



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RLNA17G21G

Wide Band Low Noise Amplifier 17GHz~26GHz



Features

- Gain: 55dB Typical
- Noise Figure: 1.8dB Typical
- P1dB Output Power: +21dBm Typical
- Supply Voltage: +12V

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	17.2		21.2	17		26	GHz
Gain	52	55		49	55		dB
Gain Flatness		±0.5	±1.0		±2.0		dB
Gain Variation Over Temperature (-45 ~ +85)		±2.0			±2.5		dB
Noise Figure		1.8	2.2		1.8	3.0	dB
Input VSWR		1.3	1.8		1.3	1.8	: 1
Output VSWR		2.0			2.0		: 1
Output 1dB Compression Point (P1dB)	18	21		17	21		dBm
Saturated Output Power (Psat)		23			23		dBm
Output Third Order Intercept (IP3)		24			24		dBm
Isolation S12		-60			-55		dB
Supply Current (Vcc=+12V)		250	300		250	300	mA
Weight	1.41						ounces
Impedance	50						Ohms
Input / Output Connectors	2.92mm-Female						
Finish	Gold Plated						
Material	Aluminum						
Package Sealing	Epoxy Sealed (Standard)						
	Hermetically Sealed (Optional)						

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Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power	-20dBm

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 (Case Temperature)
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		Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883	MIL-STD-883 (For Hermetically Sealed Units)

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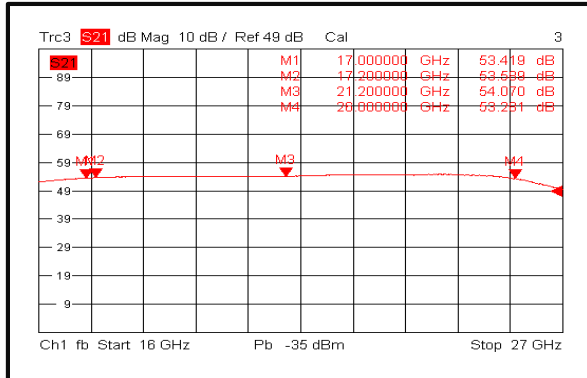
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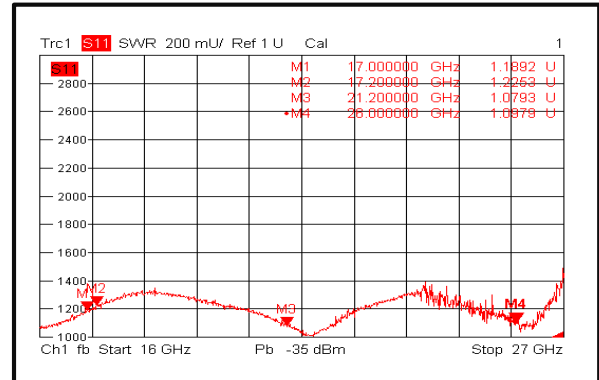
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Typical Performance Plots

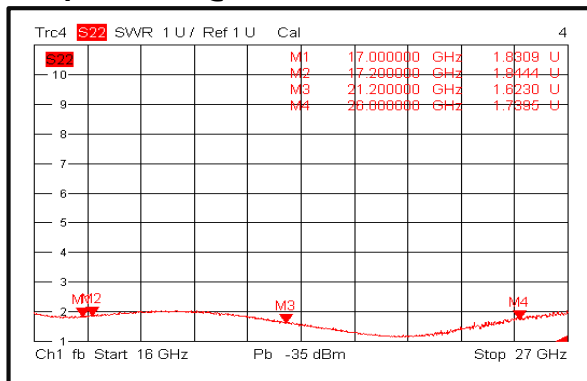
Gain@+25°C



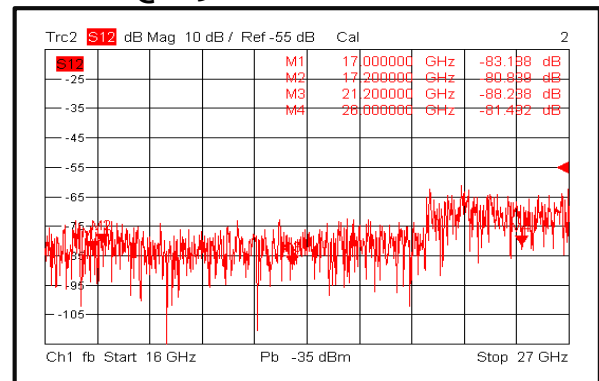
Input VSWR@+25°C



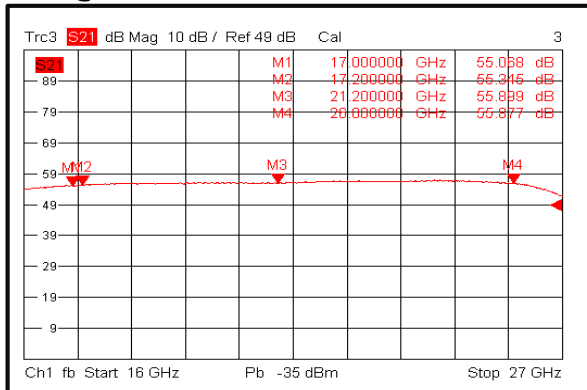
Output VSWR@+25°C



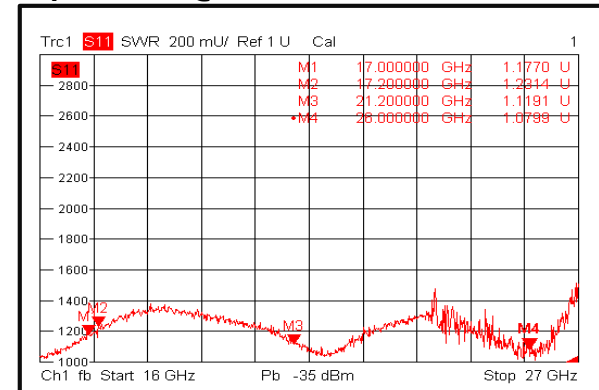
Isolation@+25°C



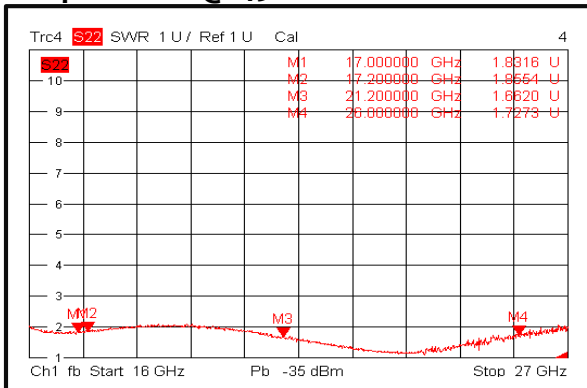
Gain@-45°C



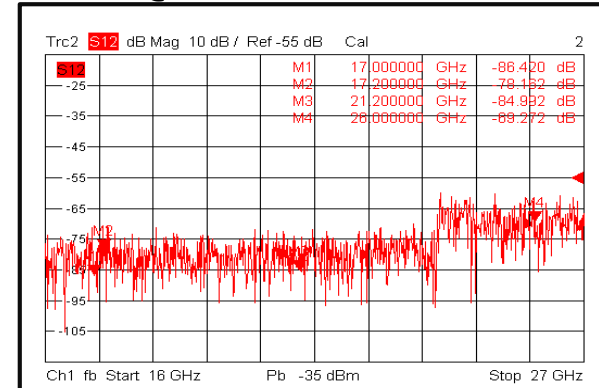
Input VSWR@-45°C



Output VSWR@-45°C



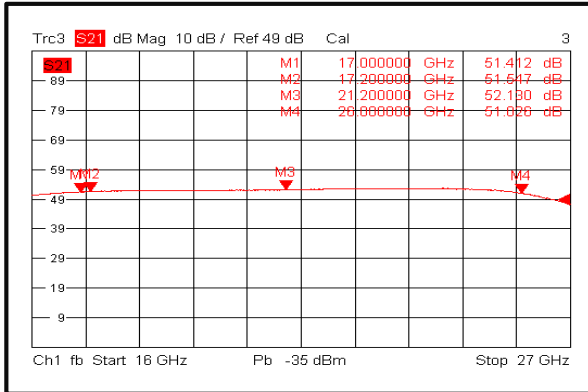
Isolation@-45°C



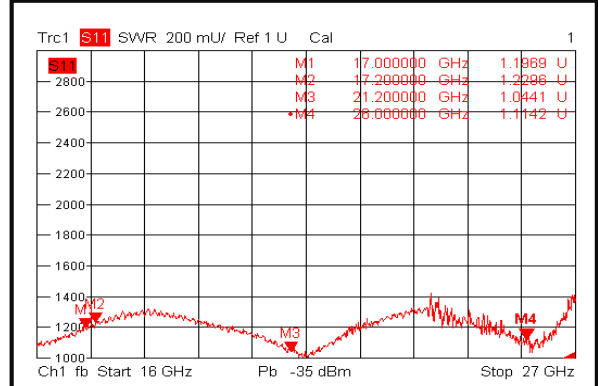
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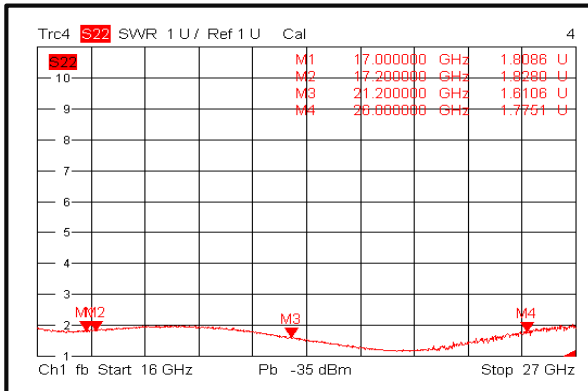
Gain@+85°C



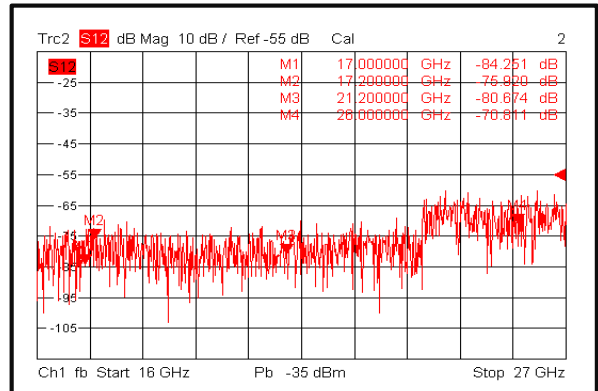
Input VSWR@+85°C



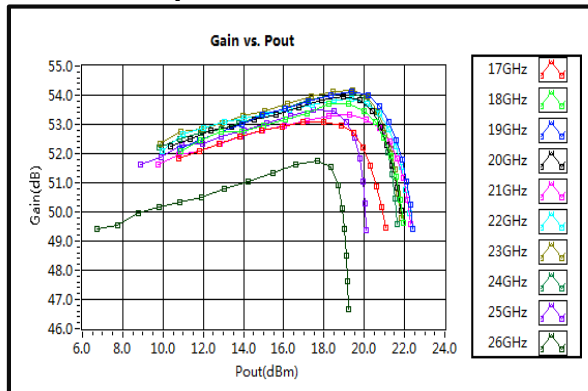
Output VSWR@+85°C



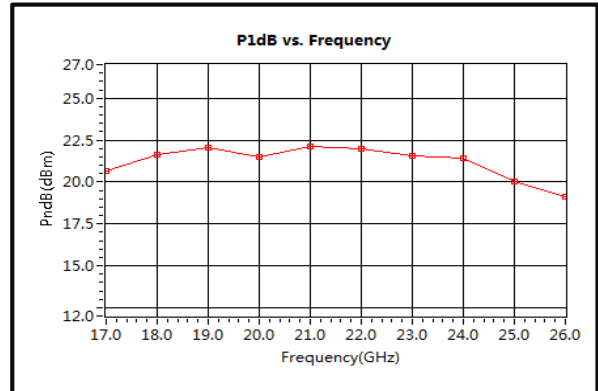
Isolation@+85°C



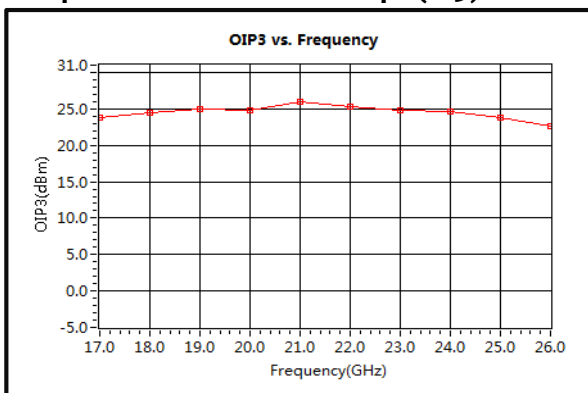
Gain vs. Output Power



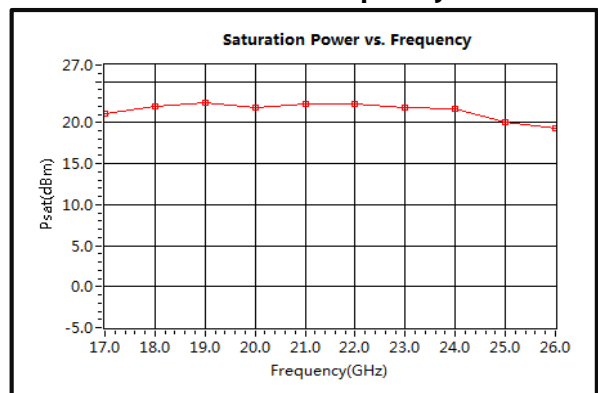
P1dB vs. Frequency



Output Third Order Intercept (IP3)

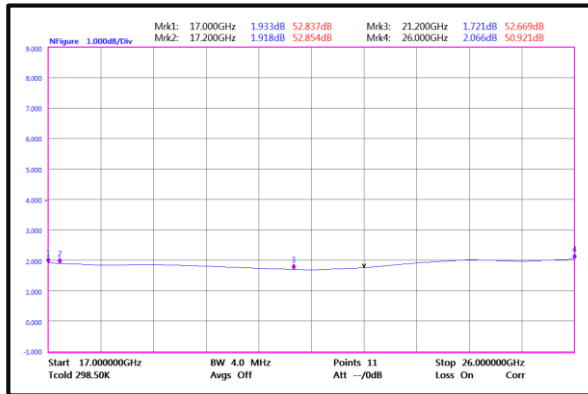


Saturation Power vs. Frequency

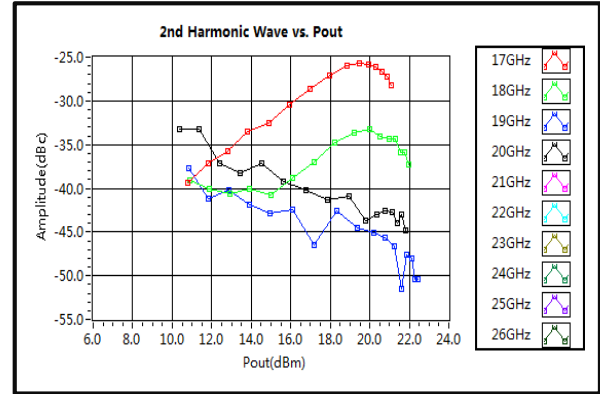




Noise Figure



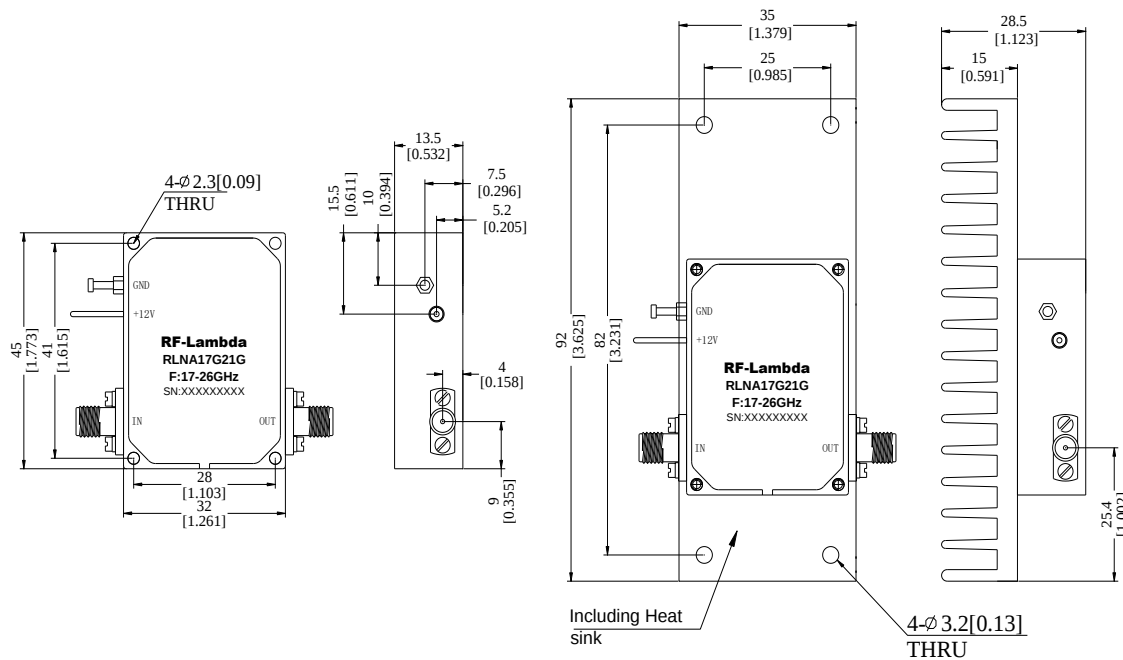
2nd Harmonic Wave Output Power





Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
RLNA17G21G	EAR99	17-26GHz Low Noise Amplifier

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