



Low Noise Amplifier 4.2GHz~5.20GHz



Feature

- Gain: 34 dB
- Noise Figure: 1.2 dB
- P1dB Output Power: 21 dB m full band
- Supply Voltage: 12@ 350 mA
- 50 Ohm Matched Input / Output
- Size: 3.55" x 1.58" x 0.59"

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	4.2		4.5	GHz
Gain		34		dB
Gain Flatness		±0.5	±1	dB
Gain Variation Over Temperature(-45 ~ +85)		±1.5	±2.0	dB
Noise Figure		1.2	1.8	dB
Input Return Loss	10	15		dB
Output Return Loss	10	15		dB
Output Power for 1 dB Compression (P1dB)	21	22		dBm
Saturated Output Power (Psat)	22	22.5		dBm
Output Third Order Intercept (IP3)		27		dBm
Supply Current (Idd) (Vcc=+12V)		350		mA
Isolation S12		65		dB
Input Max Power(no damage)		-10		dBm
Weight		3.17		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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RLNA04G05G

Absolute Maximum Ratings

Operating Voltage	+12V
RF Input Power (RFIN)(Vcc= +12V)	-10dB m
Operating Temperature	-45 to +85 °C
Storage Temperature	-50 to +125 °C

Biasing Up Procedure

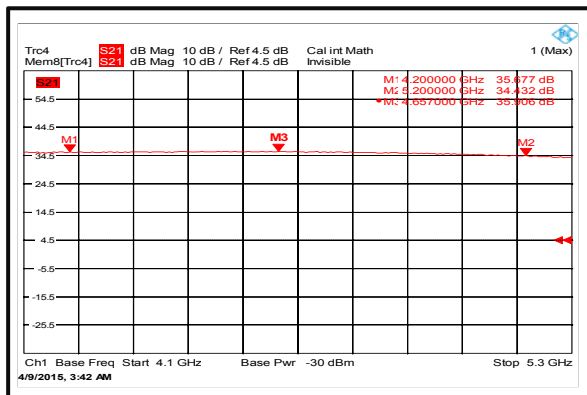
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environment specifications

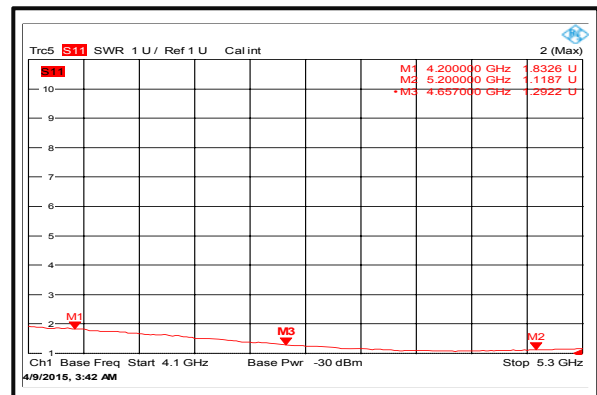
Operational Temperature (C°)	-45 ~ +85
Storage Temperature (C°)	-50 ~ +125
Altitude	30,000 ft. (Epoxy Seal Controlled environment) 60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional)
Vibration	25g rms (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH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

Typical performance plots

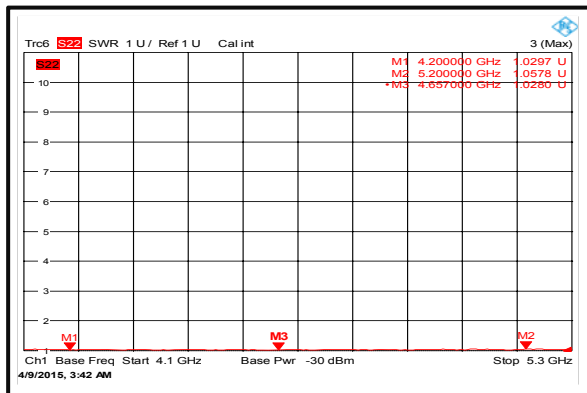
Gain



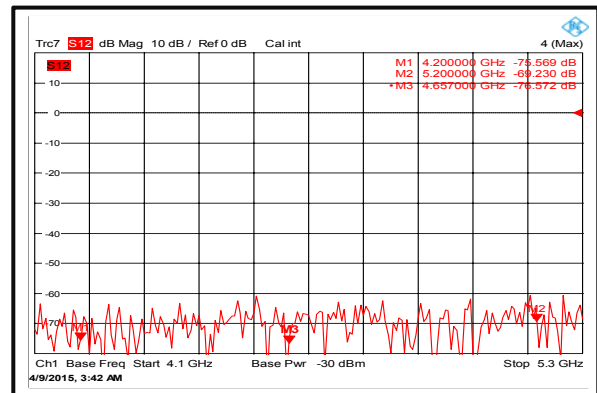
Input VSWR



Output VSWR



Isolation



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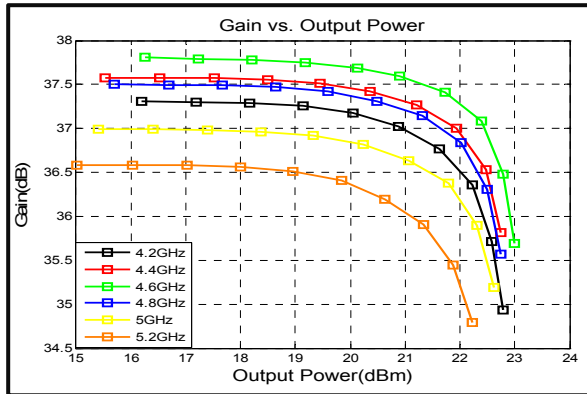


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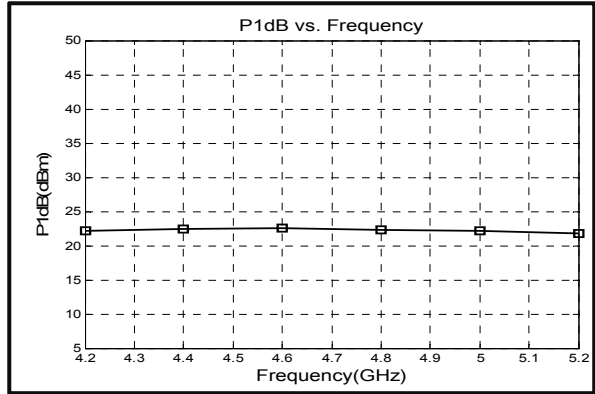
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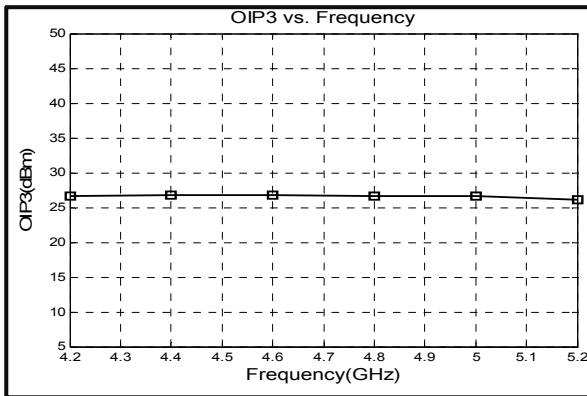
Gain vs. output power



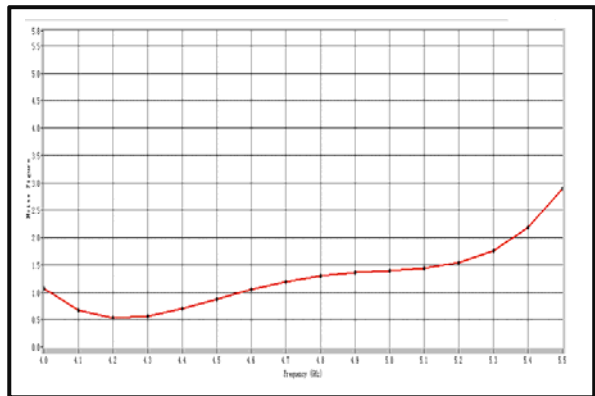
P1dB vs. Frequency



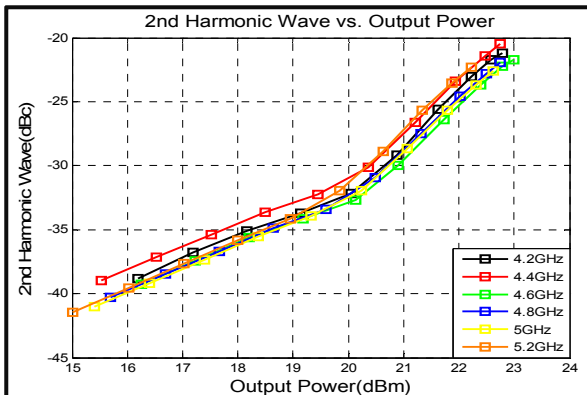
Output Third Order Intercept (IP3)



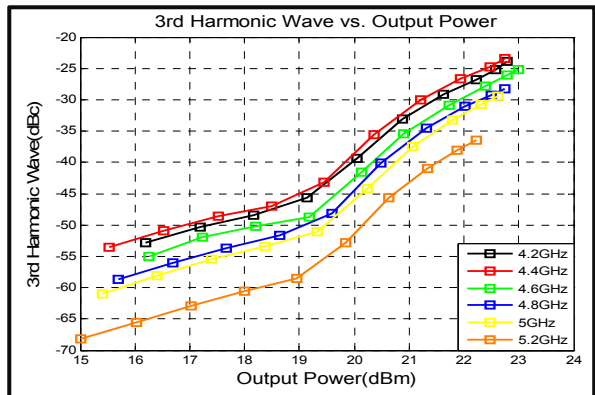
Noise Figure



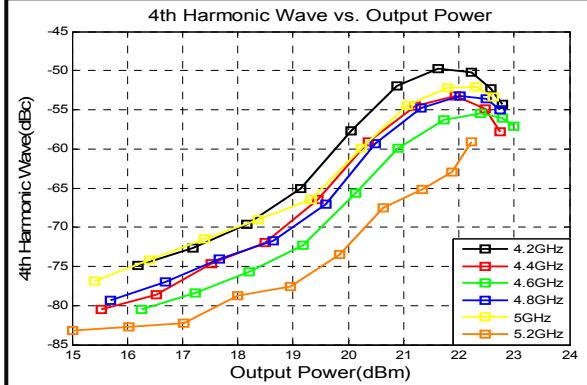
2nd Harmonic Wave output Power



3rd Harmonic Wave output Power



4th Harmonic Wave output Power



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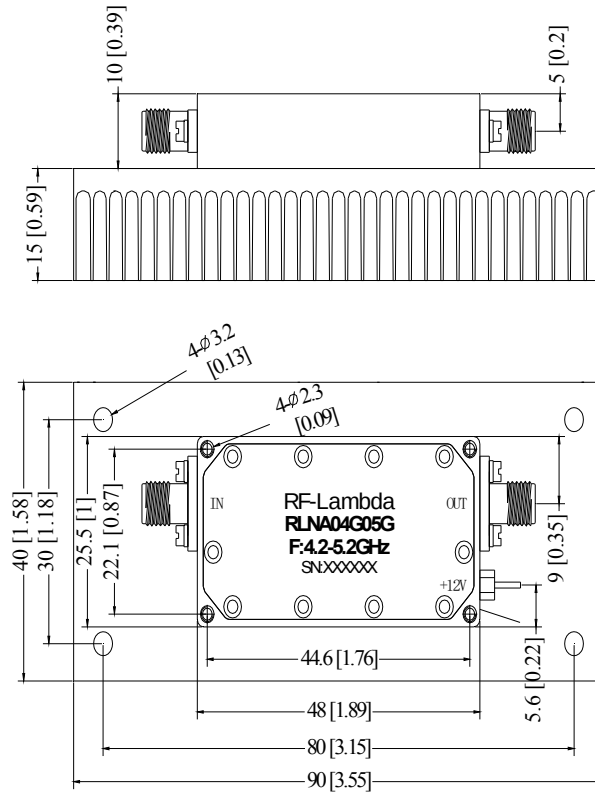
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RLNA04G05G

Outline Drawing:

All Dimensions in mm (inches)

Heat Sink required during operation



Ordering Information

Part No	ECCN	Description
RLNA04G05G	EAR99	4.2-5.2GHz LNA Amplifier

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