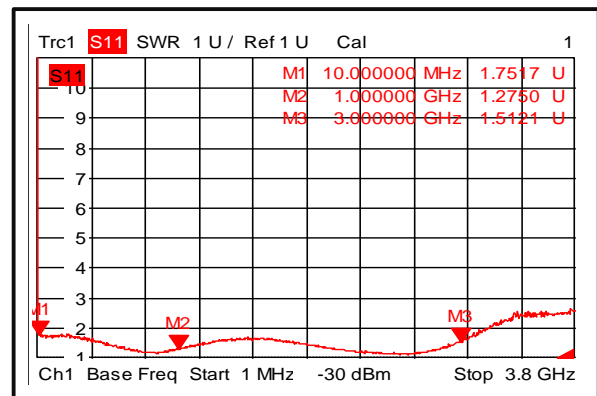
Operational Temperature (°C)	-45 to +85
Storage Temperature (°C)	-55 to +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH at 40°c
Shock	20G for 11msec half sine wave, 3 axis both directions

Typical Performance Plots

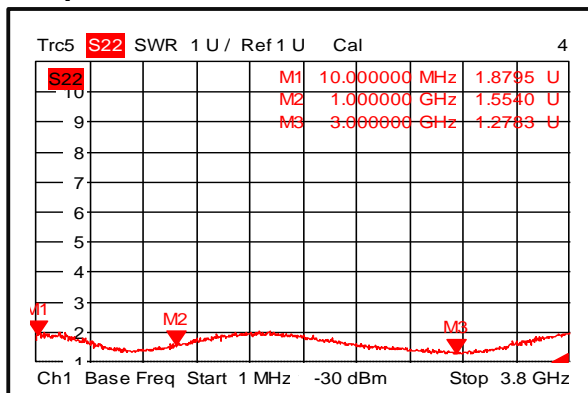
Gain



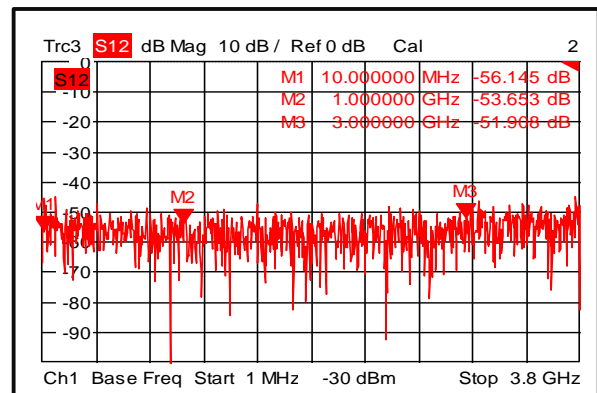
Input VSWR



Output VSWR



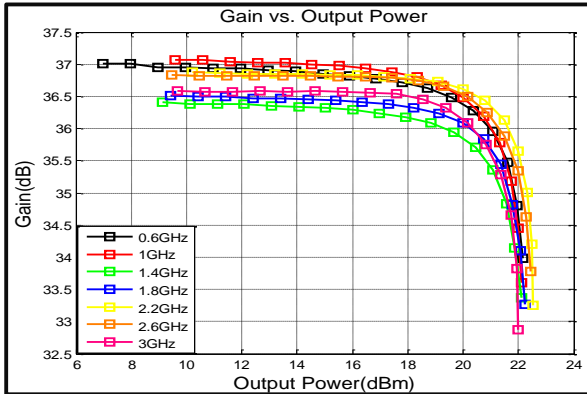
Isolation



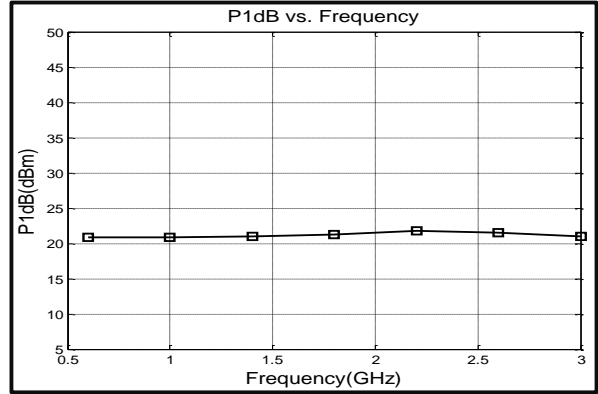
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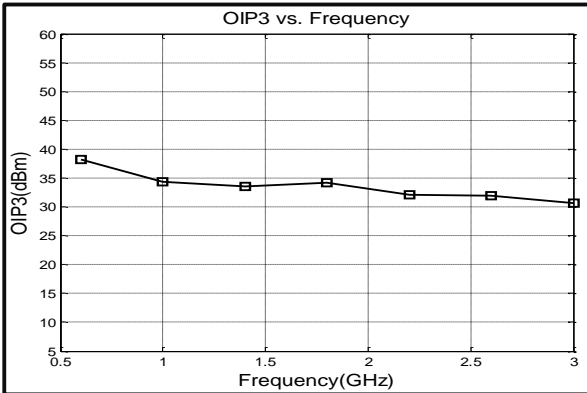
Gain vs. Output Power



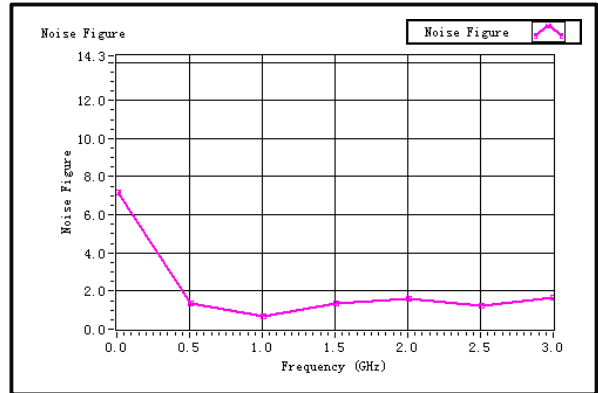
P1dB vs. Frequency



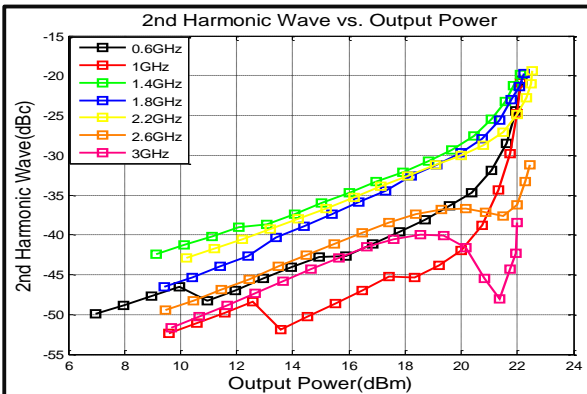
Output Third Order Intercept (IP3)



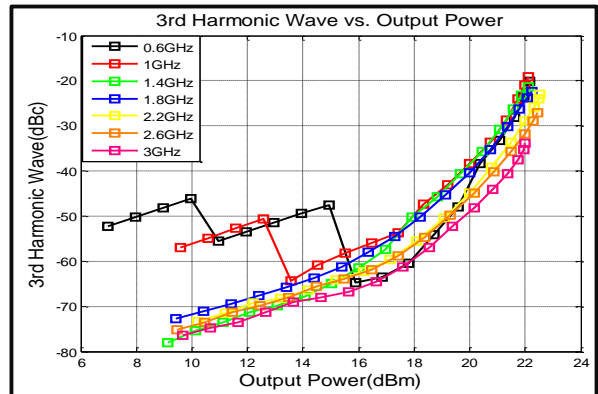
Noise Figure



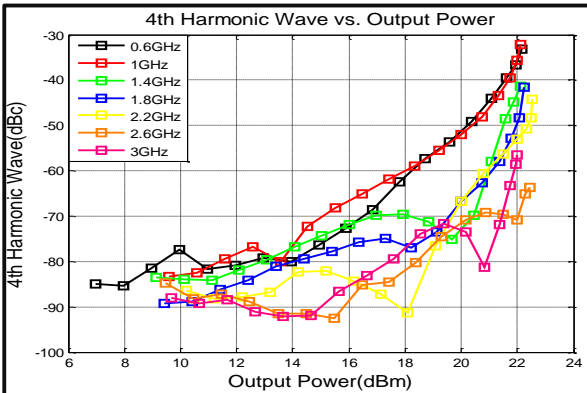
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power

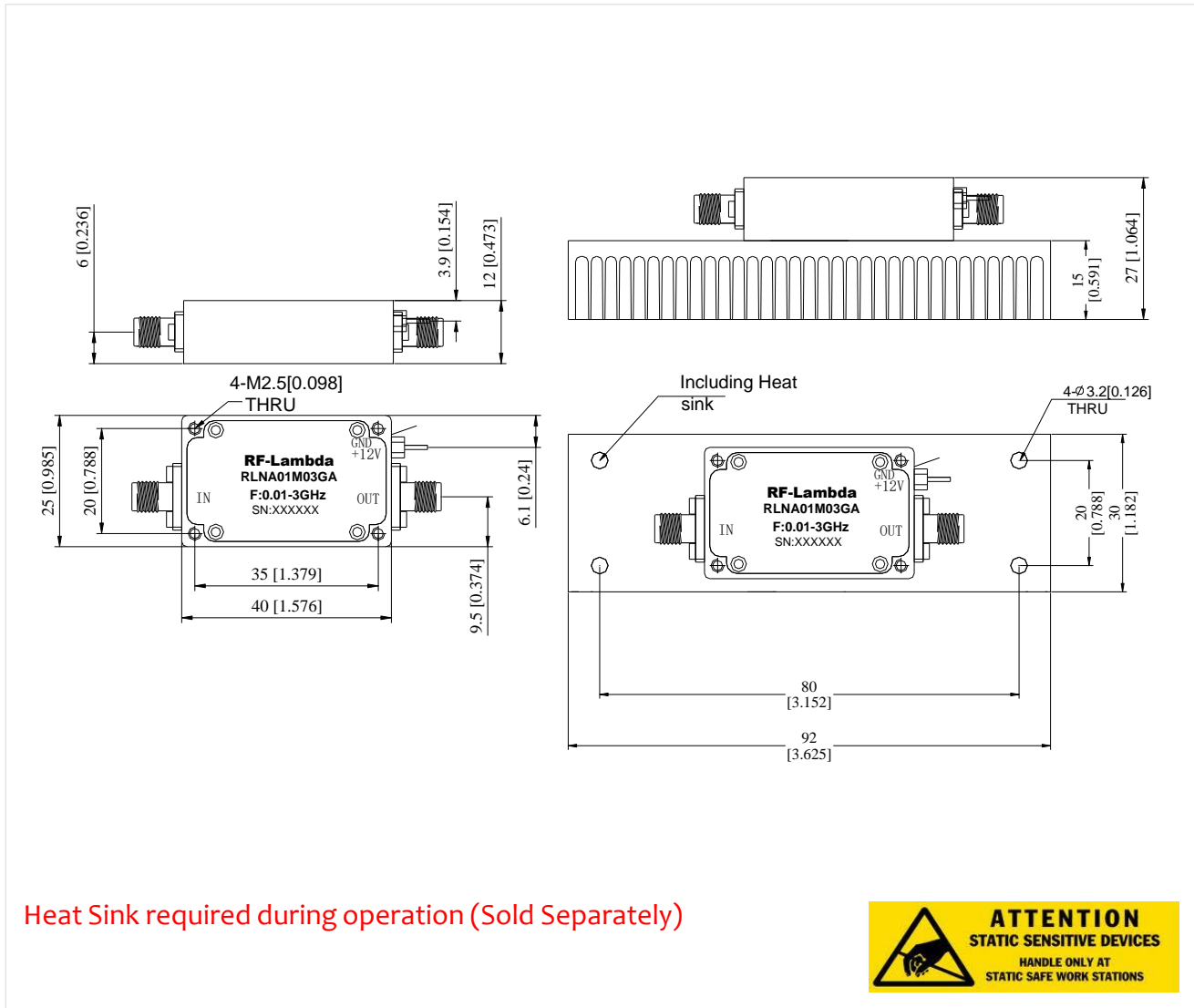


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Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
RLNA01M03GA	EAR99	0.01-3GHz Low Noise Amplifier

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