



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

R18G31GSA

Wide Band Low Noise Amplifier 18GHz~31GHz



Features

- Gain: 12dB Typical
- Noise Figure: 3.0dB Typical
- P1dB Output Power: +10dBm Typical
- Supply Voltage: +3V @ 65mA
- 50 Ohm Matched

Typical Applications

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

Electrical Specifications, TA = +25°C, Vcc = +3V

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	18		26.5	26.5		31	GHz
Gain	10.5	12		10.5	12		dB
Gain Flatness		±0.5			±0.5		dB
Gain Variation Over Temperature (-45 ~ +85)		±1.0			±1.0		dB
Noise Figure		3.0	4.0		3.5	5.0	dB
Input VSWR		1.8			1.8		: 1
Output VSWR		1.6			1.6		: 1
Output 1dB Compression Point (P1dB)	7	10		7	10		dBm
Saturated Output Power (Psat)		12			12		dBm
Output Third Order Intercept (IP3)		20			18		dBm
Isolation S12		-45			-37		dB
Supply Current (Vcc=+3V)		65	85		65	85	mA
Weight	0.35						ounces
Impedance	50						Ohms
Input / Output Connectors	2.92mm-Female						
Finishing	Standard: Gold 40 micron; Nickel 220 micron thickness						
	Option: Gold 80 micron; Nickel 180 micron thickness						
Material	Aluminum						
Package Sealing	Epoxy Sealing (Standard)						
	Hermetically Sealed (Option with extra charge)						

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Absolute Maximum Ratings

Operating Voltage	+5V
RF Input Power	+8dB m

Biasing Up Procedure

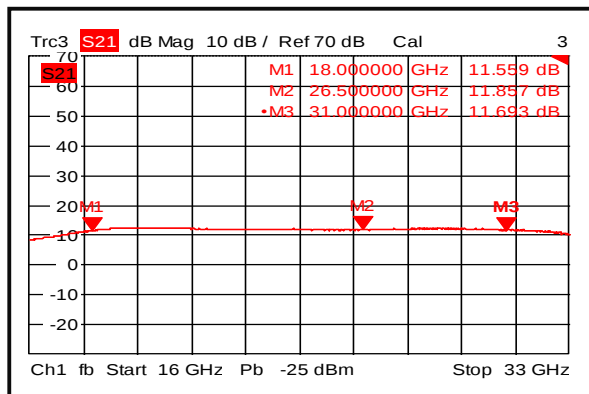
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +3V biasing
Power OFF Procedure	
Step 1	Turn off +3V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications

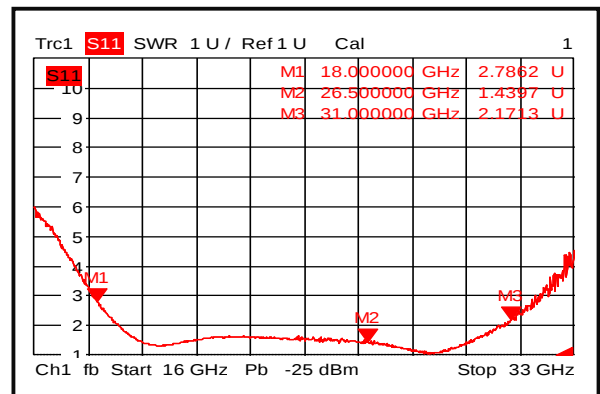
Operational Temperature (°C)	-45 to +85
Storage Temperature (°C)	-55 to +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

Typical Performance Plots

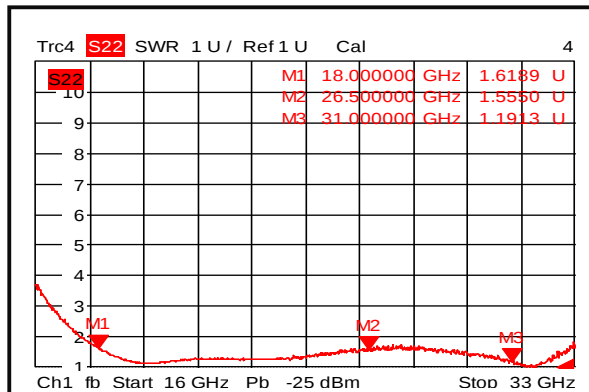
Gain



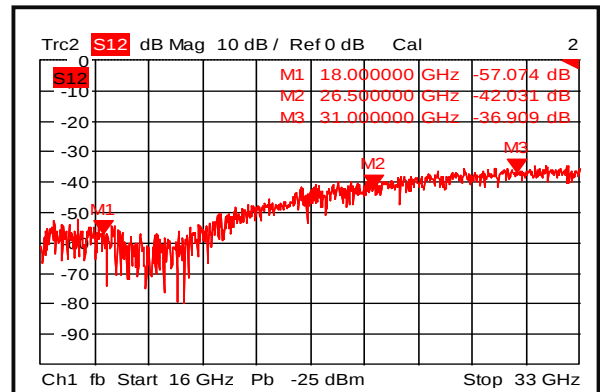
Input VSWR



Output VSWR



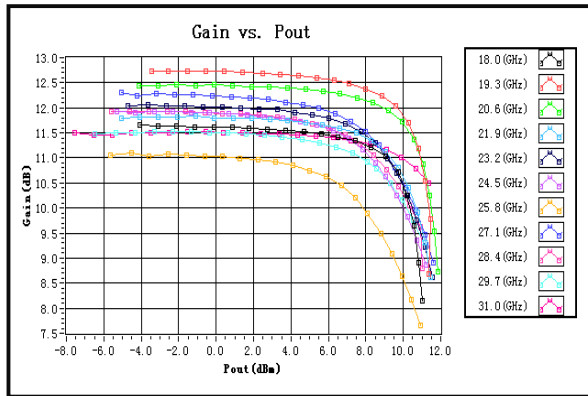
Isolation



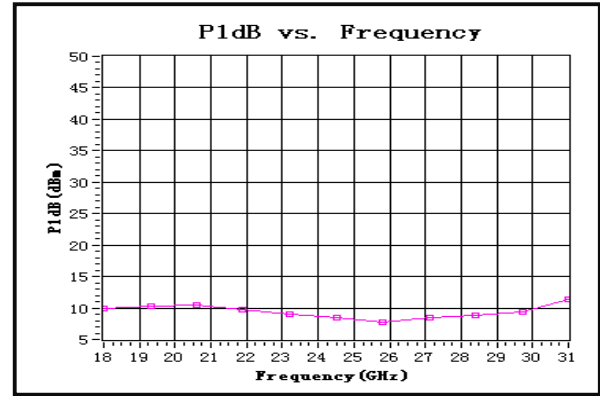
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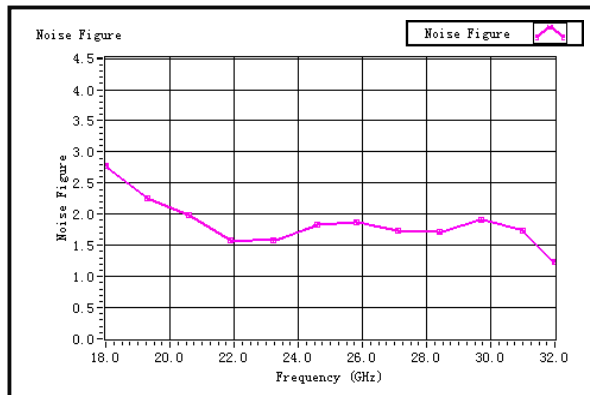
Gain vs. Output Power



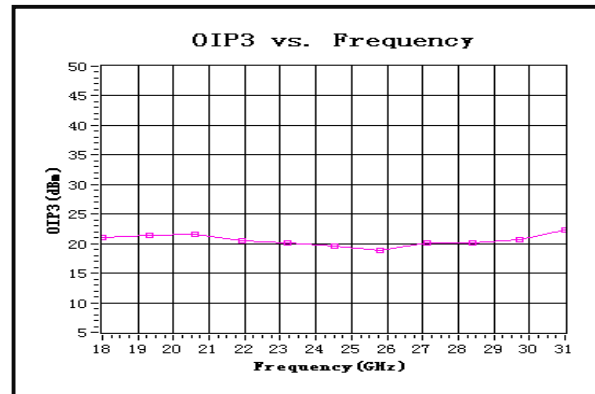
P1dB vs. Frequency



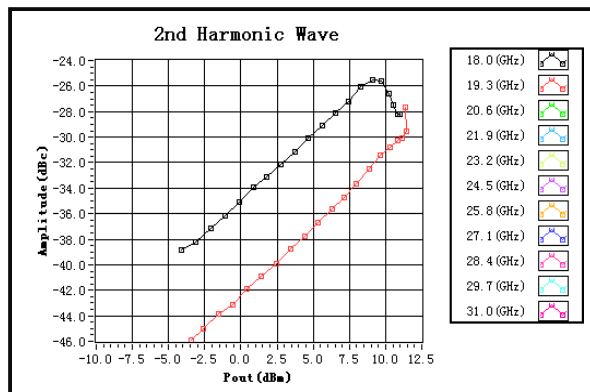
Noise Figure



Output Third Order Intercept (IP3)



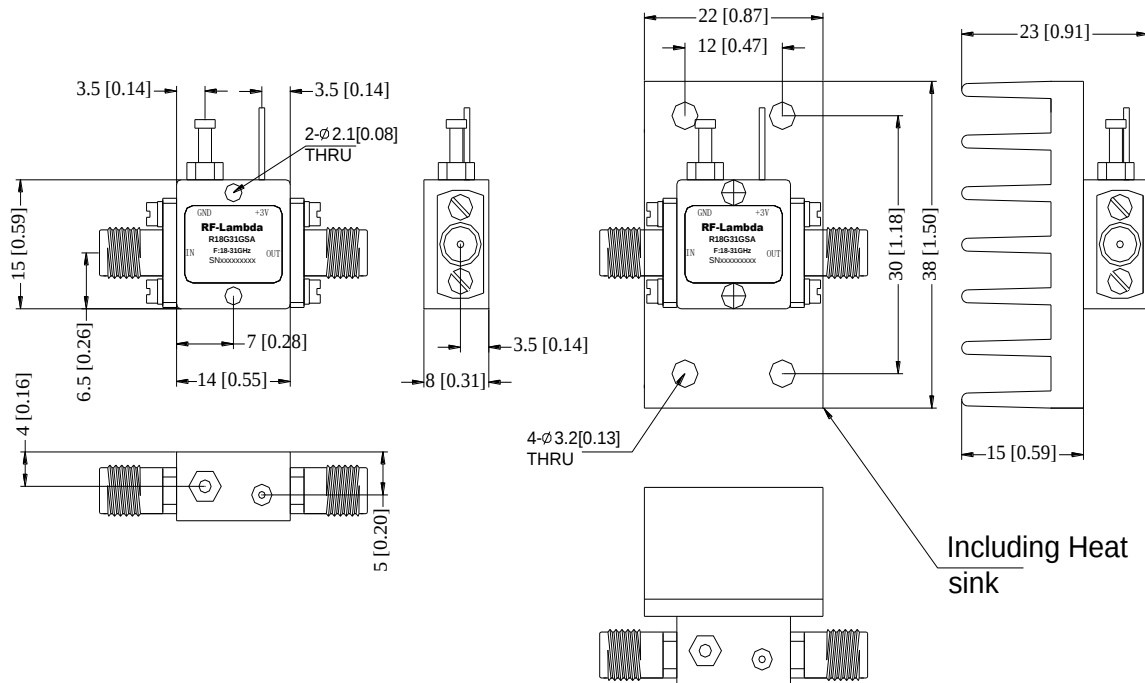
2nd Harmonic Wave Output Power





Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
R18G31GSA	EAR99	18-31GHz Low Noise Amplifier

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