Low Noise Amplifier
9.5GHz~10.8GHz

RoHS Compliant

Features

- Gain: 36dB typical
- Noise Figure: 2.0dB typical
- High P1dB: +15dBm typical
- Supply Voltage: +12V
- 50 Ohm Matched

Typical Applications

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

Electrical Specifications, TA = +25 ℃, Vcc = +12V

Parameter	Min	Typ	Max	Units
Frequency Range	9.5		10.8	GHz
Gain	34	36		dB
Gain Flatness		±0.5	±1.0	dB
Gain Variation Over Temperature (-45 ~ +85 ℃)		±0.8	±1.0	dB
Noise Figure		2.0	2.5	dB
Input VSWR		1.6	1.8	: 1
Output VSWR		1.5	1.8	: 1
Output 1dB Compression Point (P1dB)	13	15		dBm
Saturated Output Power (Psat)		16		dBm
Output Third Order Intercept (IP3)		25		dBm
Supply Current (Vcc=+12V)		180	210	mA
Isolation S12		-60		dB
Weight	0.71			ounces
Impedance	50			Ohms
Input / Output Connectors	SMA-Female			
Finish	Standard: Gold 40 micron; Nickel 220 micron thickness			
	Option: Gold 80 micron; Nickel 180 micron thickness			
Material	Aluminum			
Package Sealing	Epoxy Sealed (Standard)			
	Hermetically Sealed (Optional)			

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Absolute Maximum Ratings

Operating Voltage	+15V
RF Input Power	-15dBm

Biasing Up Procedure

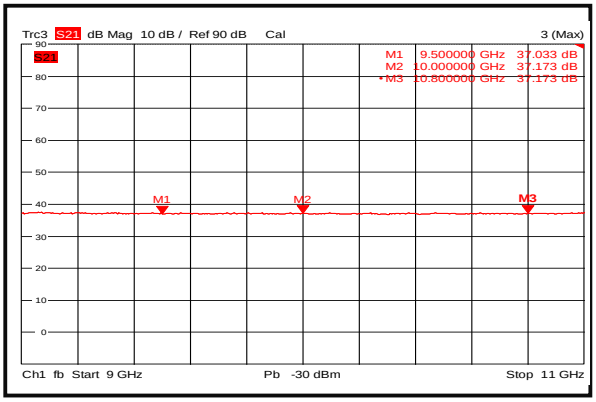
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications

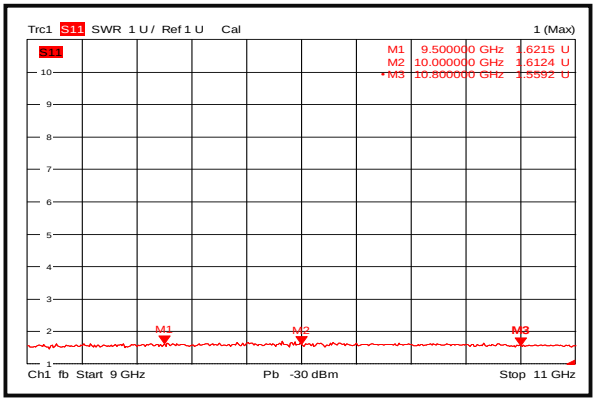
Operational Temperature (℃)	-45 to+85
Storage Temperature (℃)	-50 to +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH at 40°c
Shock	20G for 11msec half sine wave, 3 axis both directions

Typical Performance Plots

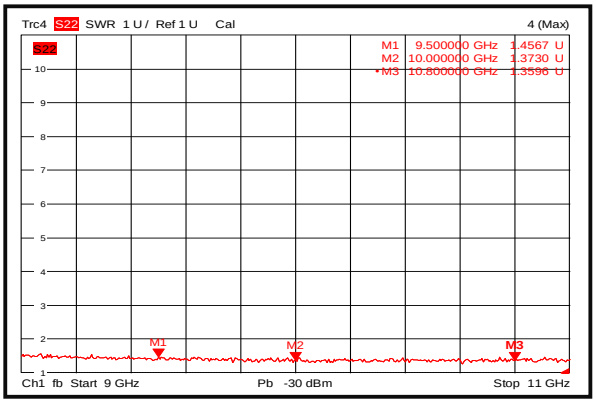
Gain @+25℃



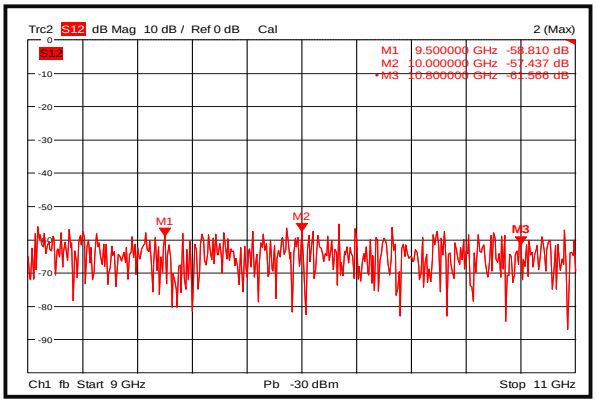
Input VSWR @+25℃



Output VSWR @+25℃



Isolation @+25℃



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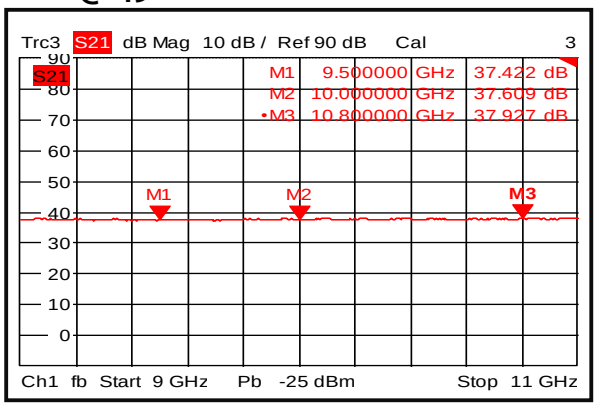
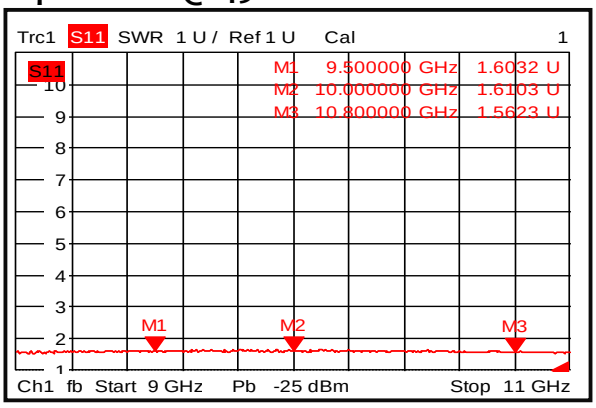
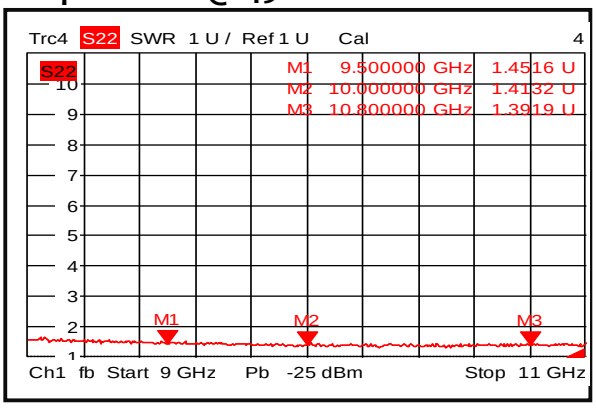
Gain @-45℃



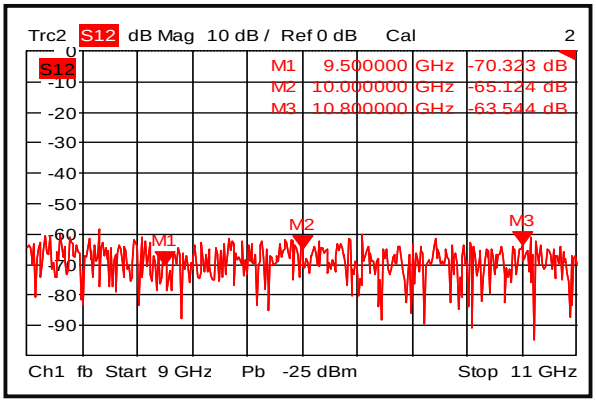
Input VSWR @-45℃



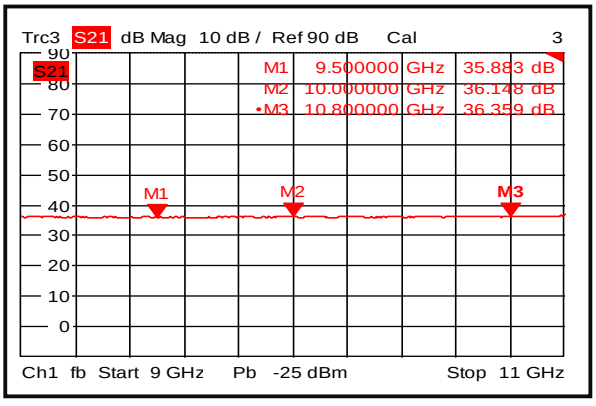
Output VSWR @-45℃



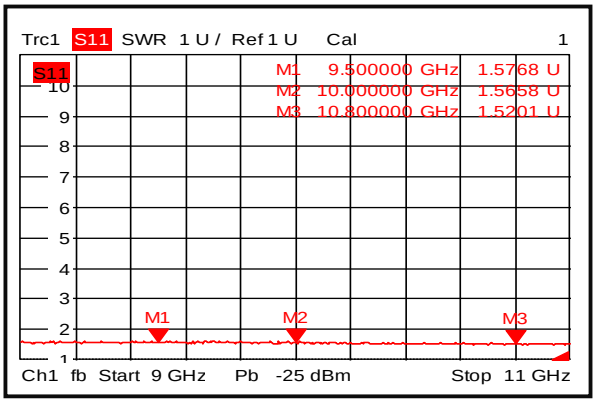
Isolation @-45℃



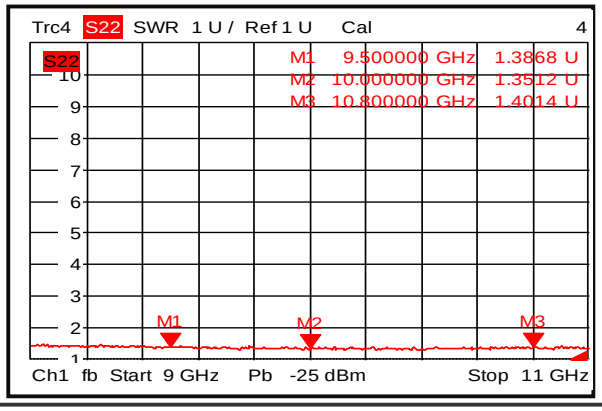
Gain @+85℃



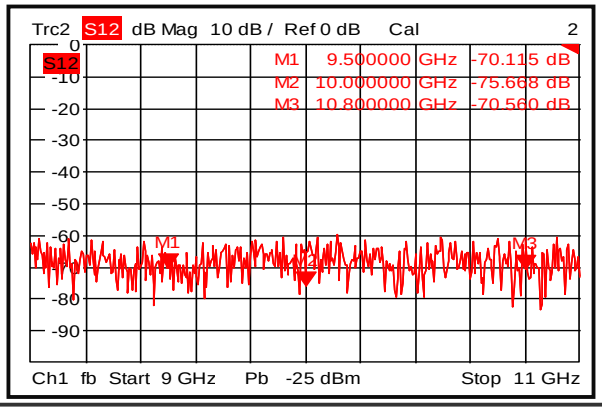
Input VSWR @+85℃



Output VSWR @+85℃



Isolation @+85℃



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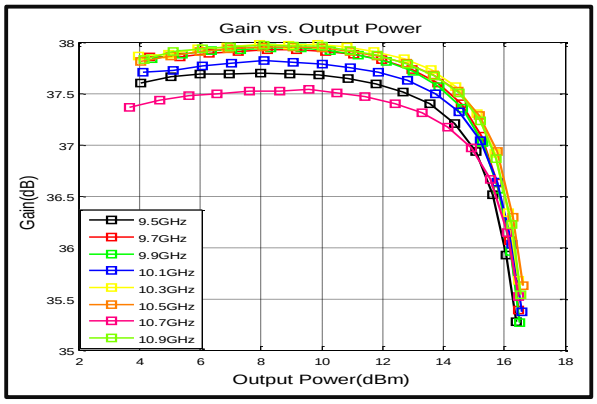
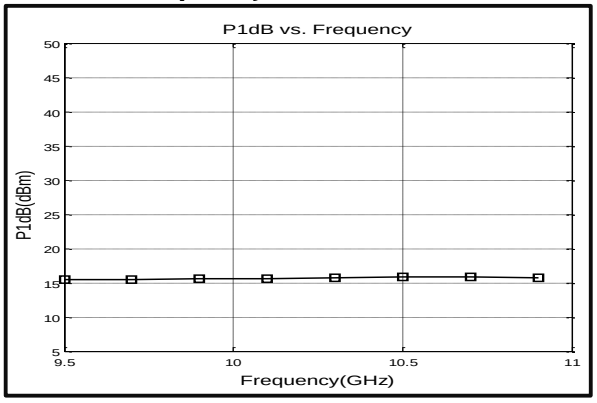
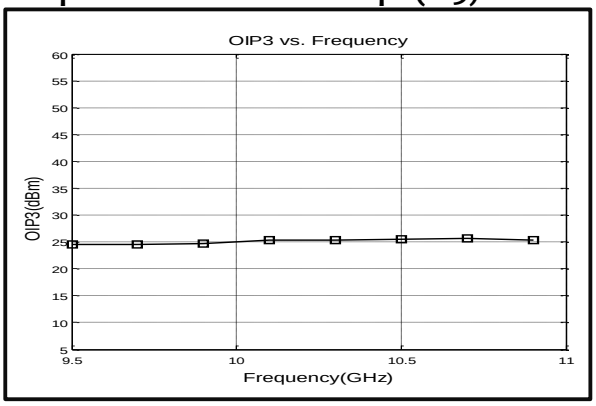
Gain vs. Output Power



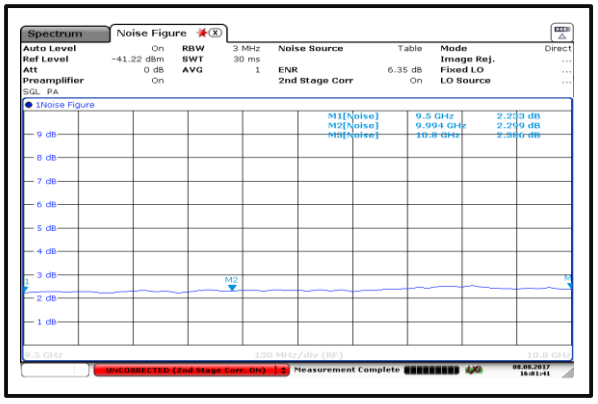
P1dB vs. Frequency



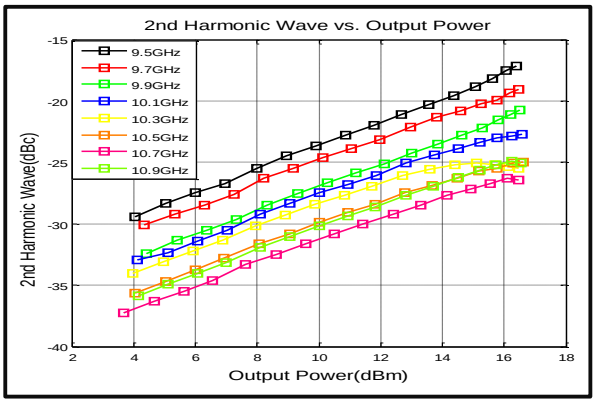
Output Third Order Intercept (IP3)



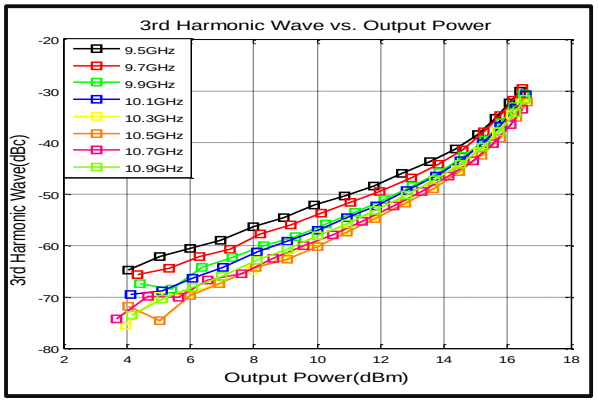
Noise Figure



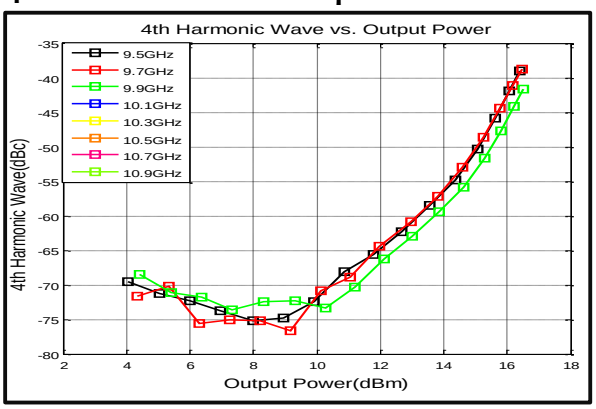
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



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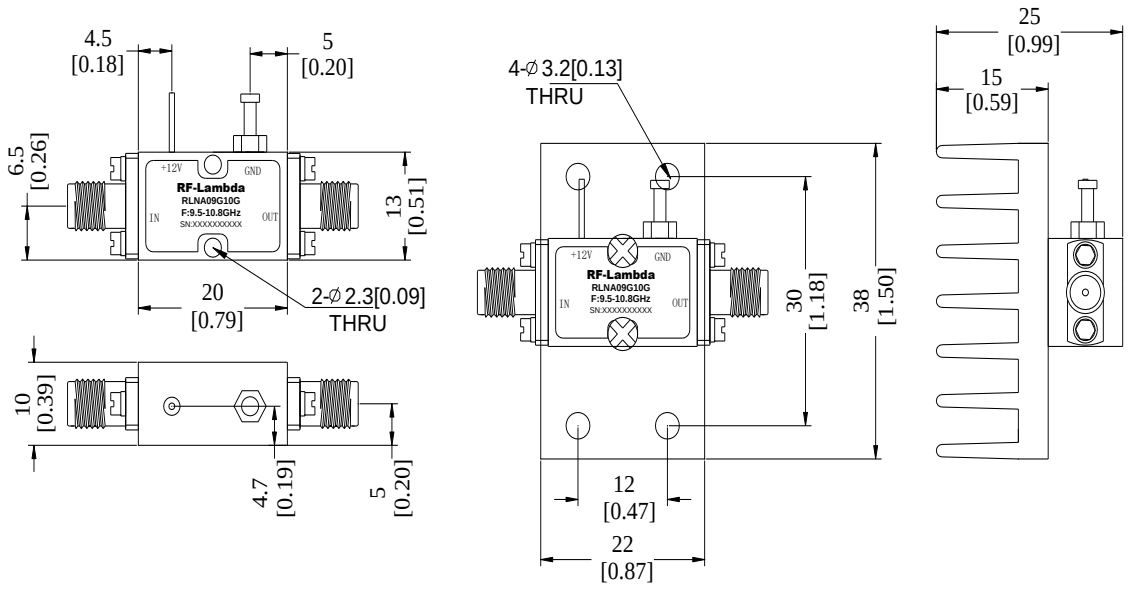
Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation（Sold Separately）

Ordering Information

Part No.	ECCN	Description
RLNA09G10G	EAR99	9.5-10.8GHz Low Noise Amplifier

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