



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RLNA00G18GA

Ultra Wide Band Low Noise Amplifier 0.01GHz~18GHz



Features

- Gain: 31dB Typical
- Noise Figure: 2.5dB Typical
- P1dB Output Power: +26dBm Typical
- 50 Ohm Matched Input / Output

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		10	10		18	GHz
Gain	27	31		25	27		dB
Gain Flatness		±2.0			±2.0		dB
Gain Variation Over Temperature (-45 ~ +85)		±1.0			±1.0		dB
Noise Figure		2.5	5.5		3.0	4.0	dB
Input VSWR		2.0			1.4	1.8	:1
Output VSWR		2.0			1.8	2.1	:1
Output 1dB Compression Point (P1dB)	24	26		20	22		dBm
Saturated Output Power (Psat)		27			24		dBm
Output Third Order Intercept (IP3)		35			28		dBm
Supply Current (Vcc=+12V)		320	400		320	400	mA
Isolation S12		-65			-60		dB
Weight	2.99						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	+12V±10%
RF Input Power	+3dBm

Biasing Up Procedure

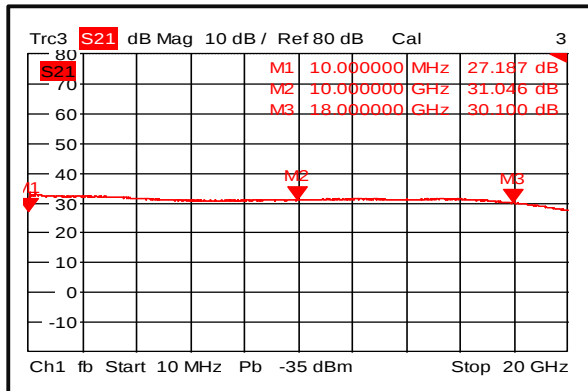
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications

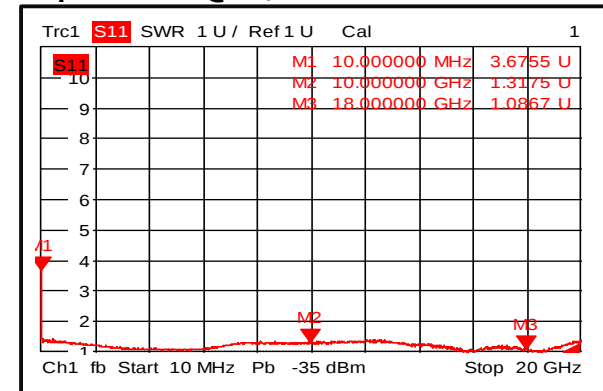
Operational Temperature(°C)	-45 to +85
Storage Temperature(°C)	-55 to +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

Typical Performance Plots

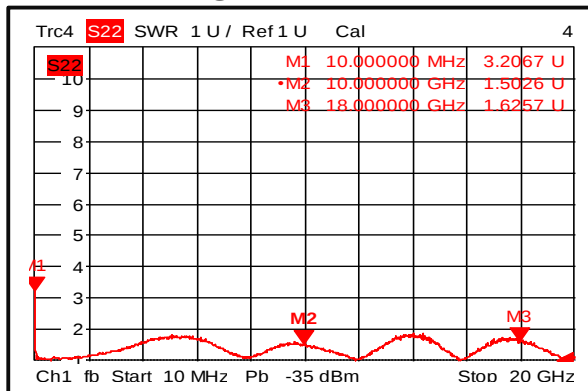
Gain @+25°C



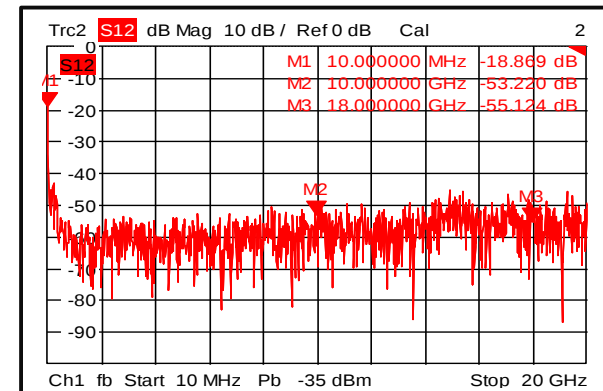
Input VSWR @+25°C



Output VSWR @+25°C



Isolation @+25°C



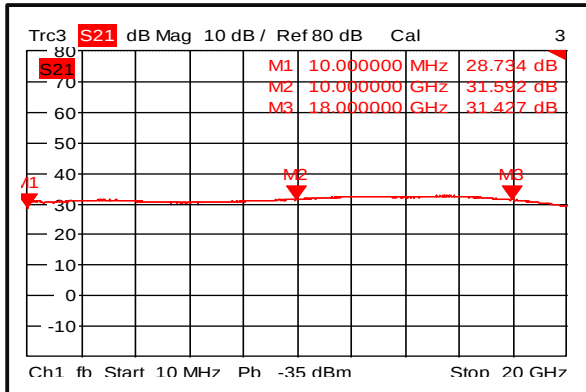


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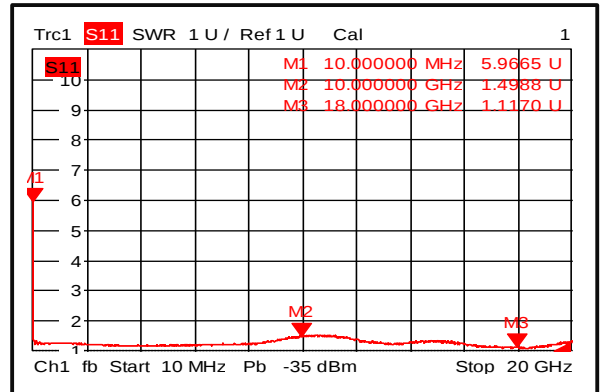
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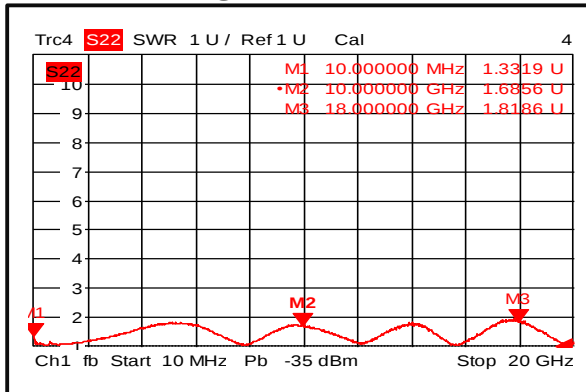
Gain @-45°C



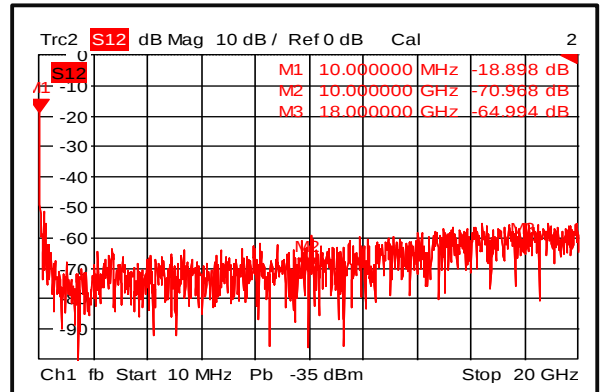
Input VSWR @-45°C



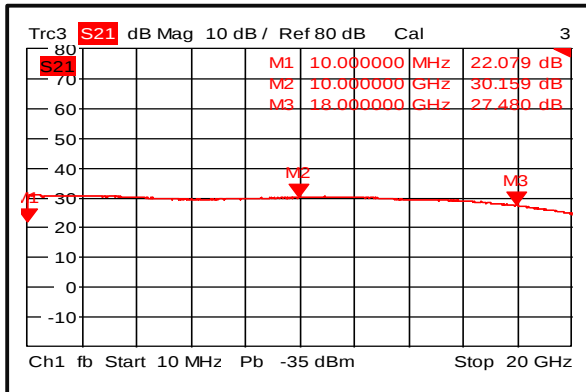
Output VSWR @-45°C



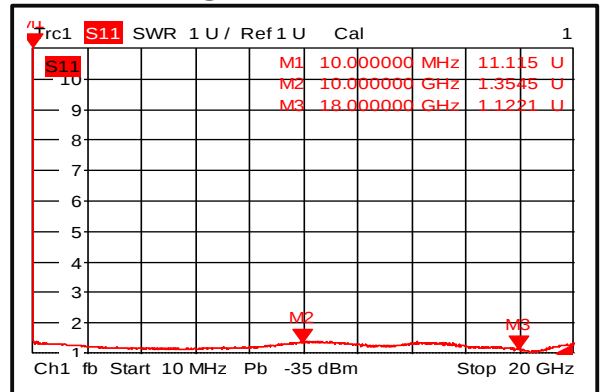
Isolation @-45°C



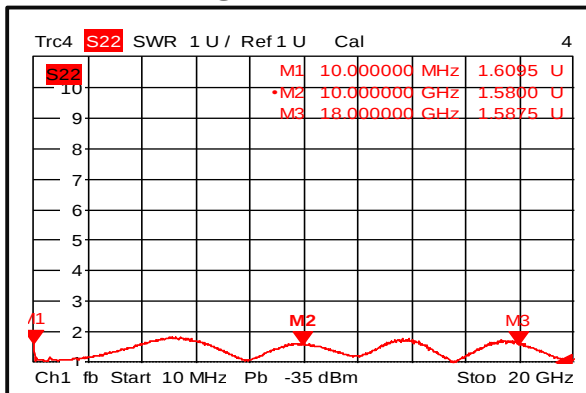
Gain @+85°C



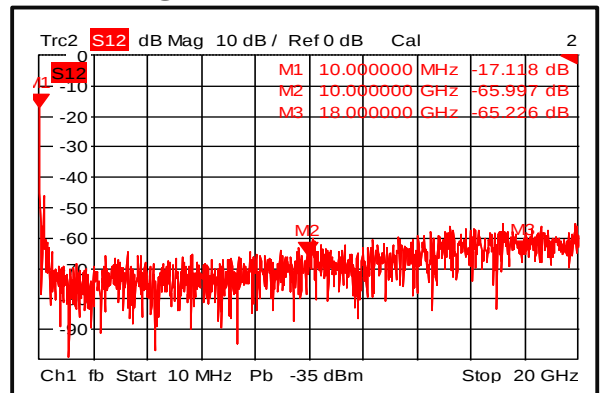
Input VSWR @+85°C



Output VSWR @+85°C



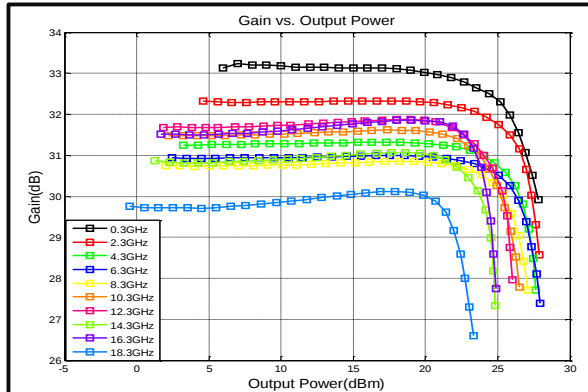
Isolation @+85°C



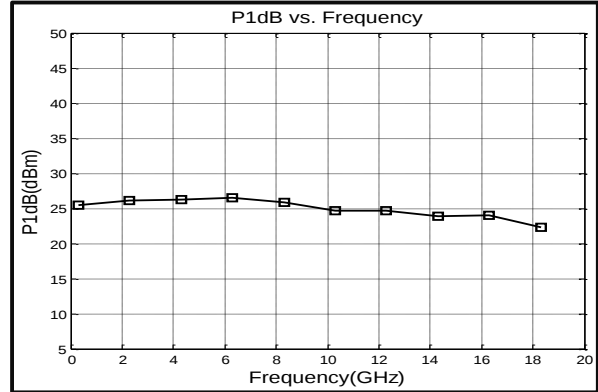
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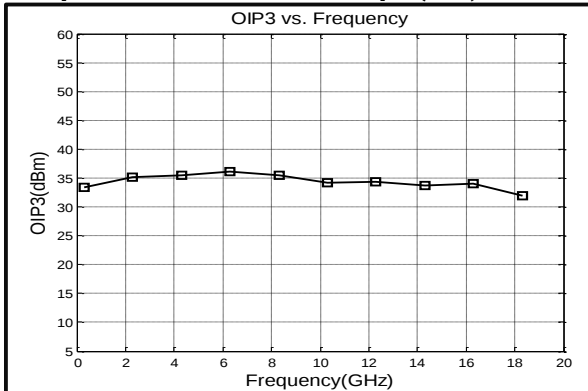
Gain vs. Output Power



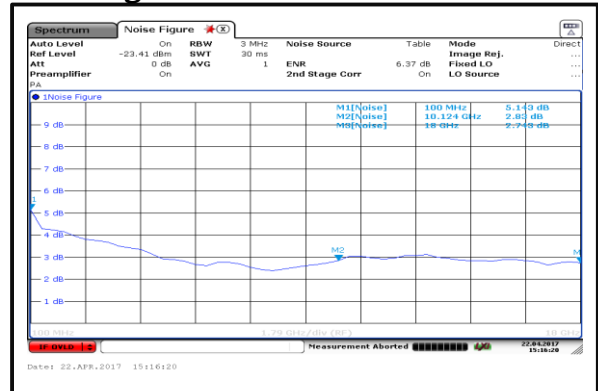
P1dB vs. Frequency



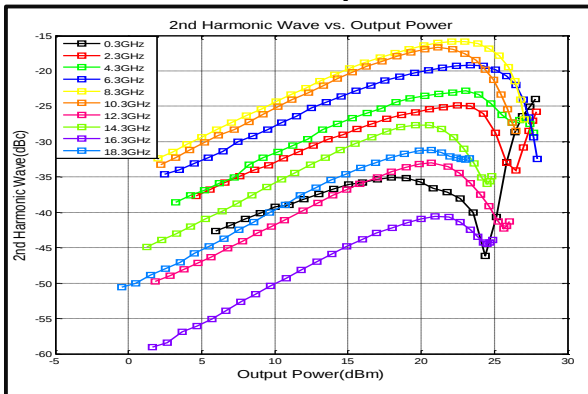
Output Third Order Intercept (IP3)



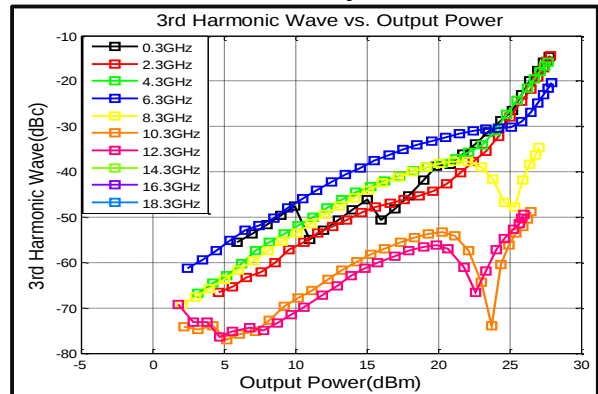
Noise Figure



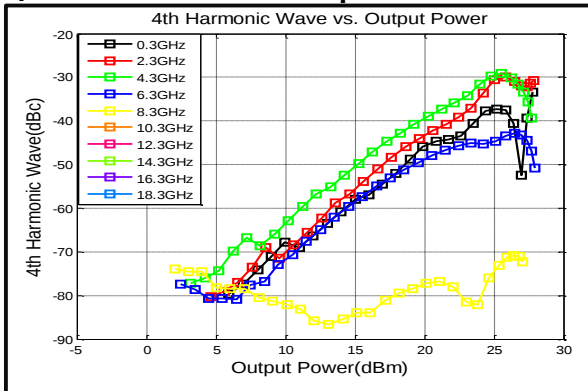
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power

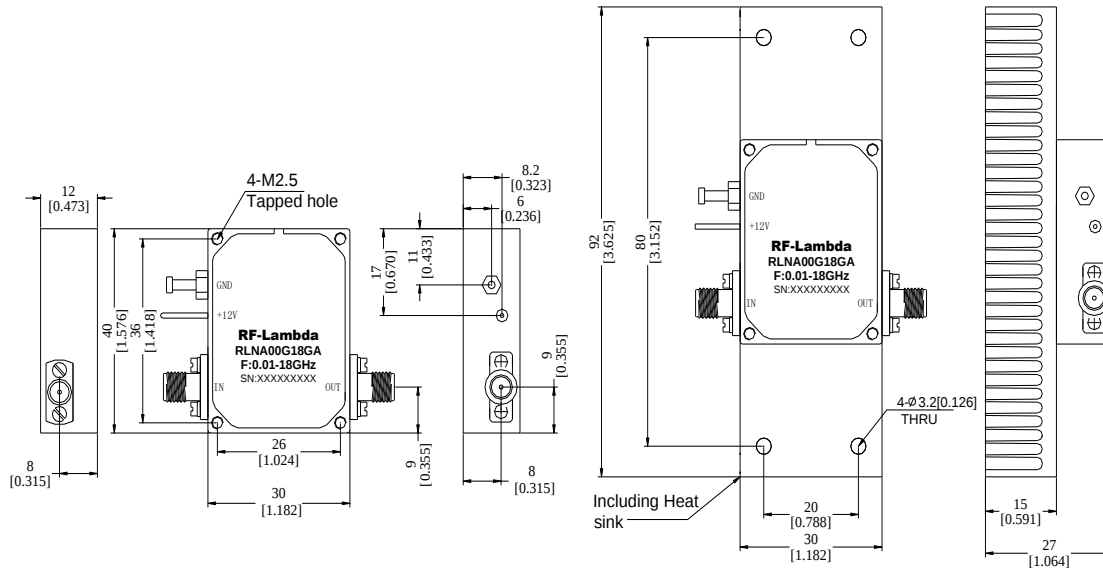


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Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
RLNA00G18GA	EAR99	0.01-18GHz Low Noise Amplifier

Important Notice

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