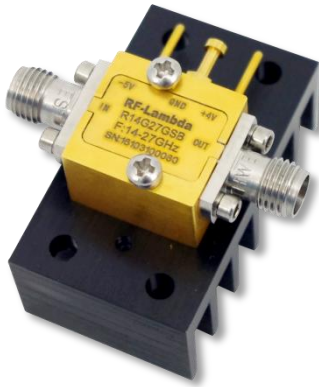




Wide Band Low Noise Amplifier 14GHz ~ 27GHz



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

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
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.

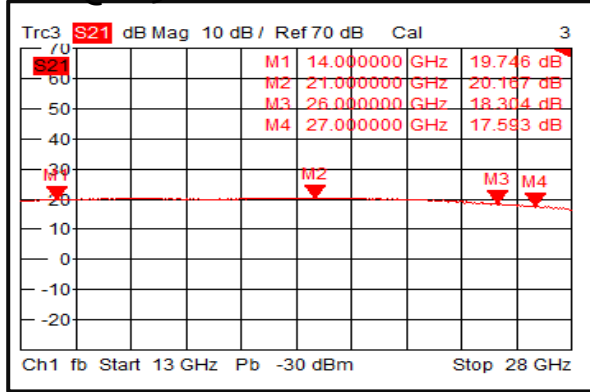
Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-55°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 Hours
Shock		1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude		Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883	MIL-STD-883 (For Hermetically Sealed Units)

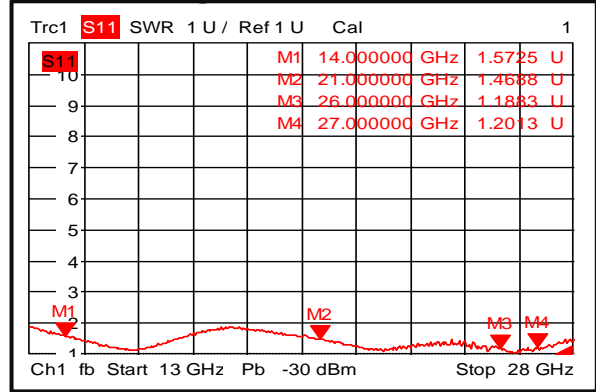


Typical Performance Plots

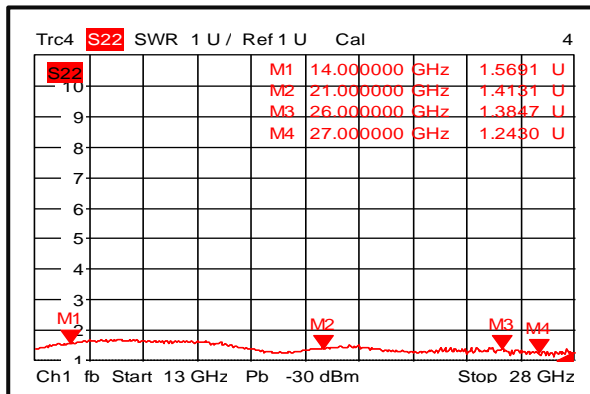
Gain @ +25°C



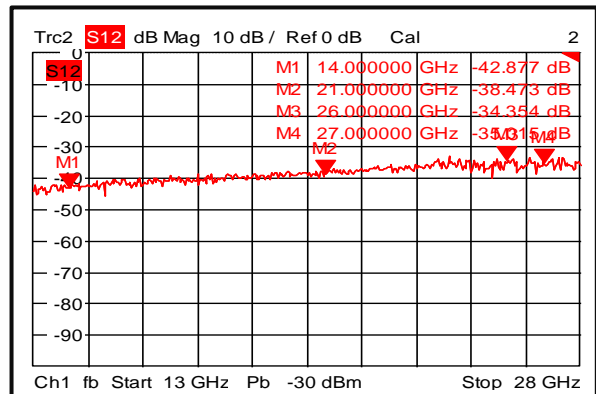
Input VSWR @ +25°C



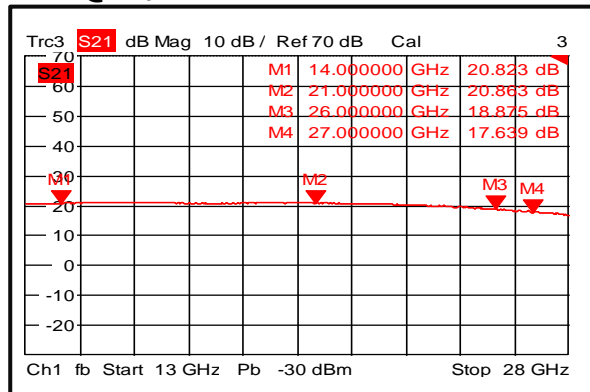
Output VSWR @ +25°C



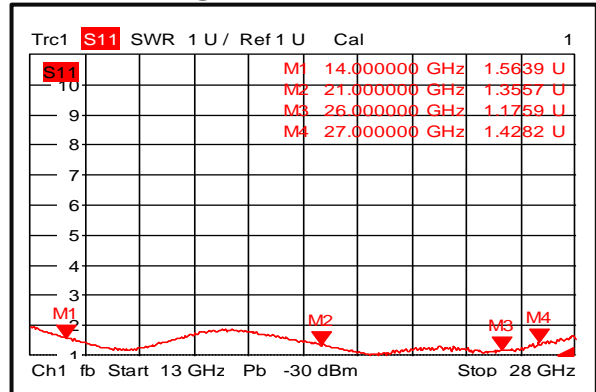
Isolation @ +25°C



Gain @ -45°C



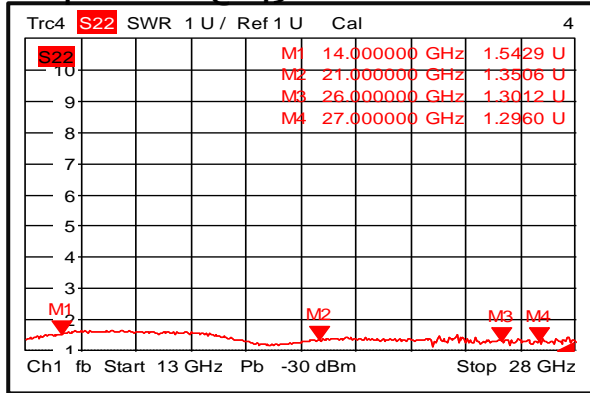
Input VSWR @ -45°C



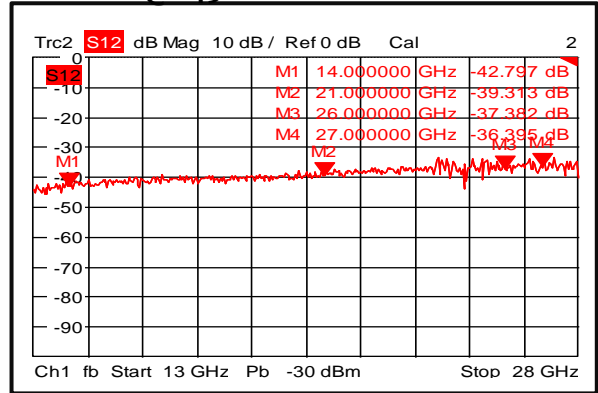
Wide Band Low Noise Amplifier 14GHz~27GHz



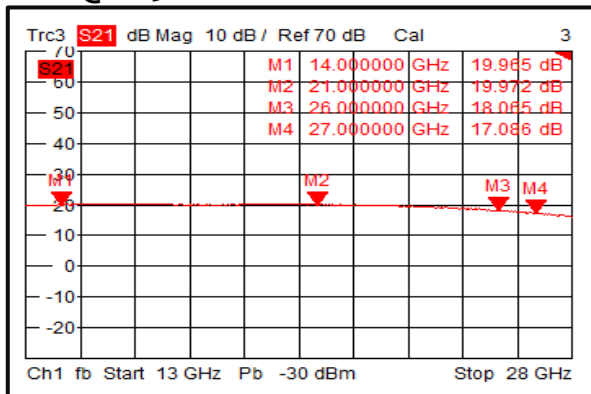
Output VSWR @ -45°C



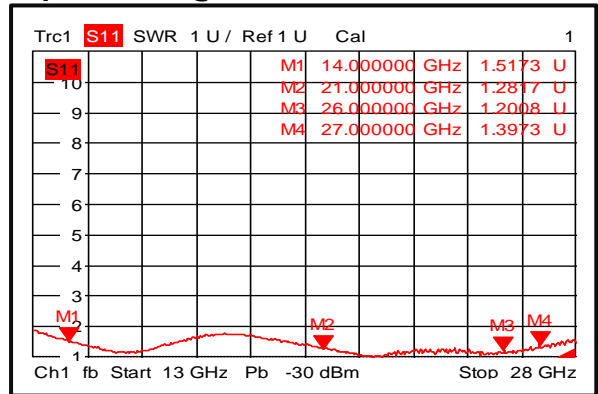
Isolation @ -45°C



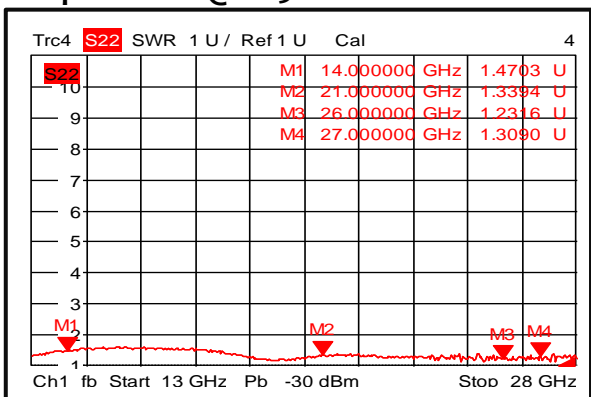
Gain @ +85°C



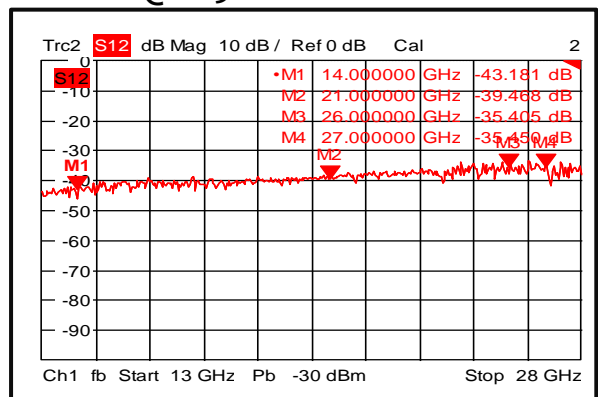
Input VSWR @ +85°C



Output VSWR @ +85°C



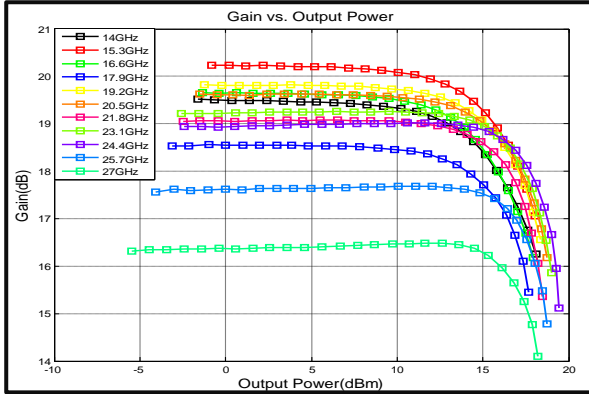
Isolation @ +85°C



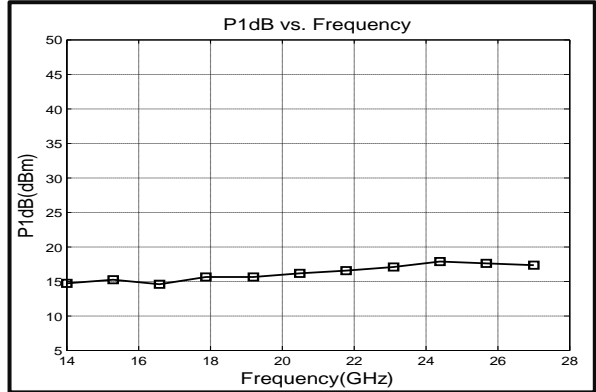
Wide Band Low Noise Amplifier 14GHz~27GHz



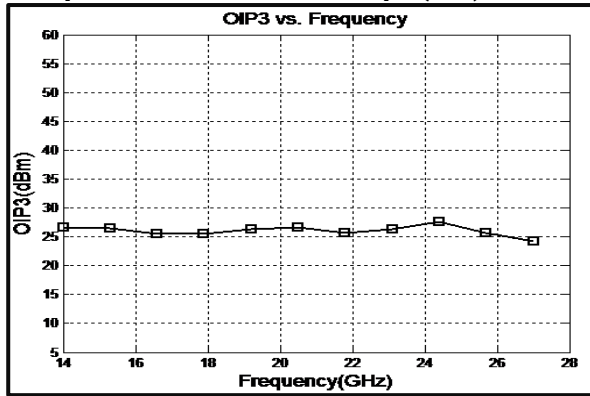
Gain vs. Output Power



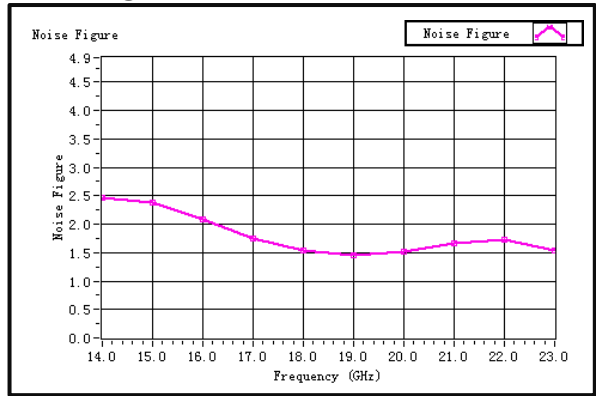
P1dB vs. Frequency



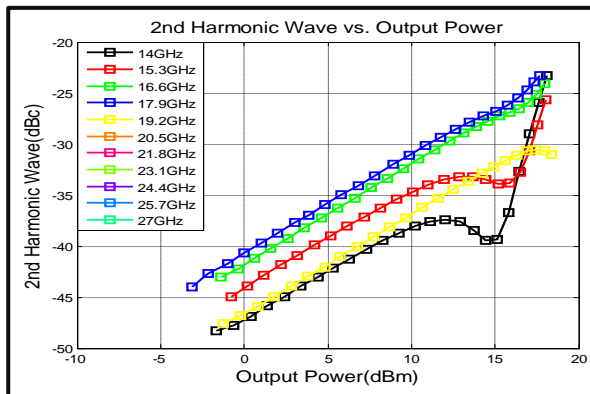
Output Third Order Intercept (IP3)



Noise Figure



2nd Harmonic Wave Output Power



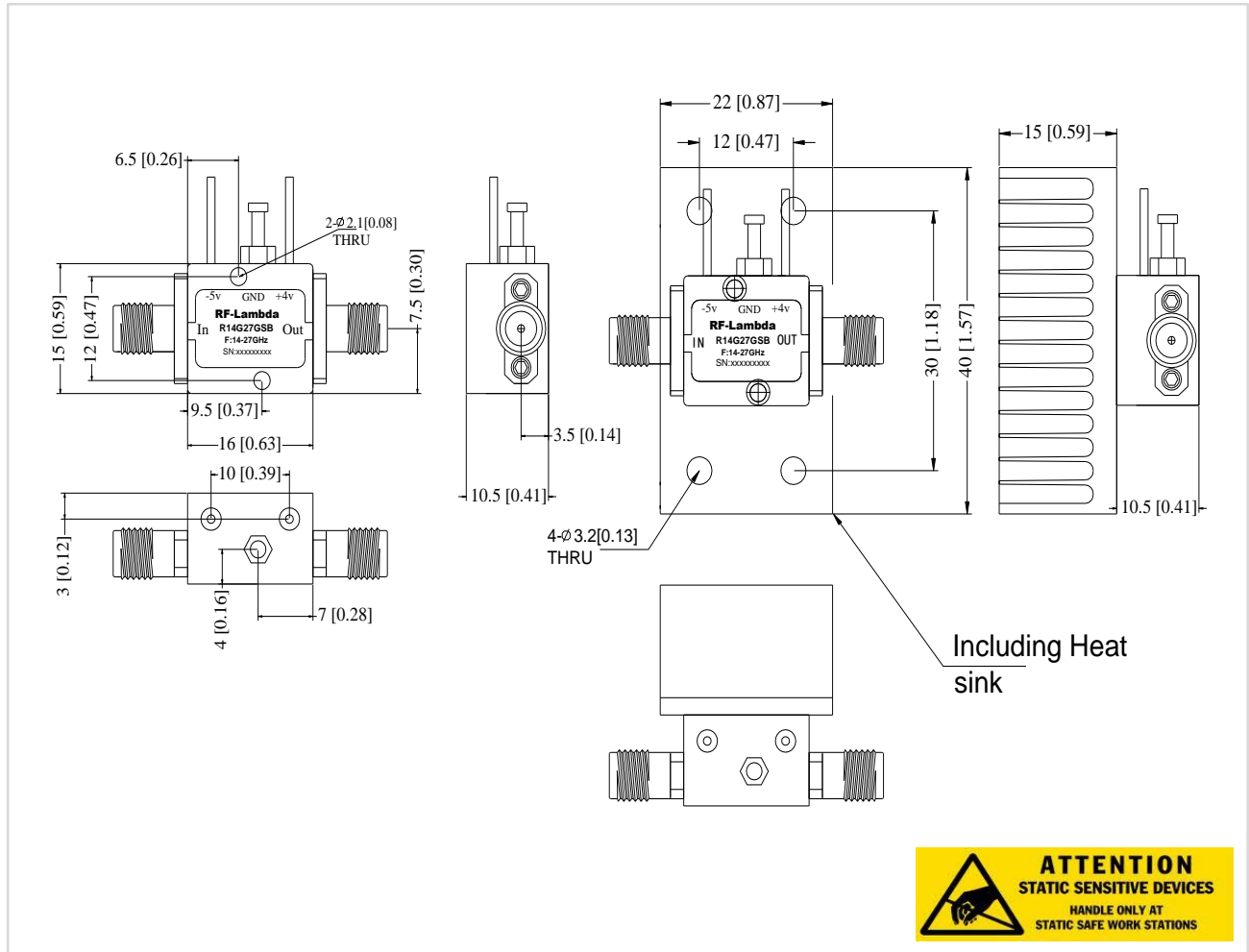
Wide Band Low Noise Amplifier 14GHz~27GHz



Outline Drawing:

All Dimensions in mm [inches]

Heat Sink required during operation (Sold Separately)



Wide Band Low Noise Amplifier 14GHz~27GHz

Ordering Information

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

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