



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RLNA00G30GA

Ultra Wide Band Low Noise Amplifier 0.01GHz~30GHz



Features

- Gain: 41dB Typical
- Noise Figure: 3.5dB Typical
- Output P1dB : +28dBm Typical
- PSAT Output Power: 30dBm
- 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		18	18		30	GHz
Gain	35	41		33	38		dB
Gain Flatness		±2.5	±3.5		±1.0	±2.0	dB
Gain Variation Over Temperature (-45 ~ +85)		±1.0			±1.5		dB
Noise Figure		3.0	5.5		4.5	5.5	dB
Input VSWR		1.5			1.7		: 1
Output VSWR		1.5			1.5		: 1
Output 1dB Compression Point (P1dB)	24	28		21	24		dBm
Saturated Output Power (Psat)		30			25		dBm
Output Third Order Intercept (IP3)		37			33		dBm
Isolation S12		-60			-55		dB
Supply Current (Vcc=+12V)		525	600		525	600	mA
Weight	3.88						Ounces
Impedance	50						Ohms
Input / Output Connectors	2.92 - Female						
Finish	Standard: Gold 40 micron; Nickel 220 micron thickness						
	Option: Gold 80 micron; Nickel 180 micron thickness						
Material	Copper						
Package Sealing	Epoxy Sealing (Standard)						
	Hermetically Sealed (Optional)						

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Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power	-6dBm

Biasing Up Procedure

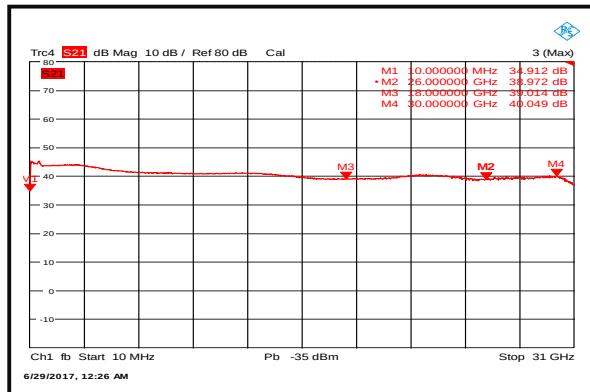
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications

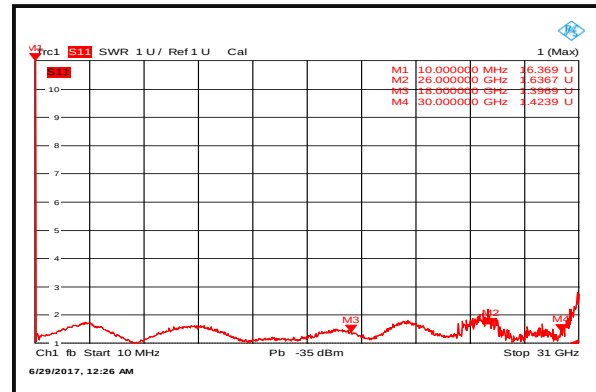
Operational Temperature (°C)	-45 to +85
Storage Temperature (°C)	-50 to +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35°C,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

Typical Performance Plots

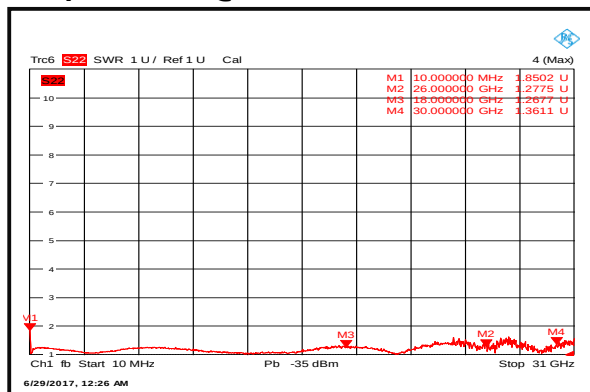
Gain @+25°C



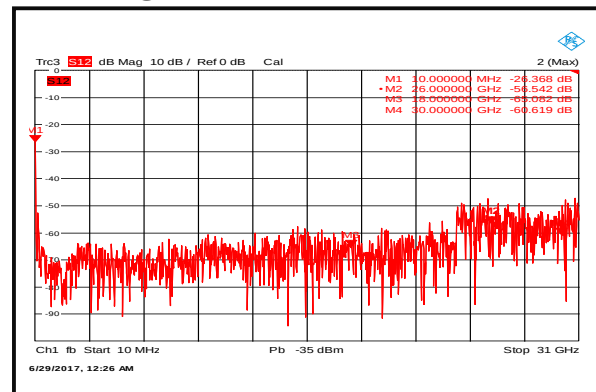
Input VSWR @+25°C



Output VSWR @+25°C



Isolation @+25°C



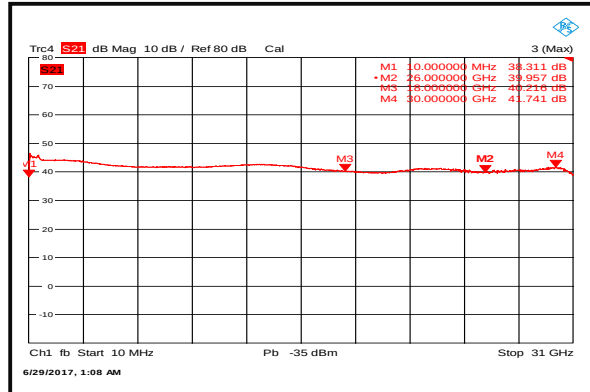


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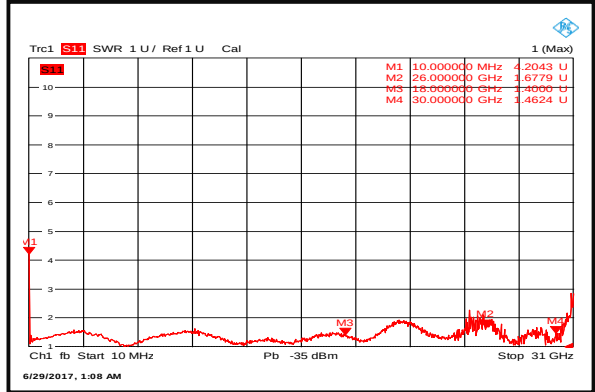
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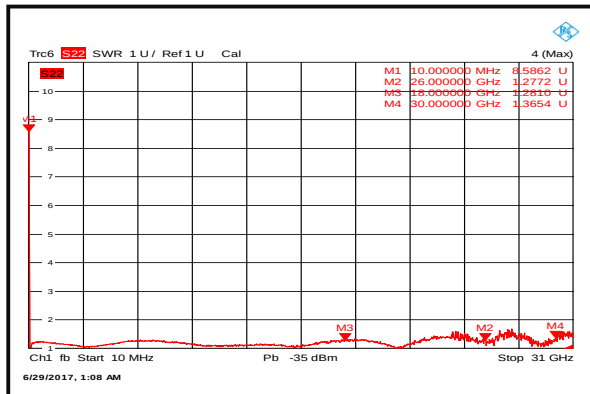
Gain @-45°C



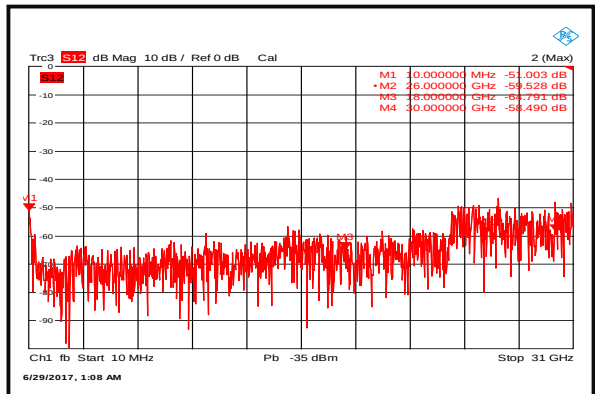
Input VSWR @-45°C



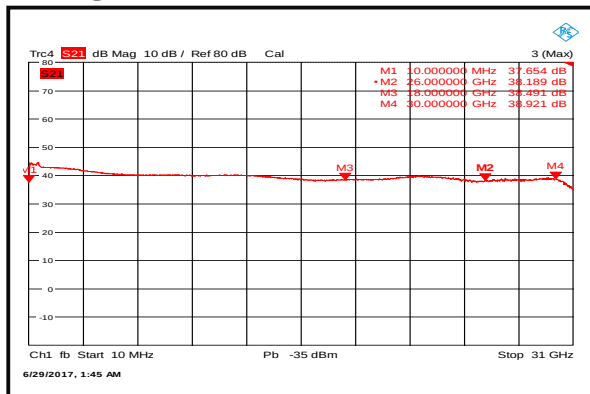
Output VSWR @-45°C



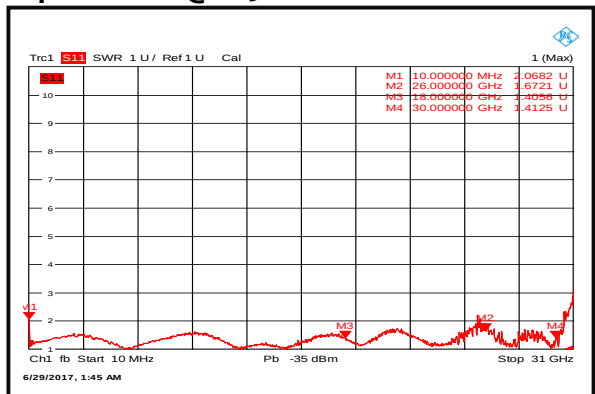
Isolation @-45°C



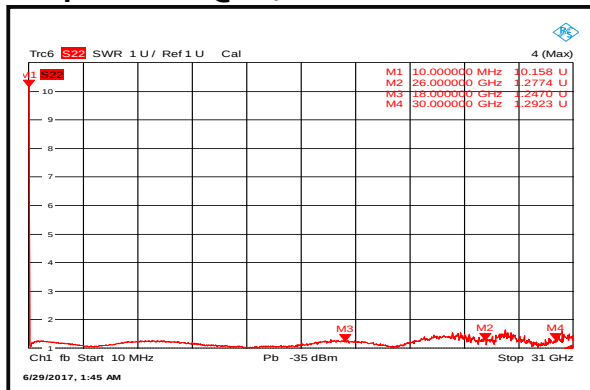
Gain @+85°C



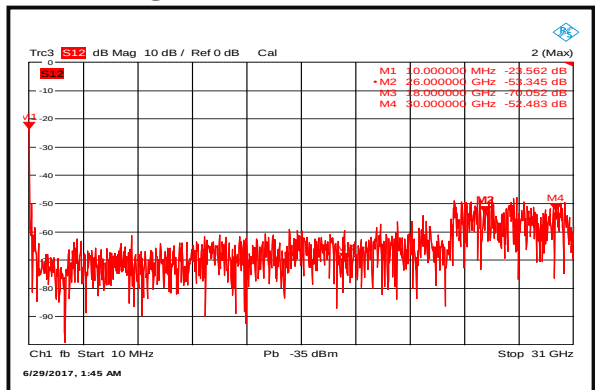
Input VSWR @+85°C



Output VSWR @+85°C



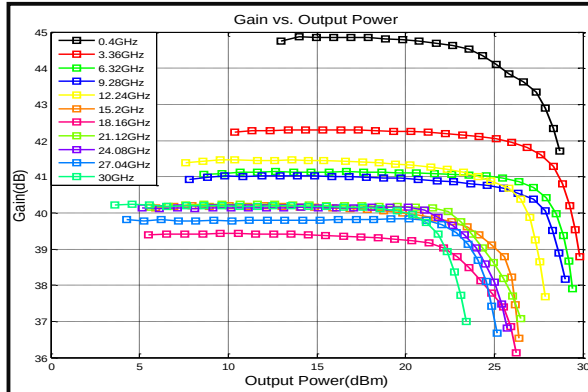
Isolation @+85°C



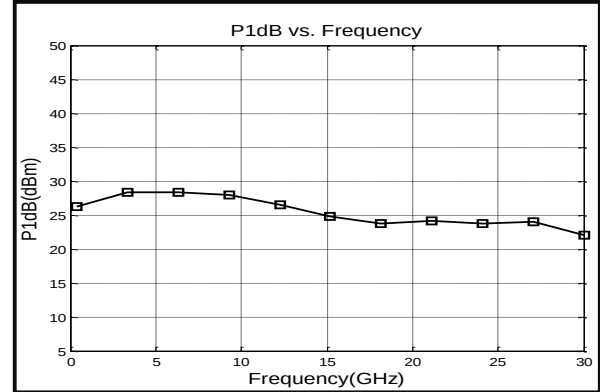
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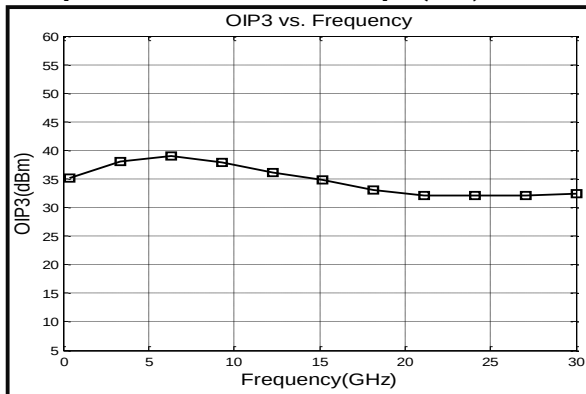
Gain vs. Output Power



P1dB vs. Frequency



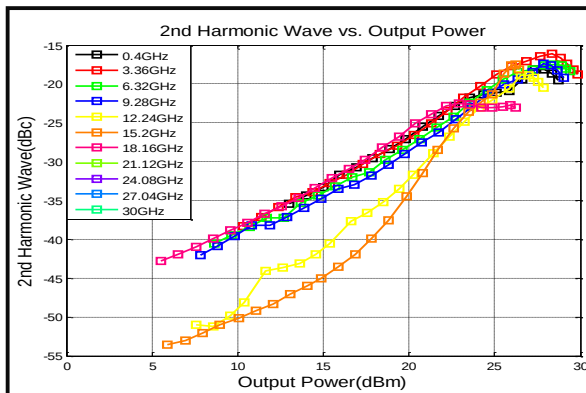
Output Third Order Intercept (IP3)



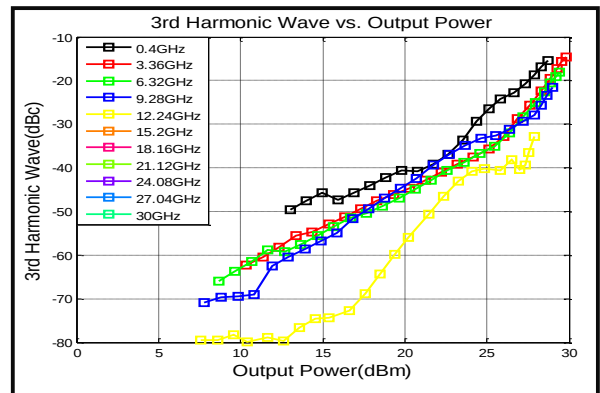
Noise Figure



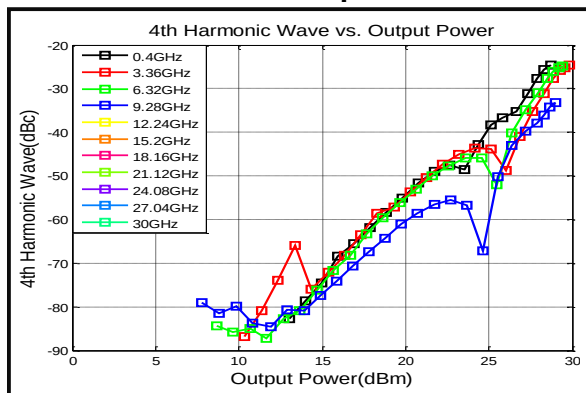
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



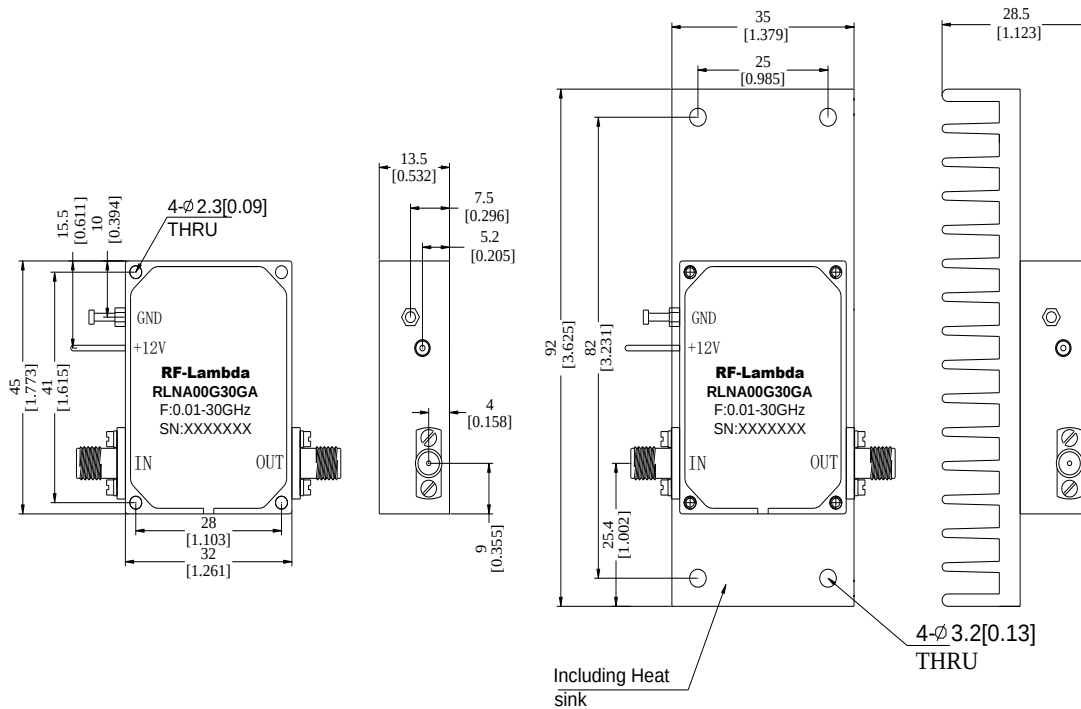
4th Harmonic Wave Output Power





Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
RLNA00G30GA	EAR99	0.01-30GHz Low Noise Amplifier

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