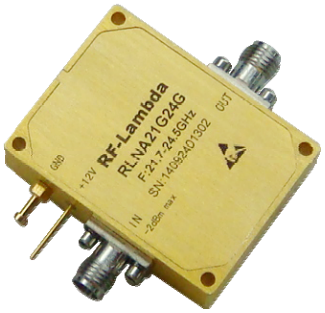
Low Noise Amplifier 21.7GHz~24.5GHz



RoHS Compliant

Feature

- Gain: 32dB Typical
- Noise Figure: 2.0dB Typical
- P1dB Output Power: +21dBm Typical
- Supply Voltage: +12V @ 160mA
- 50 Ohm Matched Input / Output
- Size: 1.18" x 1.57" x0.39"

Typical Applications

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

Electrical Specifications, TA = +25 ° C, With Vcc = +12V, 50 Ohm System

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	21.7		23	23		24.5	GHz
Gain	30	33		30	33		dB
Gain Flatness		±0.5			±0.5		dB
Gain Variation Over Temperature(-45 ~ +85)		±0.5			±0.5		dB
Noise Figure		2.0	2.5		2.0	2.5	dB
Input Return Loss		15			16		dB
Output Return Loss		16			15		dB
Output Power for 1 dB Compression (P1dB)	19	21.5		19	21		dBm
Saturated Output Power (Psat)		22			22		dBm
Output Third Order Intercept (IP3)		30			29		dBm
Supply Current (Idd) (Vcc=12V)		160	200		160	200	mA
Isolation S12	50	55		42	45		dB
Input Max Power(no damage)			-2			-2	dBm
Weight	80						g
Impedance	50						Ohms
Input /Output Connector	SMA-Female						
Finishing	Standard: Gold 40 micron; Nickel 220 micron thickness						
	Option: Gold 80 micron; Nickel 180 micron thickness						
Material	Aluminum/copper						
Package Sealing	Epoxy Sealing (Standard)						
	Hermetically Seal (Option with extra charge)						

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Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power (RFIN)(Vcc= +12V)	-2dB m
Storage Temperature	-55 to +125 ℃
Operating Temperature	-45 to +85 ℃

Biasing Up Procedure

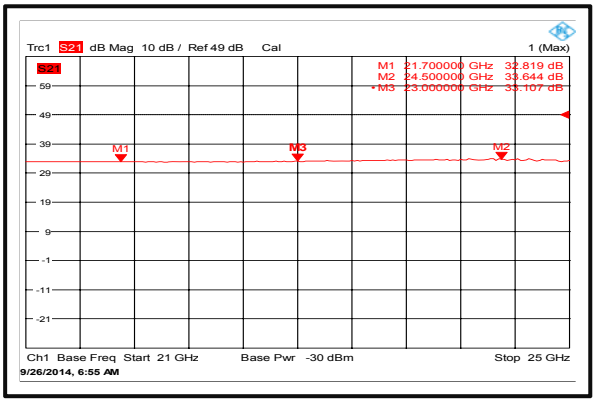
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environment specifications

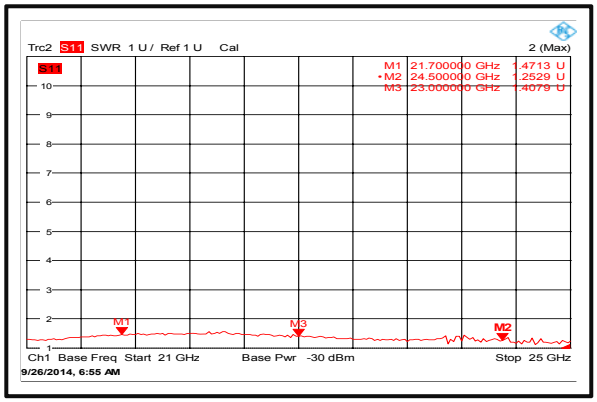
Operational Temperature (C°)	-45 to +85 ℃
Storage Temperature (C°)	-55 to +125 ℃
Altitude	30,000 ft. (Epoxy Seal Controlled environment) 60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional)
Vibration	25g rms (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

performance plots

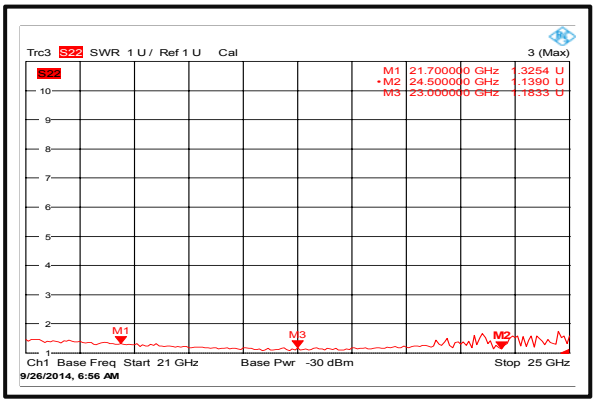
Gain



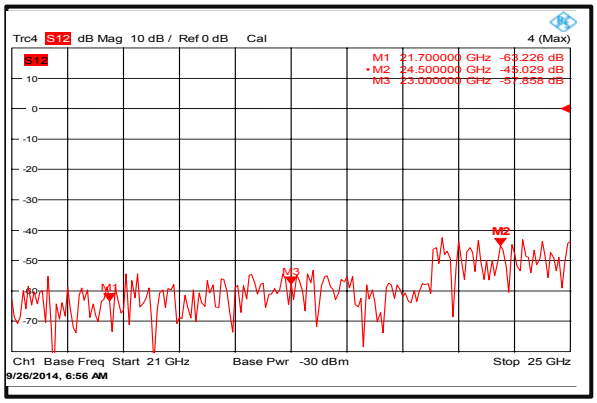
Input VSWR



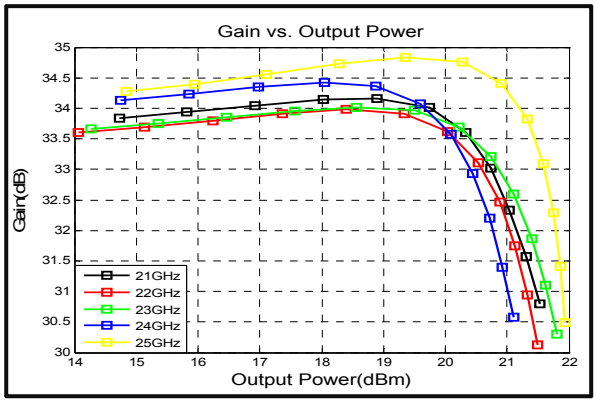
Output VSWR



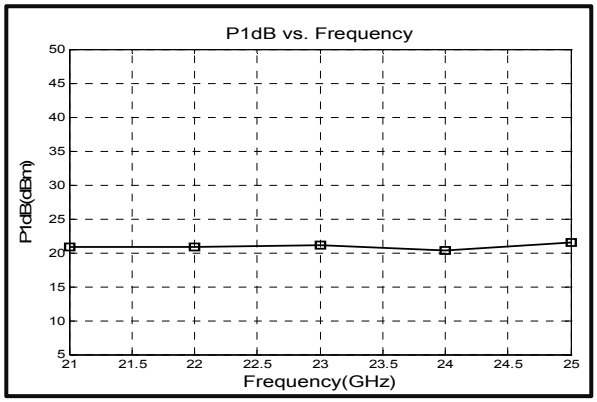
Isolation



Cain vs. output power



P1dB vs. Frequency



Output Third Order Intercept (IP3)

Noise Figure

2nd Harmonic Wave output Power

3th Harmonic Wave output Power

4nd Harmonic Wave output Power

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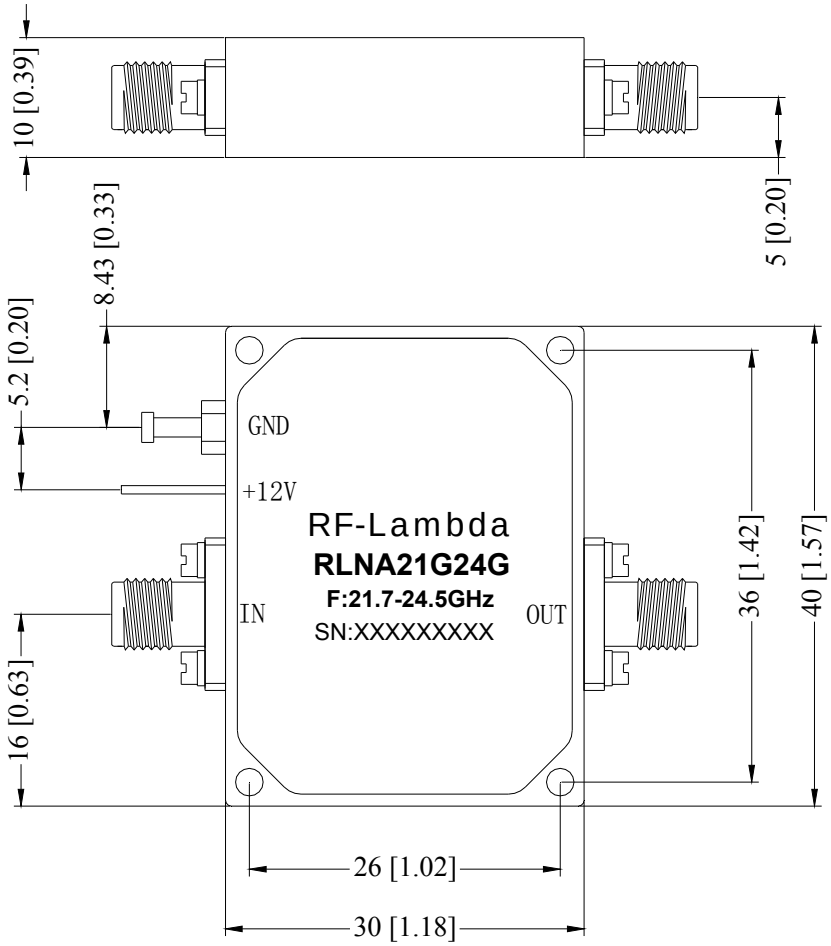
Outline Drawing:

All Dimensions in mm（inches）
Heat Sink required during operation



Ordering Information

Part No	ECCN	Description
RLNA21G24G	EAR99	21.7-24.5GHz LNA Amplifier

Important Notice