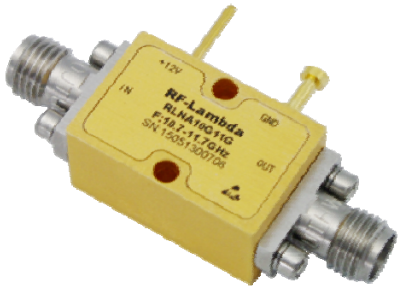
Low Noise Amplifier 10.7GHz~11.7GHz



RoHS Compliant

Feature

- Gain: 35dB Typical
- Noise Figure: 1.5dB Typical
- P1dB Output Power: +15dBm Typical
- Supply Voltage: +12V @ 160mA
- 50 Ohm Matched Input / Output
- Size: 0.79" x 0.51" 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.	Units
Frequency Range	10.7		11.7	GHz
Gain	32	35		dB
Gain Flatness			±0.5	dB
Gain Variation Over Temperature(-45 ~ +85)			±0.8	dB
Noise Figure		1.5	1.8	dB
Input VSWR		1.6		
Output VSWR		1.5		
Output Power for 1 dB Compression (P1dB)	10	15		dBm
Saturated Output Power (Psat)		16		dBm
Output Third Order Intercept (IP3)		25		dBm
Supply Current (Idd) (Vcc=+12V)		160	200	mA
Isolation S12	60	70		dB
Input Max Power(no damage)			-11	dBm
Weight	1.05			ounces
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	+12.5V
RF Input Power (RFIN)(Vcc= +12V)	-11dB m
Operating Temperature	-45 to +85 ℃
Storage Temperature	-55 to +125 ℃

Biasing Up Procedure

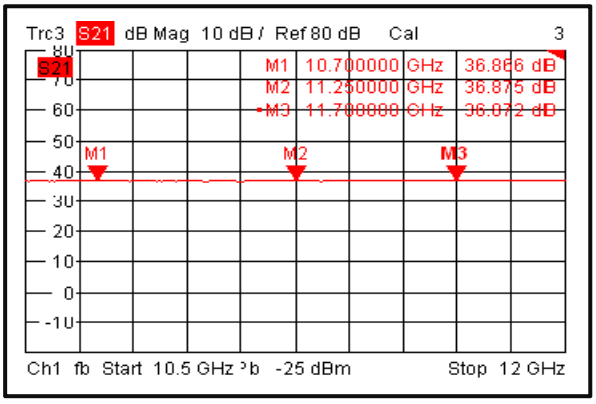
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environment specifications

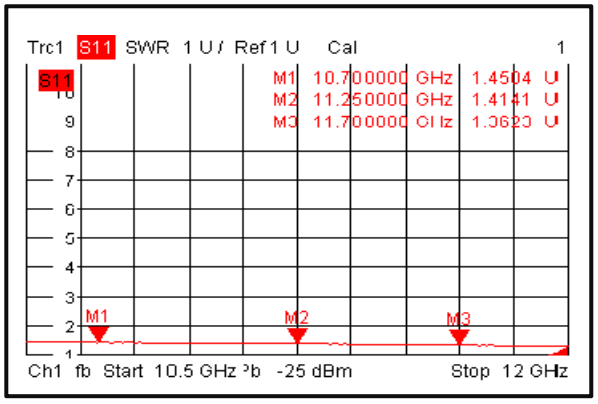
Operational Temperature (C°)	-45 to +85 ℃
Storage Temperature (C°)	-55 to +125 ℃
Altitude	30,000 ft. (Epoxy Seal Controlled environment) 60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional)
Vibration	25g rms (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

Typical performance plots

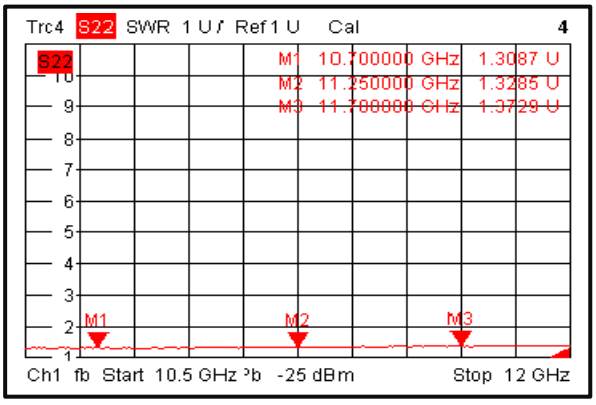
Gain



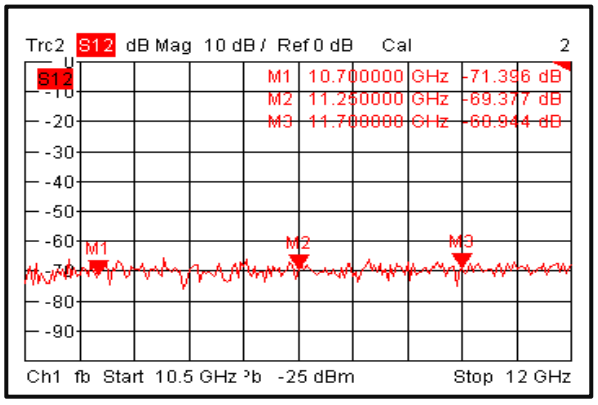
Input VSWR



Output VSWR



Isolation



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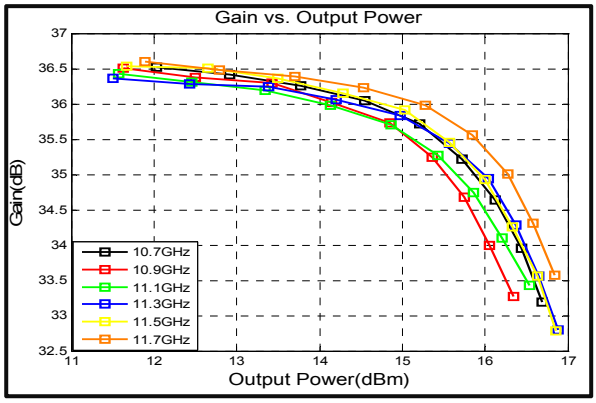
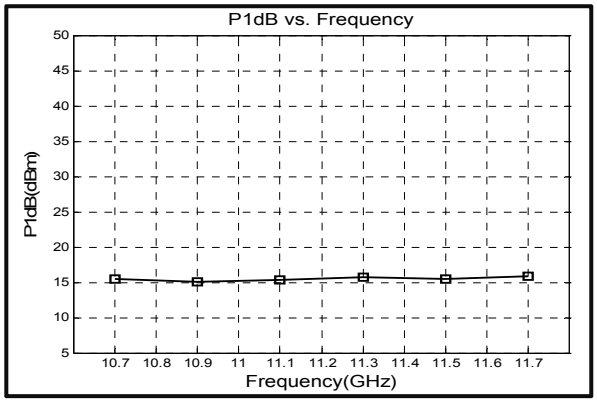
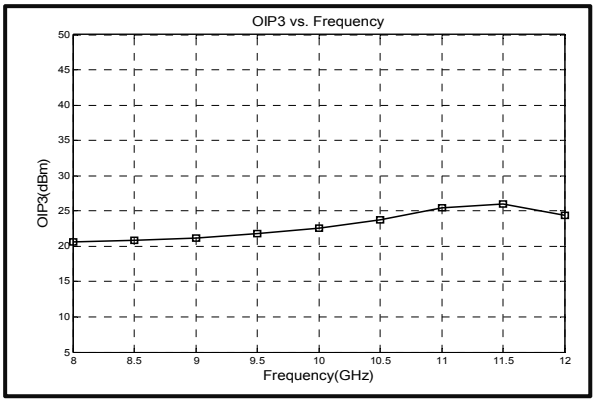
Cain vs. output power



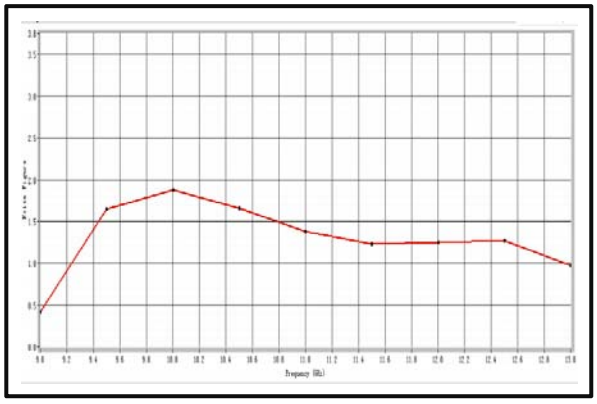
P1dB vs. Frequency



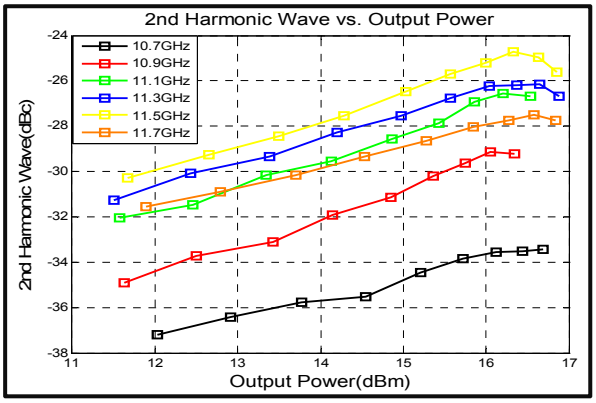
Output Third Order Intercept (IP3)



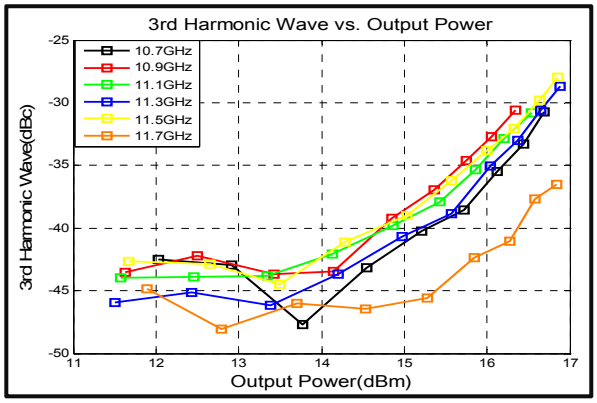
Noise Figure



2nd Harmonic Wave output Power



3nd Harmonic Wave output Power



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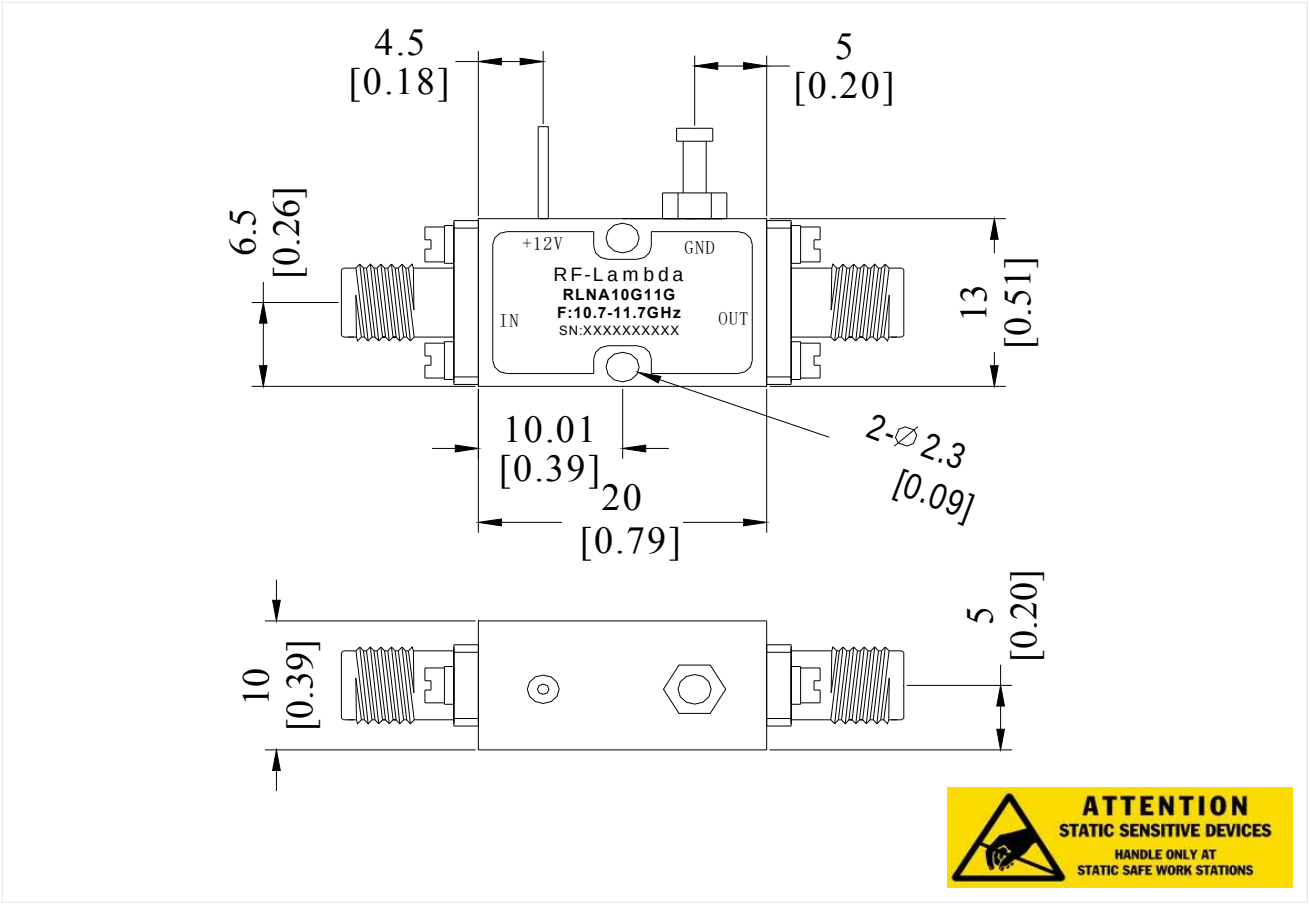
Outline Drawing:

All Dimensions in mm（inches）

Heat Sink required during operation



Ordering Information

Part No	ECCN	Description
RLNA10G11G	EAR99	10.7-11.7GHz LNA Amplifier

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