



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RLNA00G18GA-H

Hermetically Sealed Ultra Wide Band Low Noise Amplifier 0.01GHz~18GHz



Note: The photo is for illustration purposes only.
Please refer to the outline drawing.



Features

- Gain: 31dB Typical
- Noise Figure: 2.5dB Typical
- P1dB Output Power: +26dBm Typical

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test Instrument

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	/						ounces
Impedance	50						Ohms
Input / Output Connectors	SMA-Female						
Finish	Gold Plating						
Material	Aluminum						
Package Sealing	Hermetically Sealed (Laser Sealed)						

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Absolute Maximum Ratings

Operating Voltage	+15V
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 and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-55°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 Hours
Shock		1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	MIL-STD-883	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)		MIL-STD-883 (For Hermetically Sealed Units)

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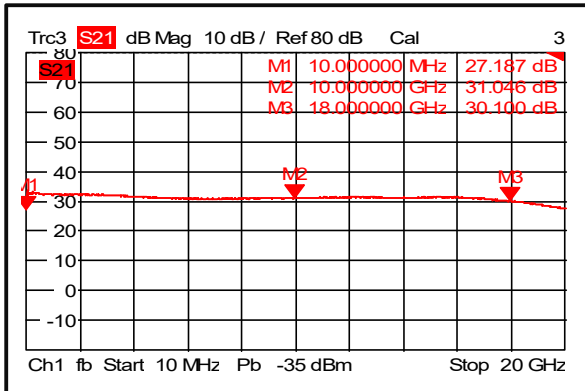
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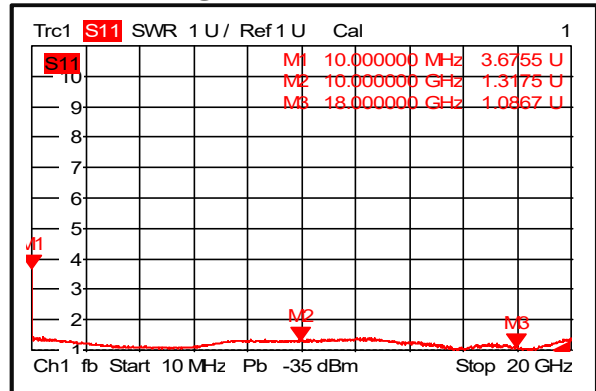
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Typical Performance Plots

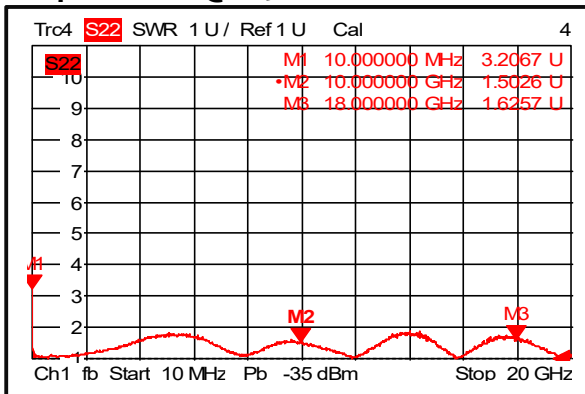
Gain @+25°C



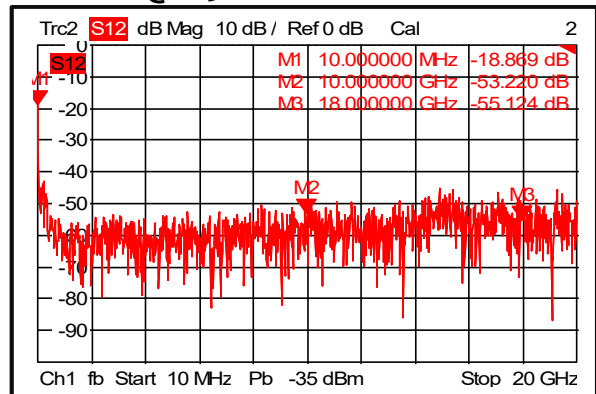
Input VSWR @+25°C



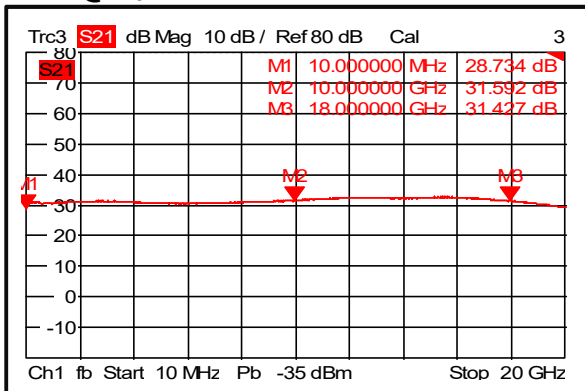
Output VSWR @+25°C



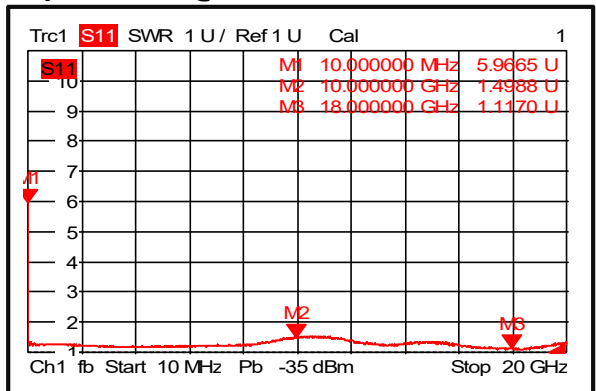
Isolation @+25°C



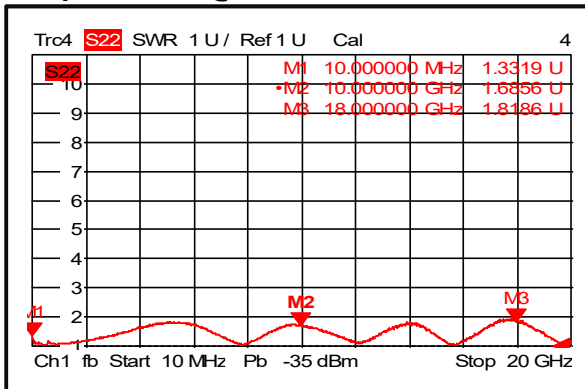
Gain @-45°C



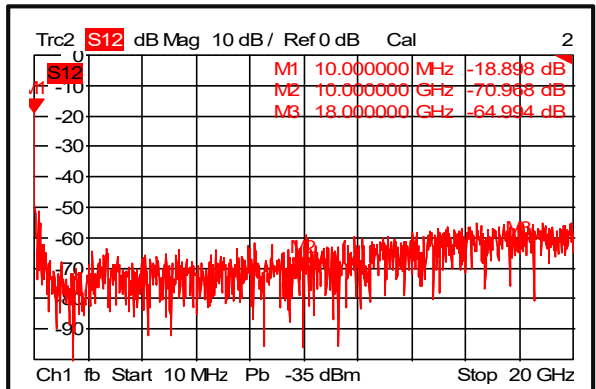
Input VSWR @-45°C



Output VSWR @-45°C



Isolation @-45°C



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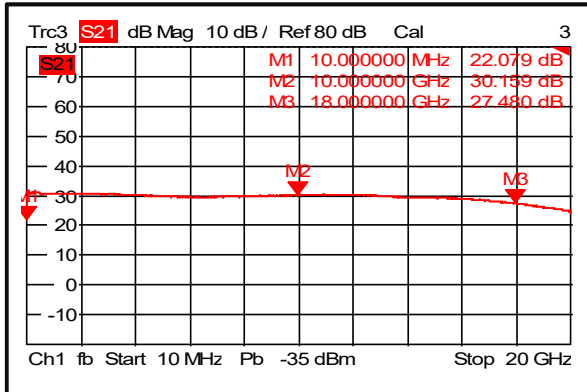
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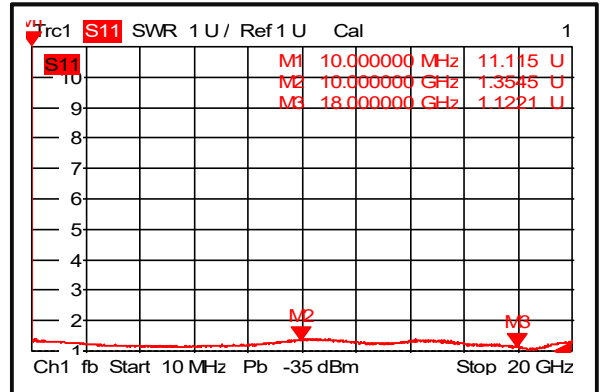
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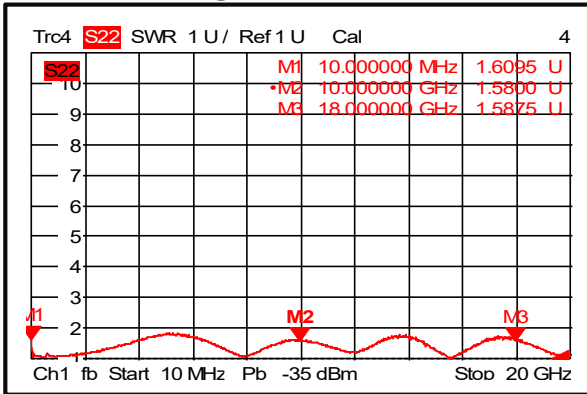
Gain @+85°C



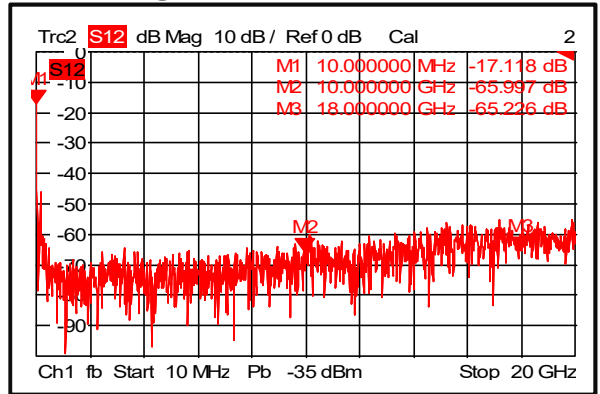
Input VSWR @+85°C



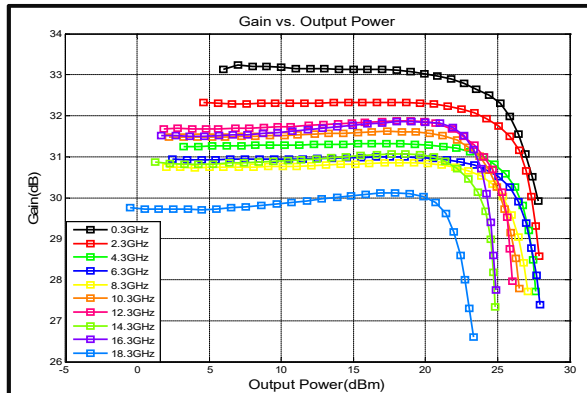
Output VSWR @+85°C



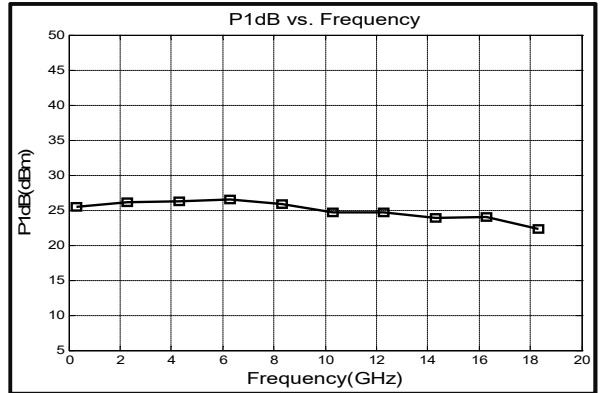
Isolation @+85°C



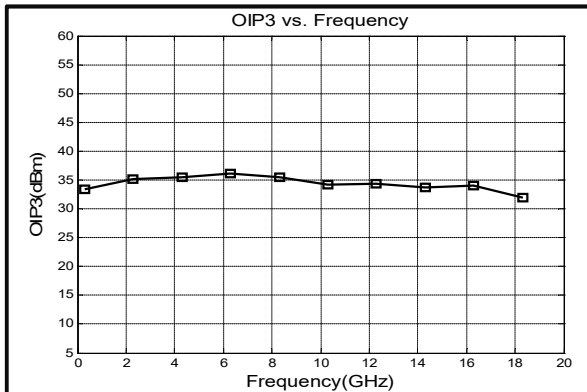
Gain vs. Output Power



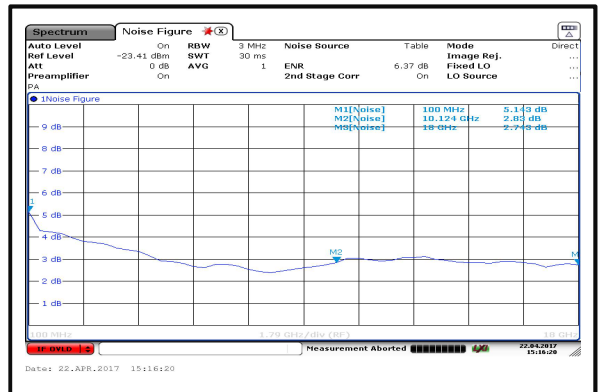
P1dB vs. Frequency



Output Third Order Intercept (IP3)

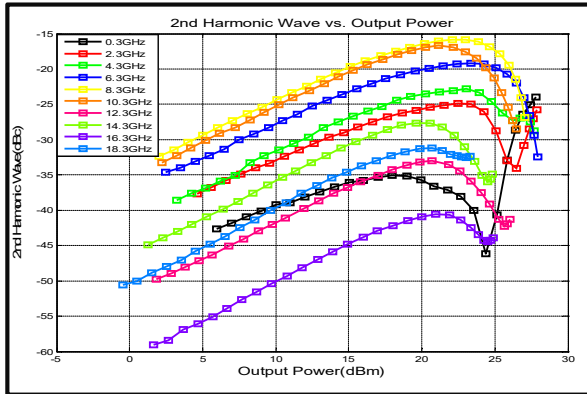


Noise Figure

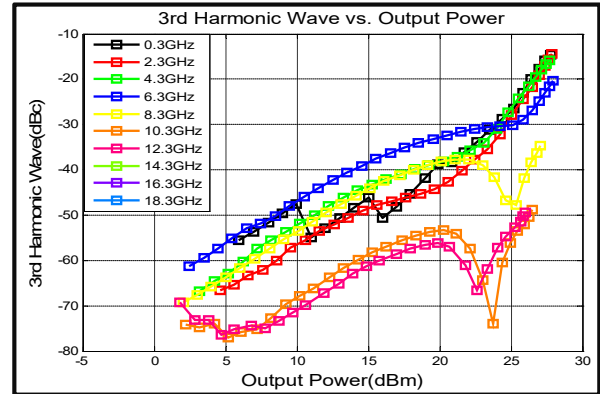




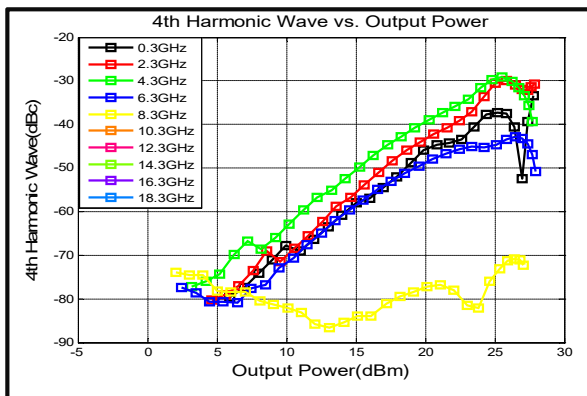
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



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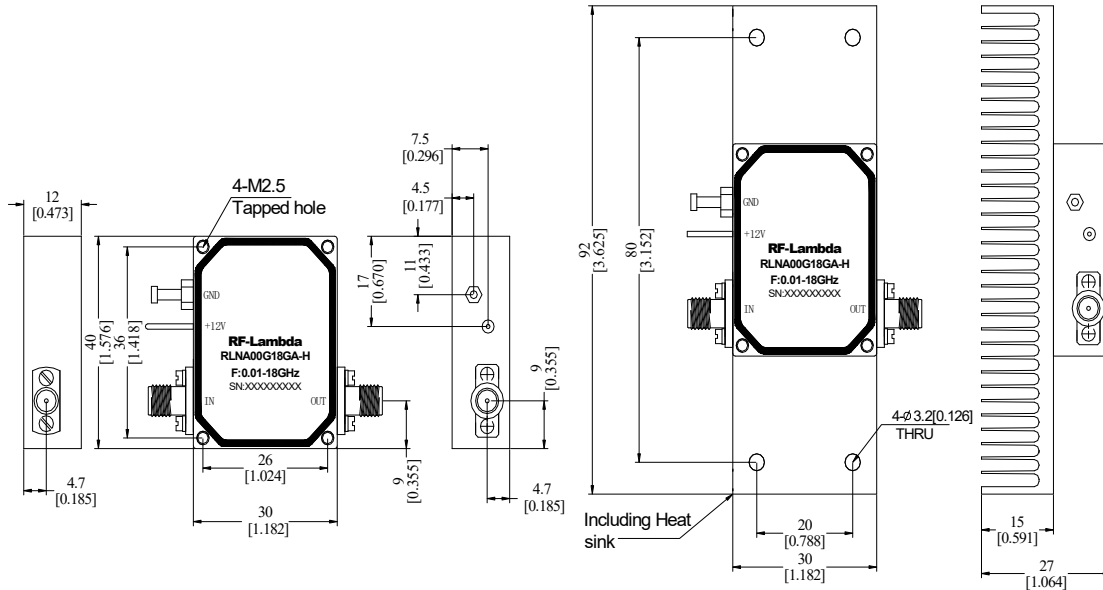
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Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



Ordering Information

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

Important Notice

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