



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

R14G27GSB

Wide Band Low Noise Amplifier 14GHz ~ 27GHz



Features

- Gain: 20dB Typical
- Noise Figure: 2.0dB Typical
- P1dB Output Power: +15dB m Typical
- Supply Voltage: +4V @ 90mA
- 50 Ohm Matched Input / Output
- Size: 0.63" x 0.59" x 0.41"

Typical Applications

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

Wide Band Low Noise Amplifier 14GHz~27GHz

Electrical Specifications, $T_A = +25^\circ\text{C}$, $V_{dd} = +4\text{V}$, $V_{gg} = -5\text{V}$

Parameter	Min.	Typ.	Max.	Units
Frequency Range	14		27	GHz
Gain	17	20		dB
Gain Flatness		±1.5		dB
Gain Variation Over Temperature (-45 ~ +85)		±0.8	±1.0	dB
Noise Figure		2.0	2.8	dB
Input VSWR		1.5	2.0	: 1
Output VSWR		1.7	2.0	: 1
Output 1dB Compression Point (P1dB)	14	15		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		-38		dB
Weight	1.06			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	copper			
Package Sealing	Epoxy Sealing (Standard)			
	Hermetically Seal (Option with extra charge)			



Absolute Maximum Ratings

Operating Voltage	+4.5V, -5.5V
RF Input Power (+4v)	-2dBm

Biasing Up Procedure

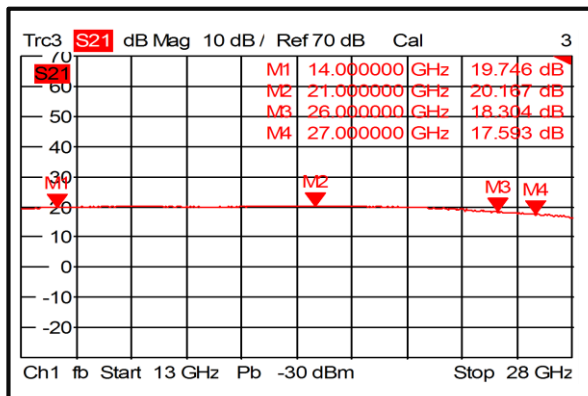
Step 1	Connect Ground Pin
Step 2	Connect input and output
step3	Connect -5V biasing
Step 4	Connect +4V biasing
Power OFF Procedure	
Step 1	Turn off +4V biasing
step2	Turn off -5V biasing
Step 3	Remove RF connection
Step 4	Remove Ground.

Environmental Specifications

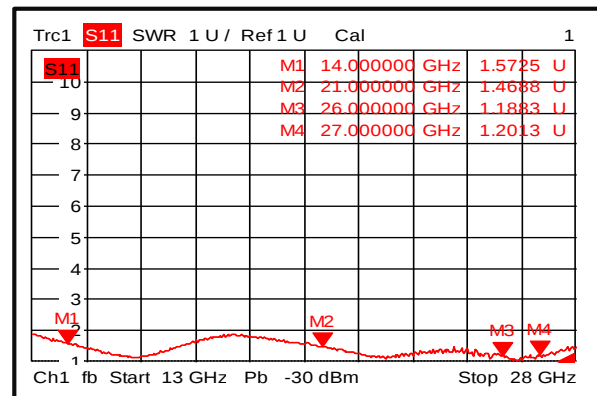
Operational Temperature (°C)	-45 to +85
Storage Temperature (°C)	-55 to +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

Typical Performance Plots

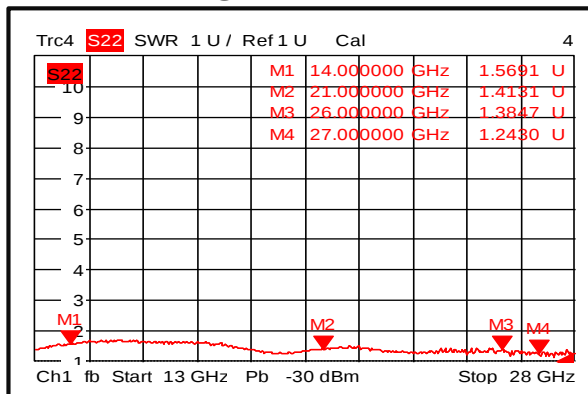
Gain @ +25°C



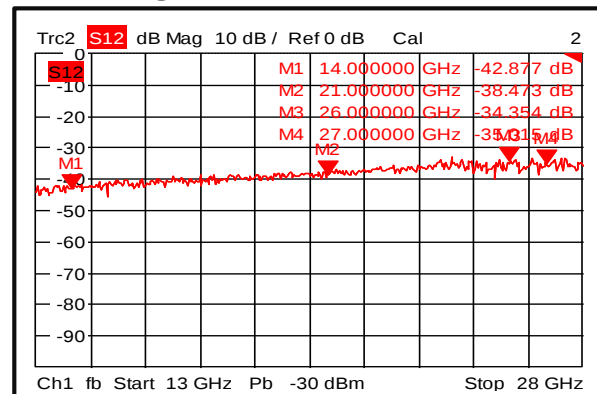
Input VSWR @ +25°C



Output VSWR @ +25°C

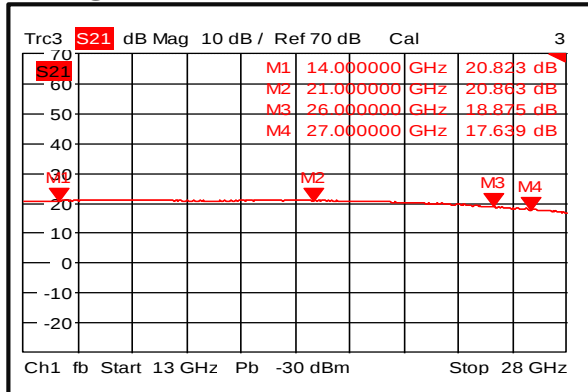


Isolation @ +25°C

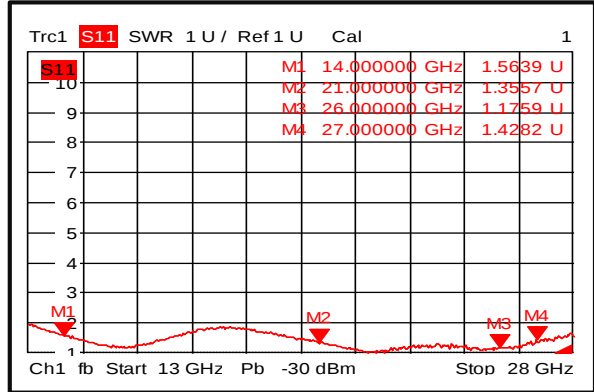




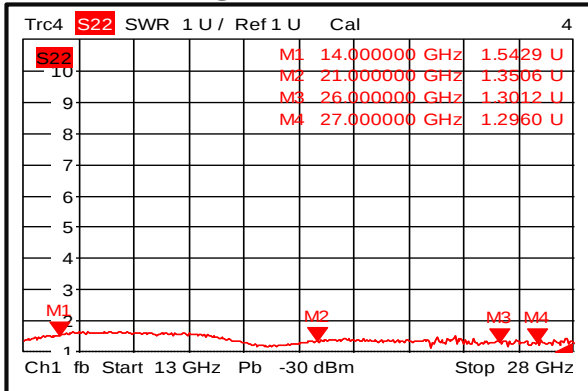
Gain @ -45°C



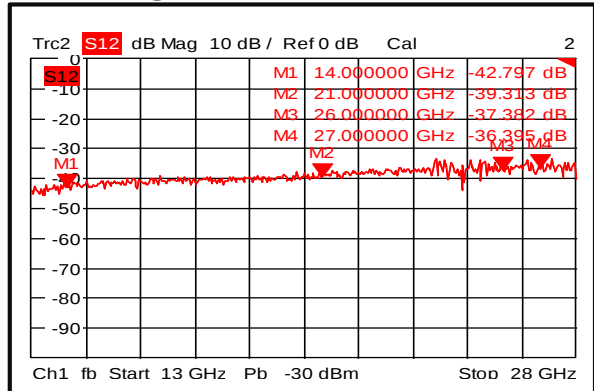
Input VSWR @ -45°C



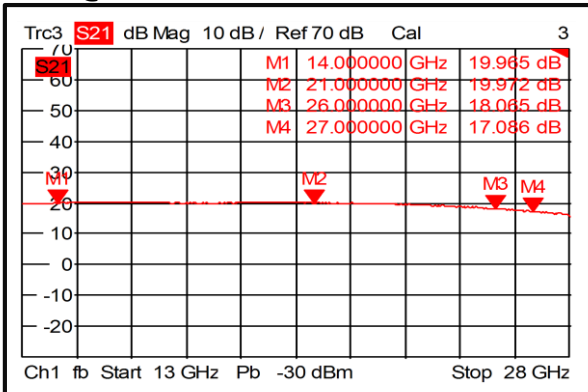
Output VSWR @ -45°C



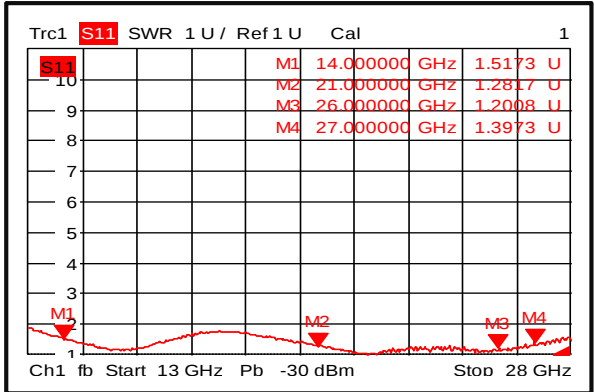
Isolation @ -45°C



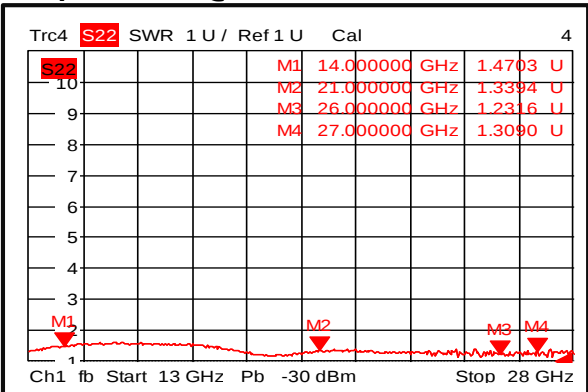
Gain @ +85°C



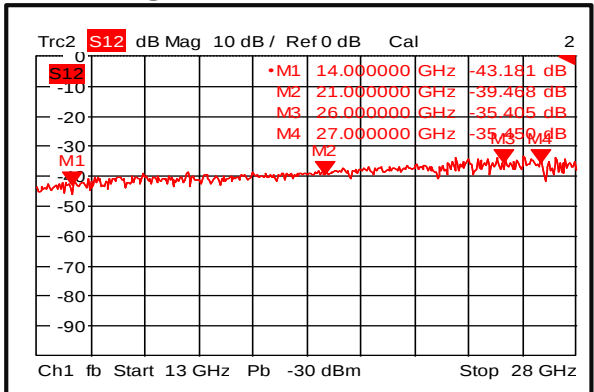
Input VSWR @ +85°C



Output VSWR @ +85°C

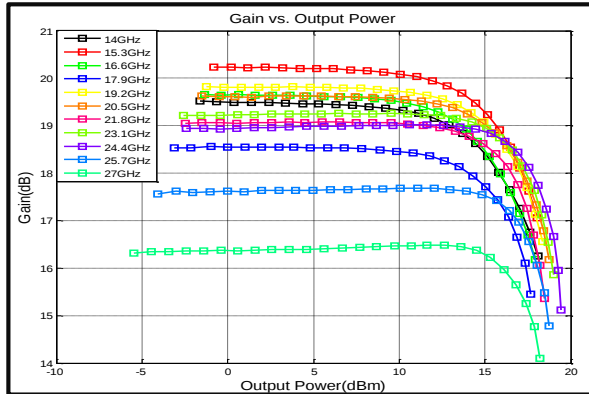


Isolation @ +85°C

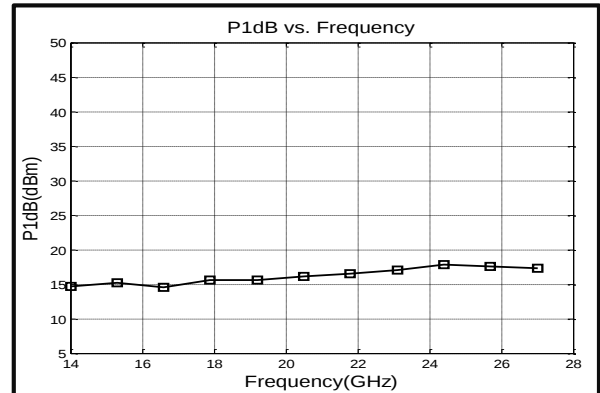




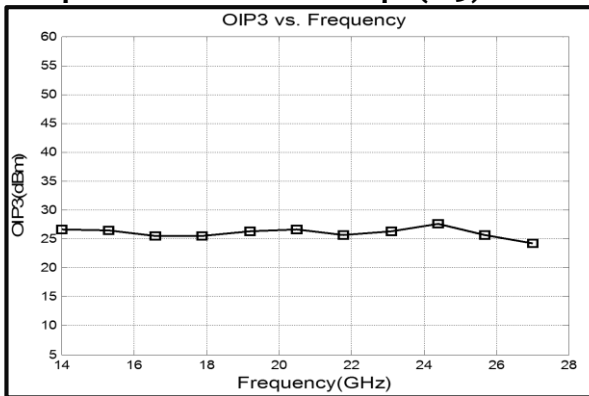
Gain vs. Output Power



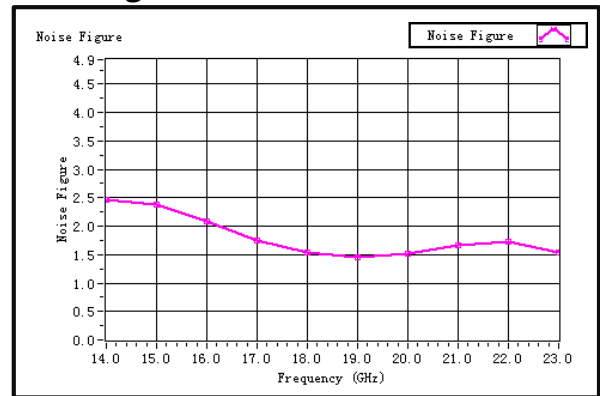
P1dB vs. Frequency



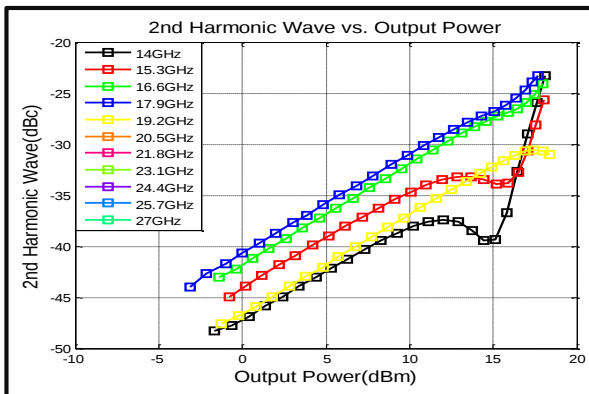
Output Third Order Intercept (IP3)



Noise Figure



2nd Harmonic Wave Output Power

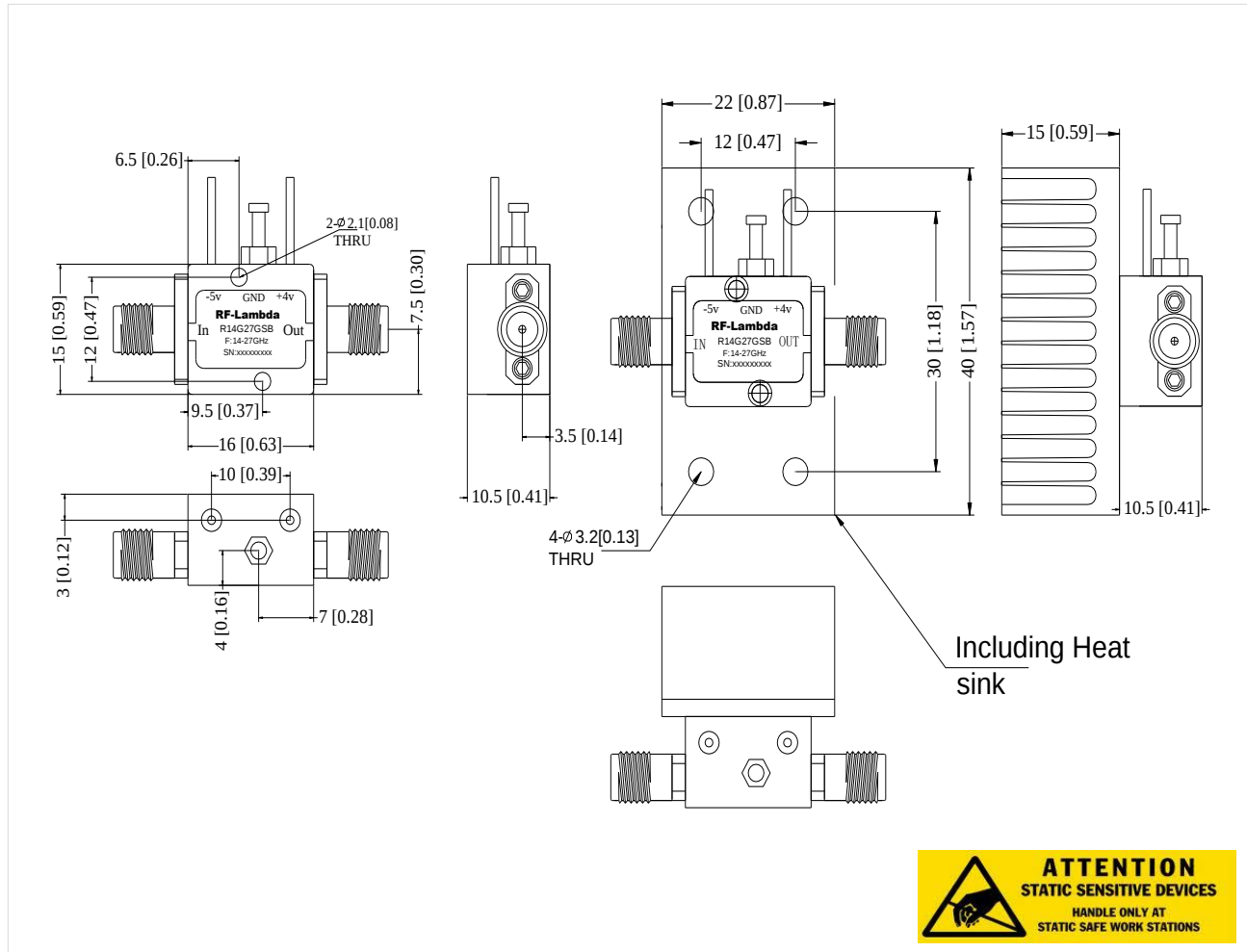




Outline Drawing:

All Dimensions in mm [inches]

Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
R14G27GSB	EAR99	14-27GHz Low Noise Amplifier

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