



RF-LAMBDA

LEADER OF BROADBAND SOLUTIONS

R07M01GSA

Wide Band Low Noise Amplifier 0.7GHz~1GHz



Features

- Gain: 14.5dB Typical
- Noise Figure: 0.7dB Typical
- P1dB Output Power: +20dBm Typical
- Supply Voltage: +5V @ 65mA
- 50 Ohm Matched Input / Output
- Size: 0.63" x 0.75" x 0.39"

Typical Applications

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

Electrical Specifications, TA = +25 ° C, With Vcc = +5V, 50 Ohm System

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.7		0.85	0.85		1	GHz
Gain	12	14		11.5	13.5		dB
Gain Flatness		±0.5	±0.8		±0.6	±1.0	dB
Gain Variation Over Temperature(-45 ~ +85)		±0.5			±0.5		dB
Noise Figure		0.7	1.1		0.7	1.1	dB
Input VSWR		1.4	1.8		1.4	1.8	
Output VSWR		1.6	2.0		1.4	1.8	
Output Power for 1 dB Compression (P1dB)	18	19.5		18	19.5		dBm
Saturated Output Power (Psat)		21.5			21		dBm
Output Third Order Intercept (IP3)		35			36		dBm
Isolation S12		-21			-19		dB
Supply Current (Idd) (Vcc=+5V)		65	90		65	90	mA
Input Max Power(no damage)		+9			+9		dBm
Weight	1.1						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	+8V
RF Input Power(Vcc=+5V)	+15dB m
Operating Temperature(C°)	-45 to +85
Storage Temperature(C°)	-50 to +125

Biasing Up Procedure

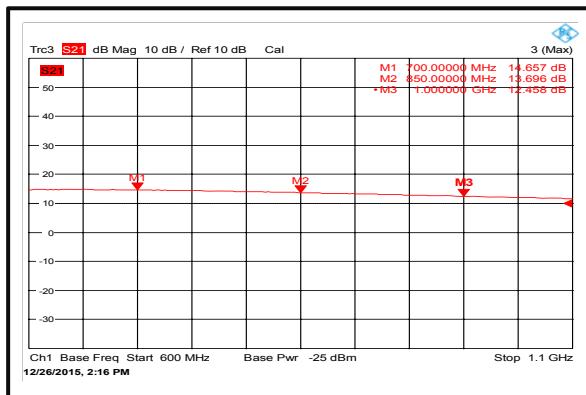
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +5V biasing
Power OFF Procedure	
Step 1	Turn off +5V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environment specifications

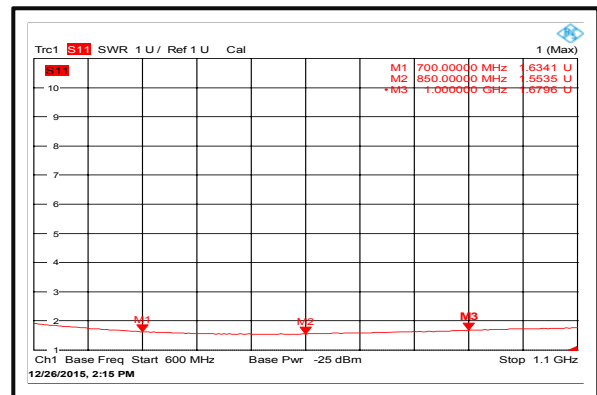
Operational Temperature (C°)	-45 to+85
Storage Temperature (C°)	-50 to +125
Altitude	30,000 ft. (Epoxy Seal Controlled environment) 60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional)
Vibration	25g rms (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH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

Typical performance plots

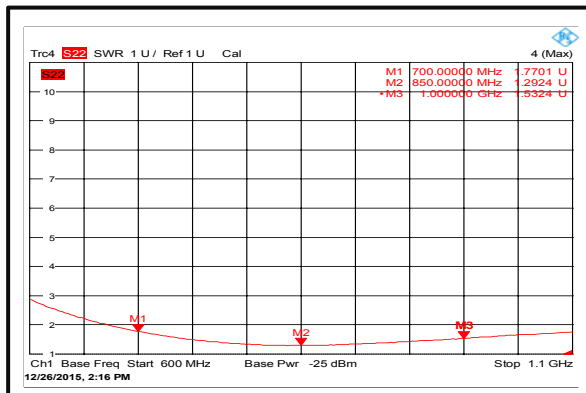
Gain



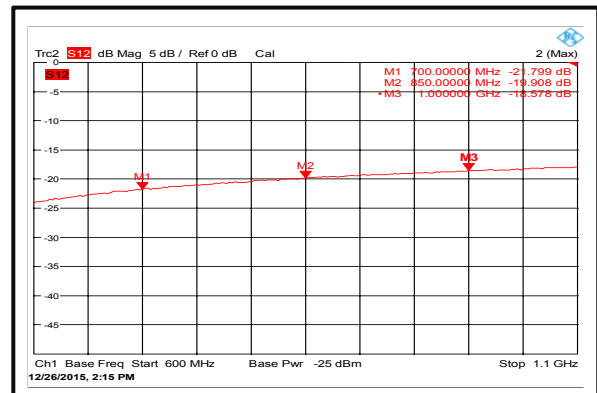
Input VSWR



Output VSWR



Isolation



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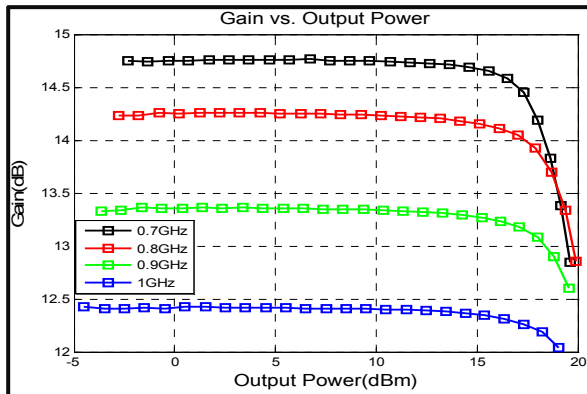


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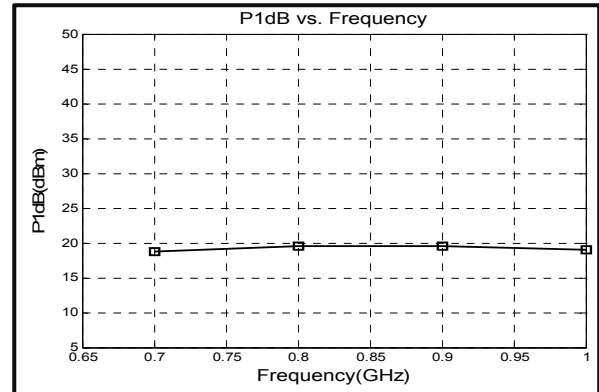
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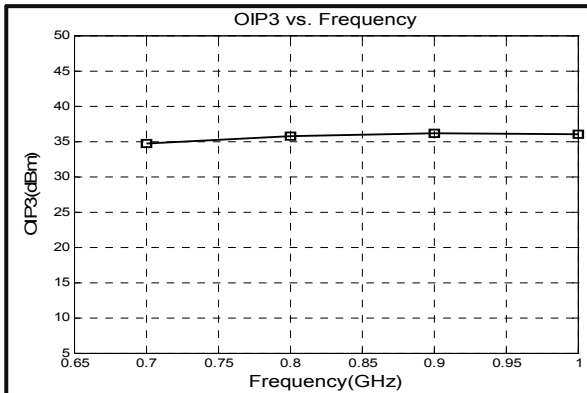
Gain vs. output power



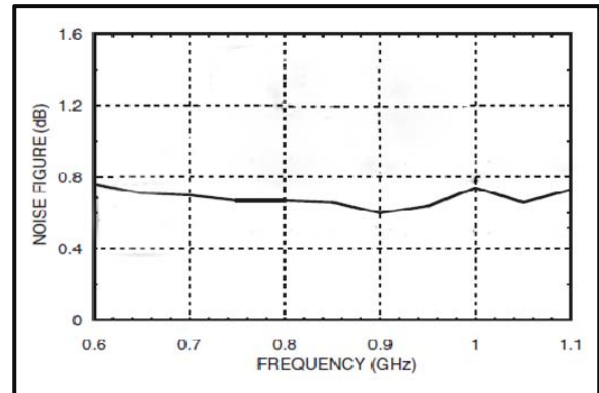
P1dB vs. Frequency



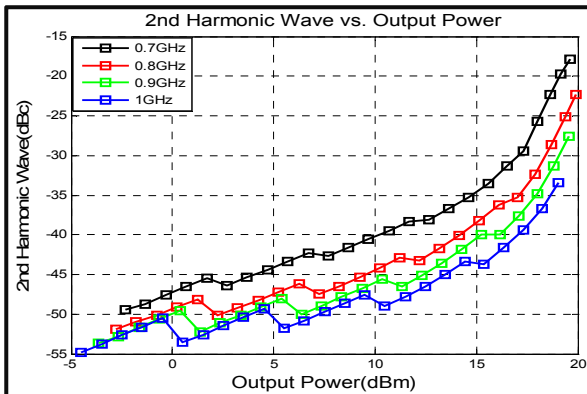
Output Third Order Intercept (IP3)



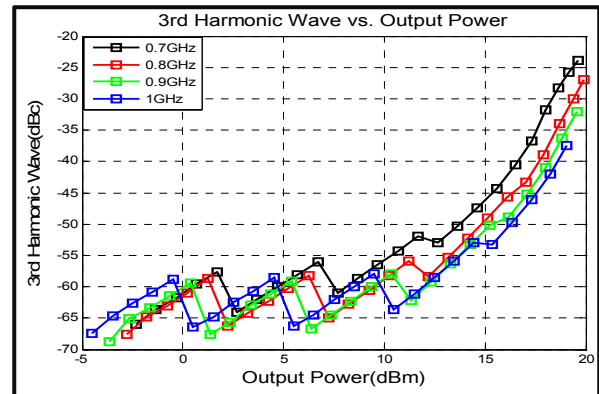
Noise Figure



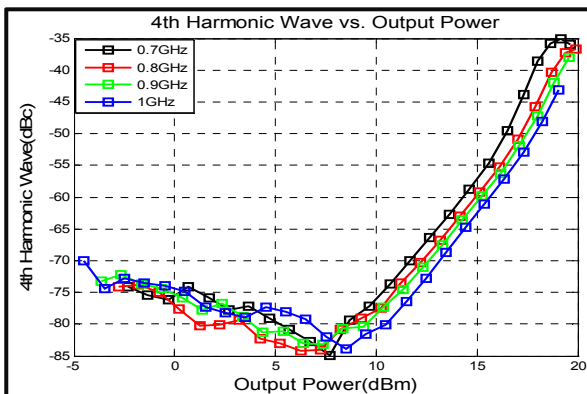
2nd Harmonic Wave output Power



3th Harmonic Wave output Power



4th Harmonic Wave output Power



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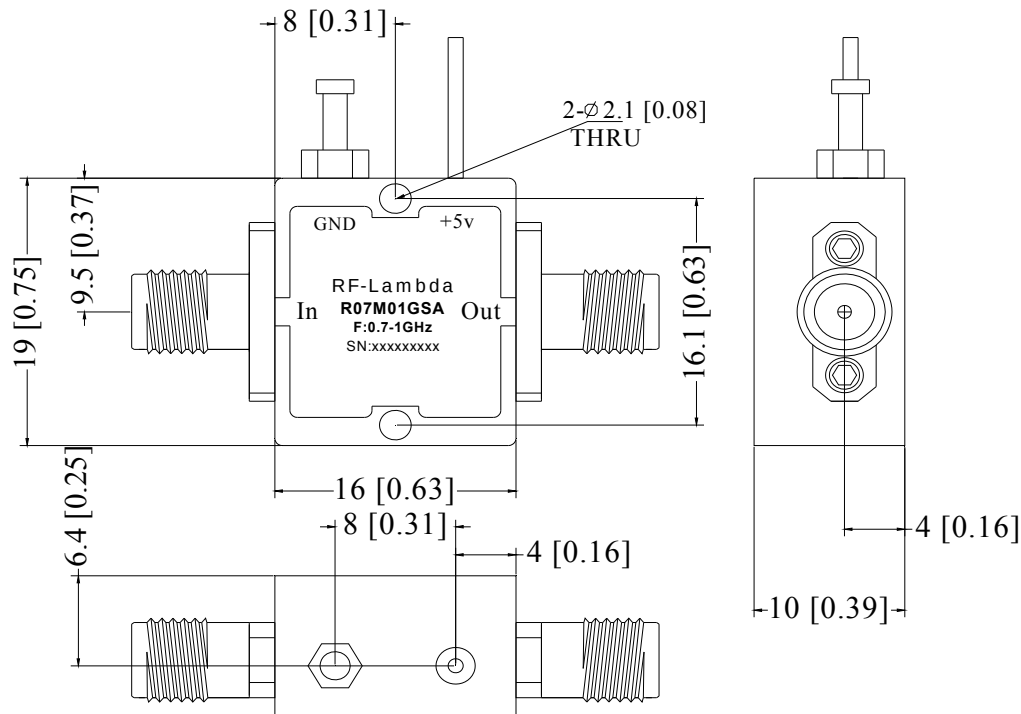
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Outline Drawing:

All Dimensions in mm (inches)

Heat Sink required during operation



Ordering Information

Part No	ECCN	Description
R07M01GSA	EAR99	0.7-1GHz LNA Amplifier

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