



RF-LAMBDA

LEADER OF BROADBAND SOLUTIONS

R09G18GSA

Low Noise Amplifier 9GHz~18GHz



Features

- Gain: 20dB Typical
- Noise Figure: 2dB Typical
- P1dB Output Power: 14dB m full band
- Supply Voltage: +3V @ 65mA
- 50 Ohm Matched Input / Output
- Size: 0.63" x 0.67" x 0.32"

Typical Applications

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

Electrical Specifications, TA = +25 ° C, With Vcc = +3V, 50 Ohm System

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	9		14	14		18	GHz
Gain	17	20		18	20		dB
Gain Flatness		±1.0			±1.0		dB
Gain Variation Over Temperature(-45 ~ +85)		±1.5			±1.5		dB
Noise Figure		2.5	3		2.0	2.5	dB
Input VSWR		1.5			1.8		
Output VSWR		1.4			1.8		
Output Power for 1 dB Compression (P1dB)	14	16		15	16		dBm
Saturated Output Power (Psat)		17			17		dBm
Output Third Order Intercept (IP3)		25			26		dBm
Supply Current (Idd) (Vcc=+3V)		65	100		65	100	mA
Isolation S12	42	50		40	50		dB
Input Max Power(no damage)			+5			+5	dBm
Weight	0.71						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	+4V
RF Input Power (Vcc= +3V)	+5dBm
Operating Temperature	-40to +85 °C
Storage Temperature	-55 to +125 °C

Biasing Up Procedure

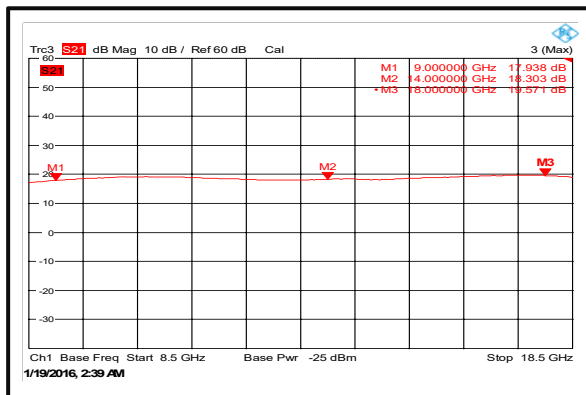
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +3V biasing
Power OFF Procedure	
Step 1	Turn off +3V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environment specifications

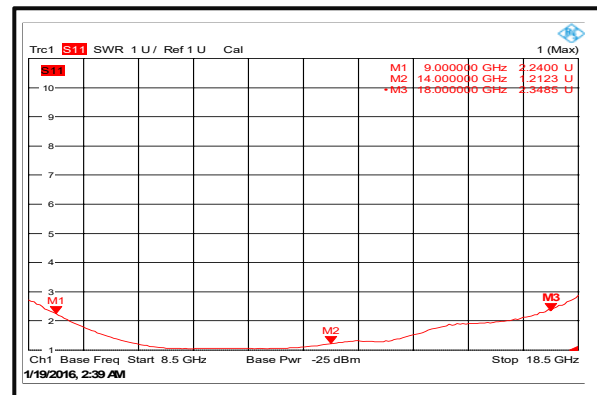
Operational Temperature (C°)	-40 to+85
Storage Temperature (C°)	-55 to +125
Altitude	30,000 ft. (Epoxy Seal Controlled environment) 60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional)
Vibration	25g rms (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH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

Typical performance plots

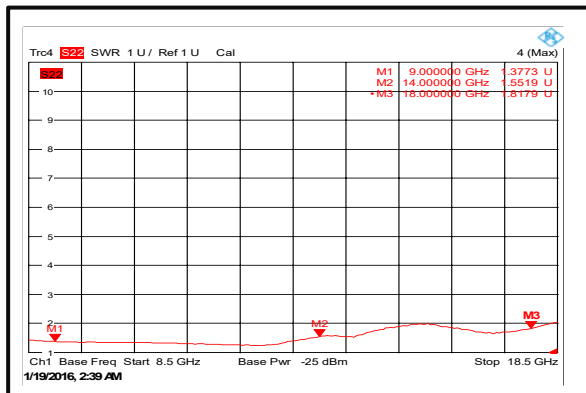
Gain



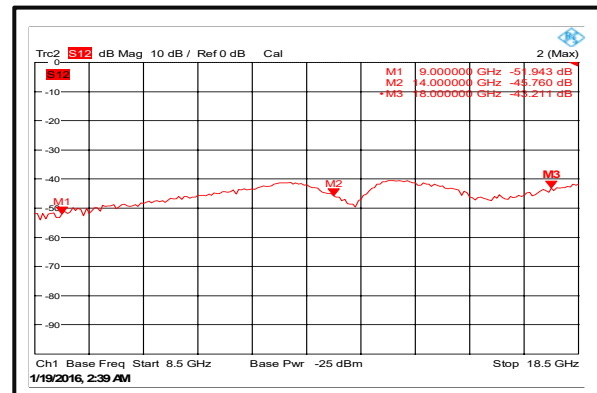
Input VSWR



Output VSWR



Isolation



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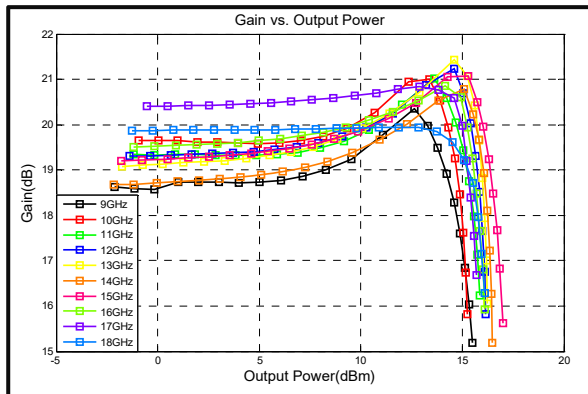


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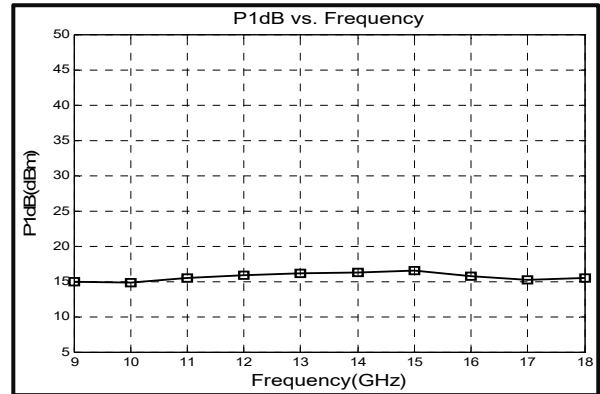
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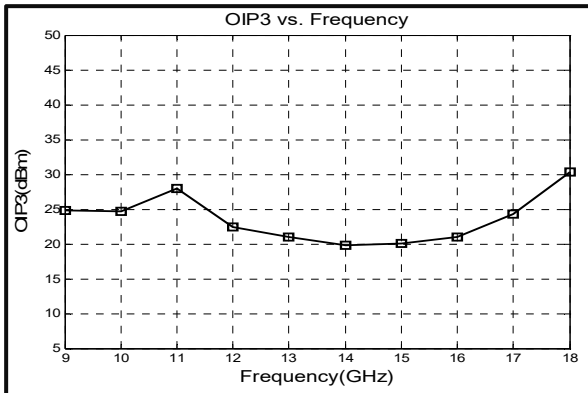
Gain vs. output power



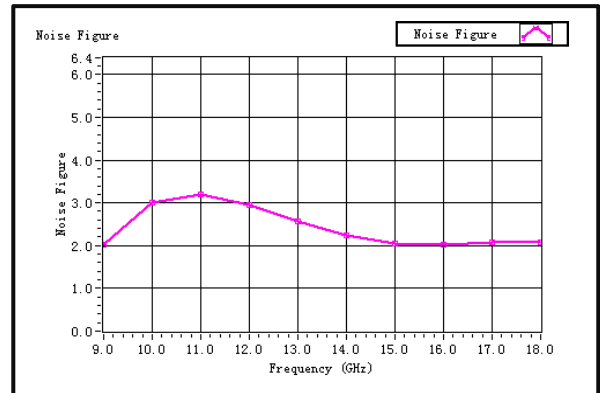
P1dB vs. Frequency



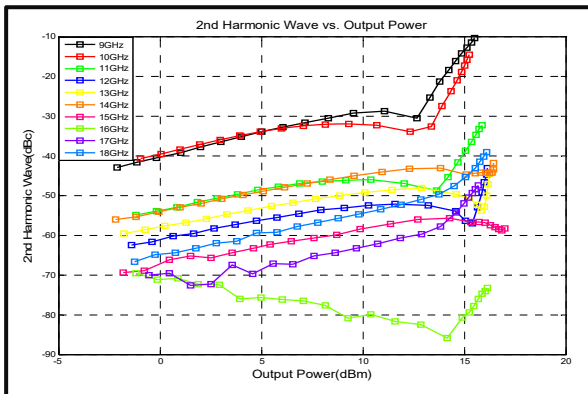
Output Third Order Intercept (IP3)



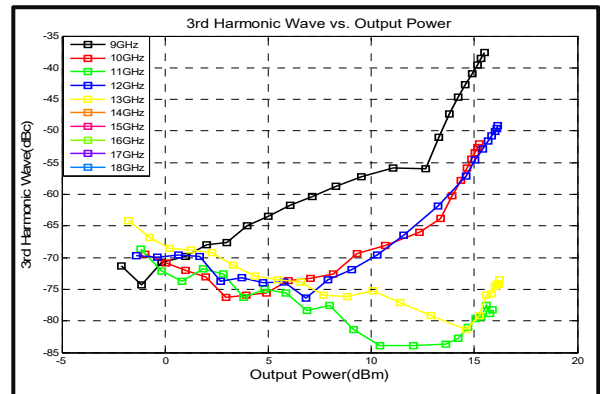
Noise Figure



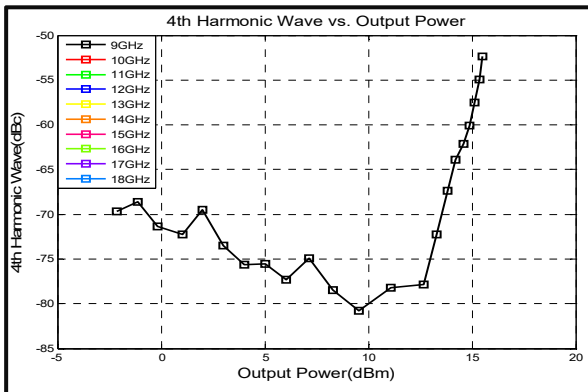
2nd Harmonic Wave output Power



3rd Harmonic Wave output Power



4th Harmonic Wave output Power



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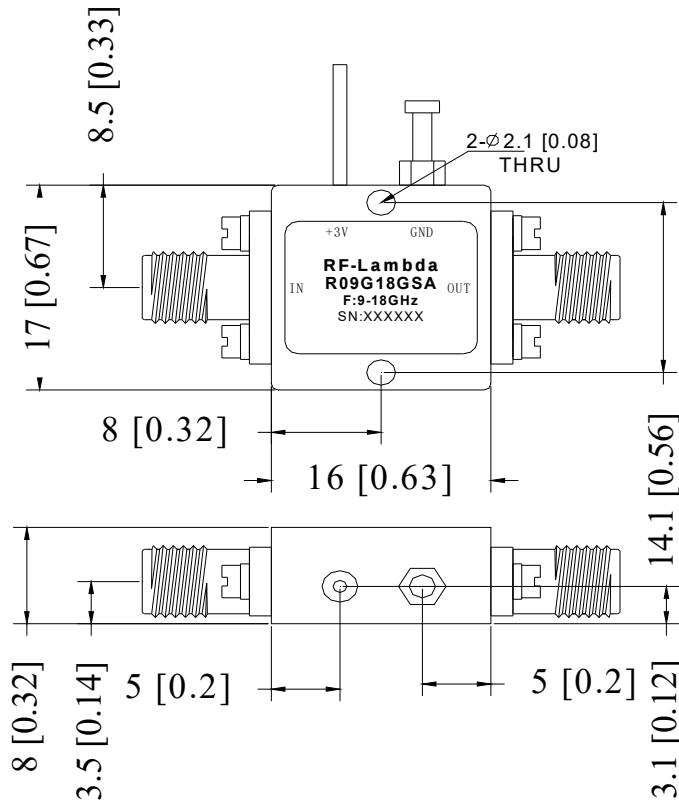
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Outline Drawing:

All Dimensions in mm (inches)

Heat Sink required during operation (Sold separately)



Ordering Information

Part No	ECCN	Description
R09G18GSA	EAR99	9-18GHz LNA Amplifier

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