

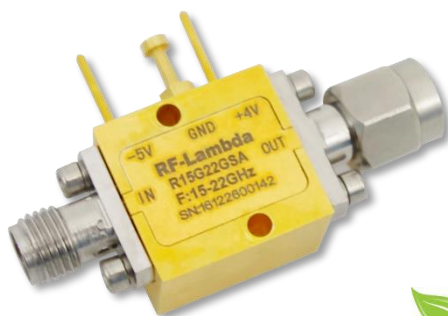


RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

R15G22GSA

Wide Band Low Noise Amplifier 15GHz~22GHz



Features

- Gain: 20dB Typical
- Noise Figure: 2.0dB Typical
- P1dB Output Power: +15dB m Typical
- Supply Voltage: +4V @ 90mA
- 50 Ohm Matched

Typical Applications

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

Electrical Specifications, TA = +25°C, Vdd = +4V, Vgg=-5V

Parameter	Min.	Typ.	Max.	Units
Frequency Range	15		22	GHz
Gain	18	20		dB
Gain Flatness			±0.5	dB
Gain Variation Over Temperature (-45 ~ +85)		±0.8		dB
Noise Figure		2.0	2.8	dB
Input VSWR			1.4	: 1
Output VSWR			1.4	: 1
Output 1dB Compression Point (P1dB)	13.5	16		dBm
Saturated Output Power (Psat)		17		dBm
Output Third Order Intercept (IP3)		26		dBm
Supply Current (Vdd=+4V, Vgg=-5V)		90	150	mA
Isolation S12		-40		dB
Weight	0.71			ounces
Impedance	50			Ohms
Input / Output Connectors	2.92mm-Female / 2.92mm-Male			
Finishing	Standard: Gold 40 micron; Nickel 220 micron thickness			
	Option: Gold 80 micron; Nickel 180 micron thickness			
Material	copper			
Package Sealing	Epoxy Sealing (Standard)			
	Hermetically Sealed (Option with extra charge)			

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Absolute Maximum Ratings

Operating Voltage	+4.5V
RF Input Power	-2dBm

Biasing Up Procedure

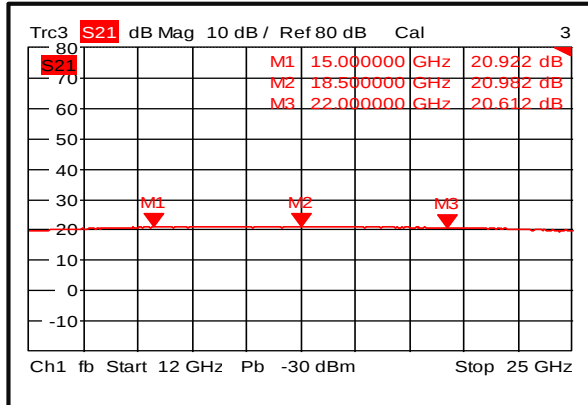
Step 1	Connect Ground Pin
Step 2	Connect input and output
step3	Connect -5V biasing
Step 4	Connect +4V biasing
Power OFF Procedure	
Step 1	Turn off +4V biasing
step2	Turn off -5V biasing
Step 3	Remove RF connection
Step 4	Remove Ground.

Environmental Specifications

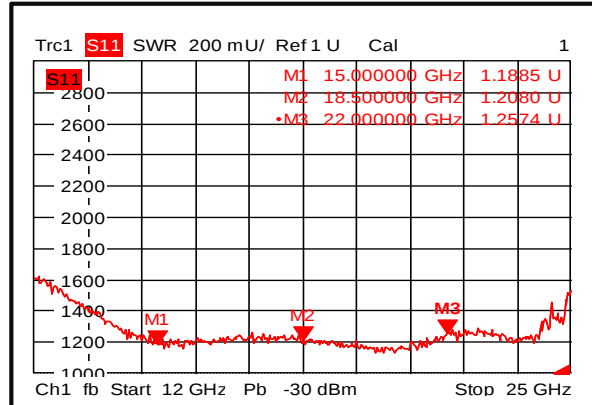
Operational Temperature (°C)	-45 to +85
Storage Temperature (°C)	-55 to +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

Typical Performance Plots

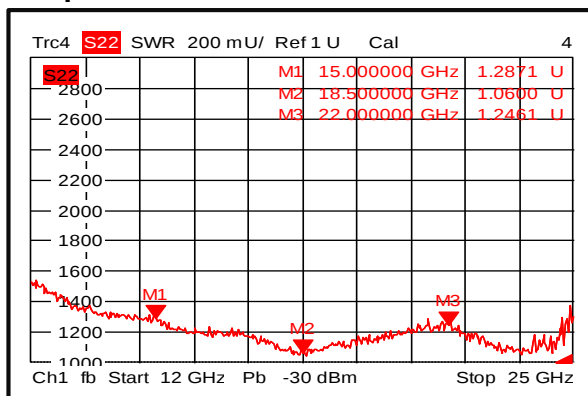
Gain



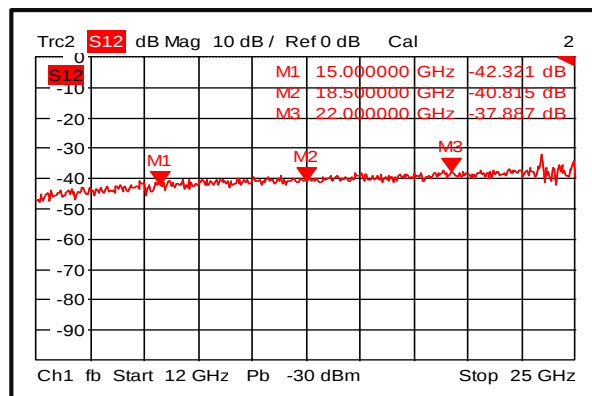
Input VSWR



Output VSWR



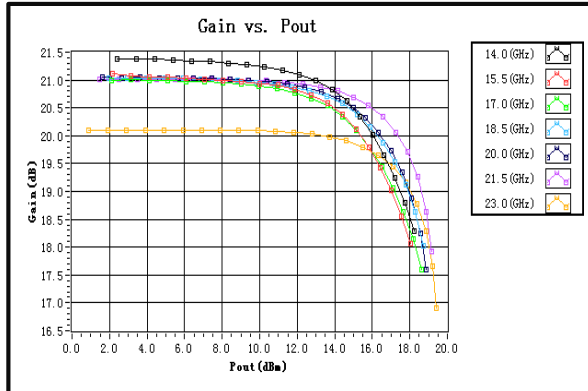
Isolation



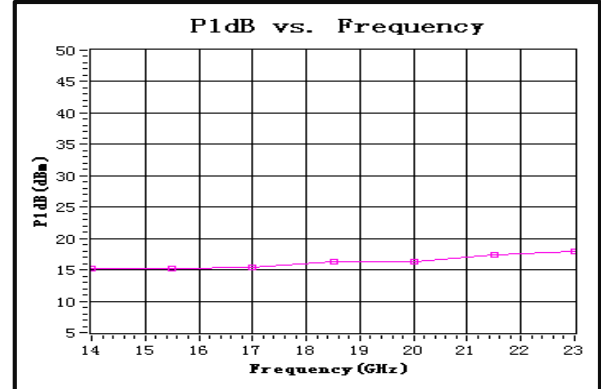
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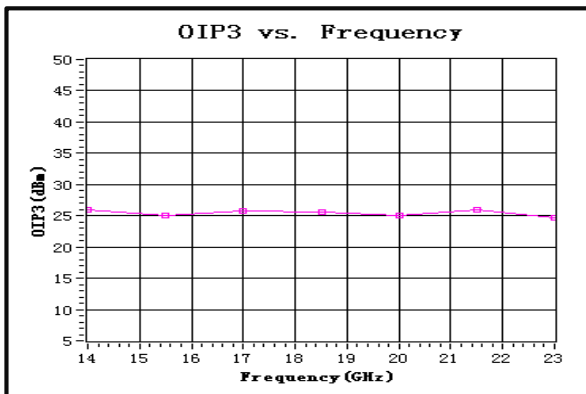
Gain vs. Output Power



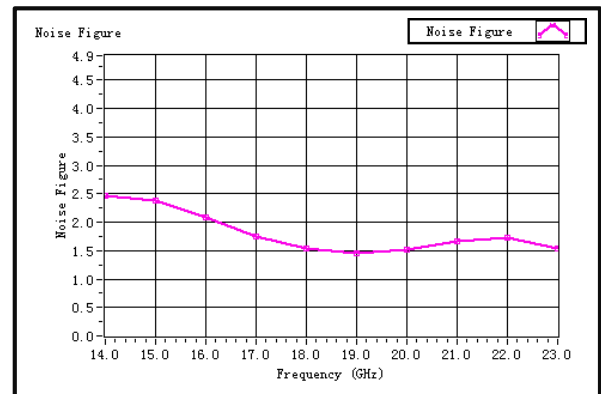
P1dB vs. Frequency



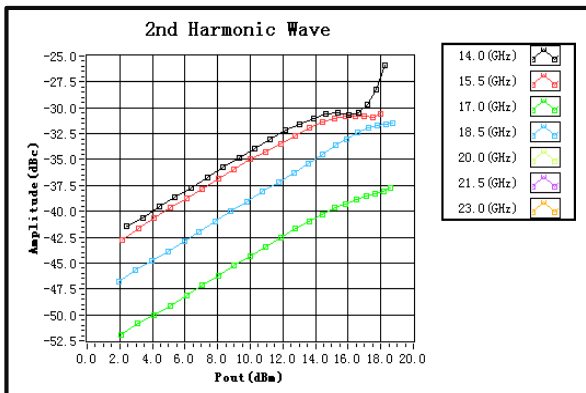
Output Third Order Intercept (IP3)



Noise Figure



2nd Harmonic Wave Output Power

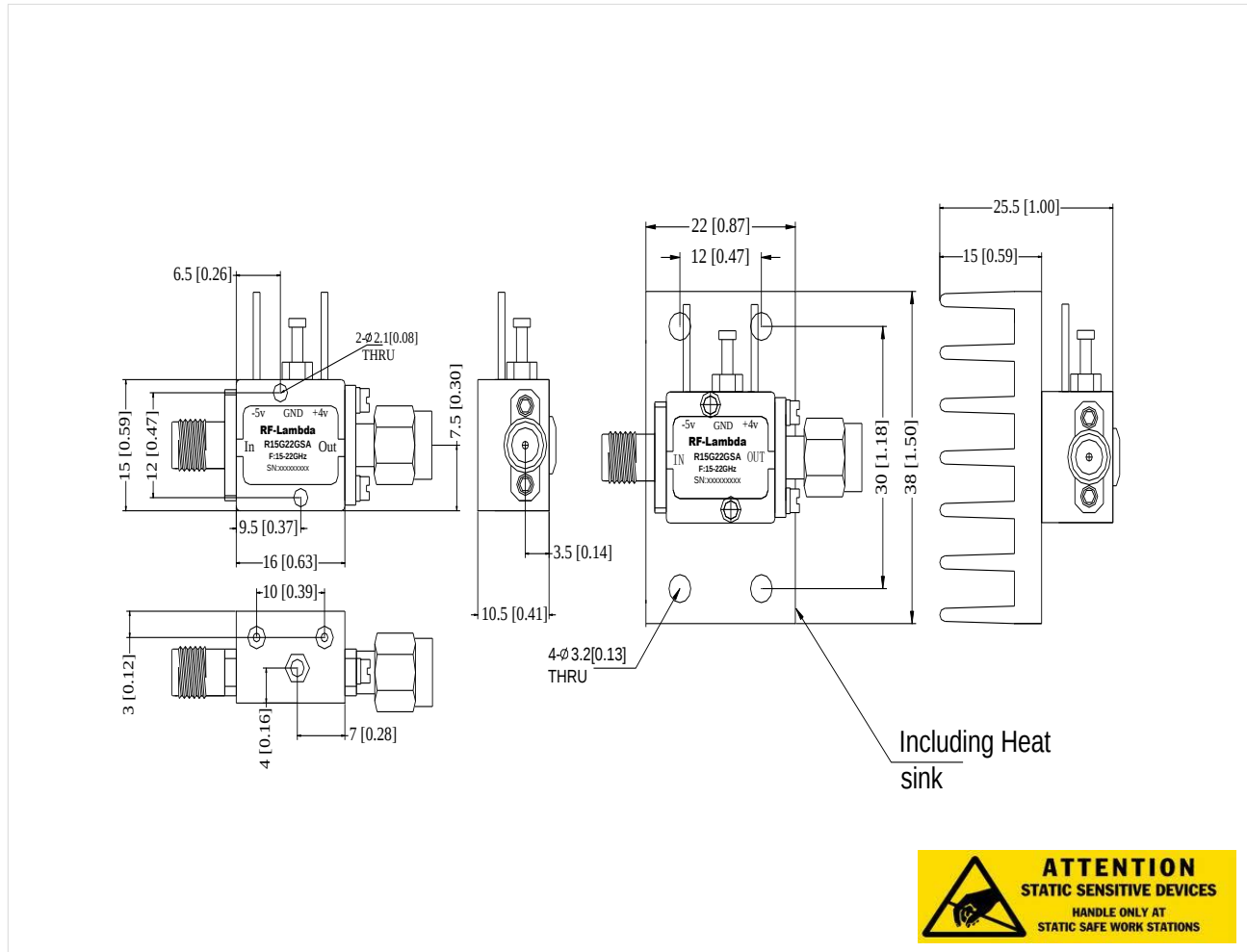




Outline Drawing:

All Dimensions in mm [inches]

Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
R15G22GSA	EAR99	15-22GHz Low Noise Amplifier

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