



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

R17G26GSA

Wide Band Low Noise Amplifier 17GHz~26GHz



Features

- Gain: 19 dB Typical
- Noise Figure: 2.2 dB Typical
- P1dB Output Power: +14dBm Typical
- Supply Voltage: +3 V

Typical Applications

- Wireless Infrastructure
- RF Microwave & VSAT
- Military & Aerospace
- Test and Measurement

Electrical Specifications, $T_A = +25^{\circ}\text{C}$, $V_{CC} = +3\text{V}$

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	17		22	22		26	GHz
Gain	17	19		16	18		dB
Gain Flatness		± 0.5	± 1.0		± 1.0	± 1.5	dB
Gain Variation Over Temperature ($-45^{\circ}\text{C} \sim +85^{\circ}\text{C}$)		± 1.0			± 1.0		dB
Noise Figure		2.2	2.5		2.4	3.0	dB
Input VSWR		1.8	2.0		1.6	2.0	:1
Output VSWR		1.6	2.0		1.3	1.6	:1
Output 1dB Compression Point (P1dB)	11	13		12	14		dBm
Saturated Output Power (Psat)		15			16		dBm
Output Third Order Intercept (IP3)		23			23		dBm
Supply Current ($V_{CC}=+3\text{V}$)		65	88		65	88	mA
Isolation S12		-45			-40		dB
Weight	0.35						ounces
Impedance	50						Ohms
Input / Output Connectors	2.92mm-Female						
Finish	Gold Plated						
Material	Aluminum						
Package Sealing	Epoxy Sealed (Standard)						
	Hermetically Sealed (Optional)						

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Absolute Maximum Ratings

Operating Voltage	+5V
RF Input Power	+2dBm

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 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	MIL-STD-883	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)		MIL-STD-883 (For Hermetically Sealed Units)

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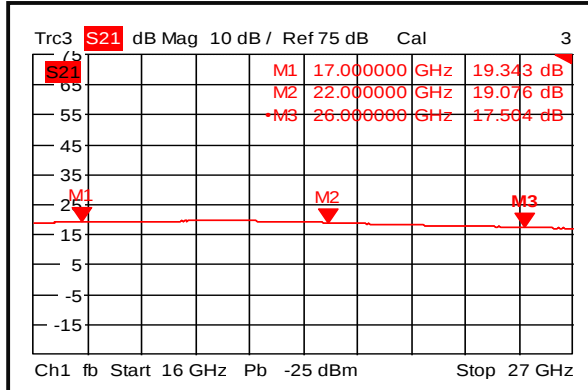
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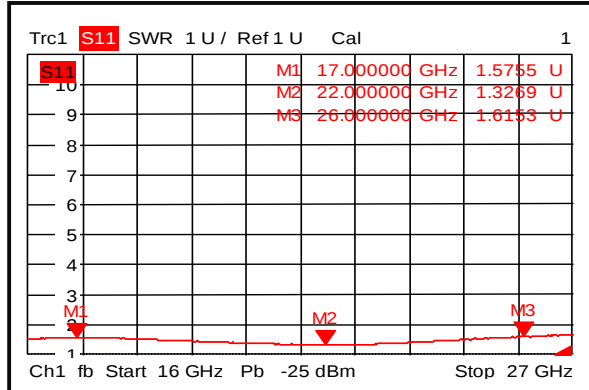
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Typical Performance Plots

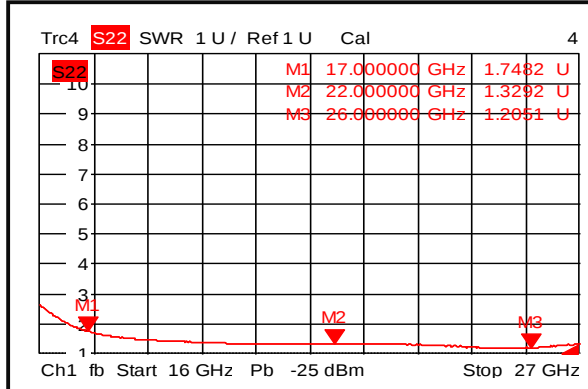
Gain @+25°C



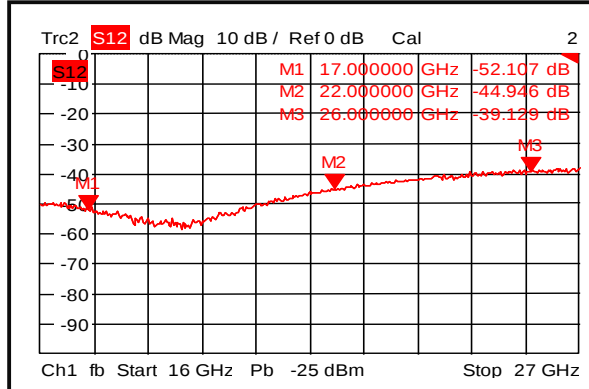
Input VSWR @+25°C



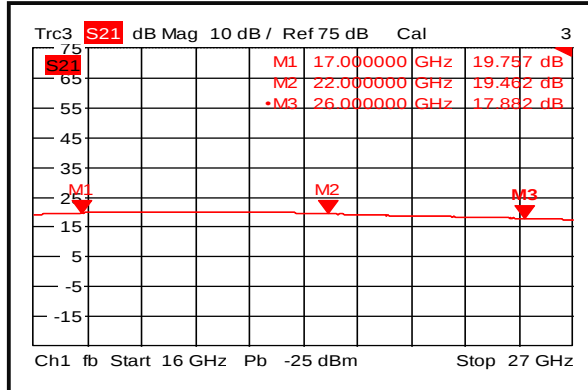
Output VSWR @+25°C



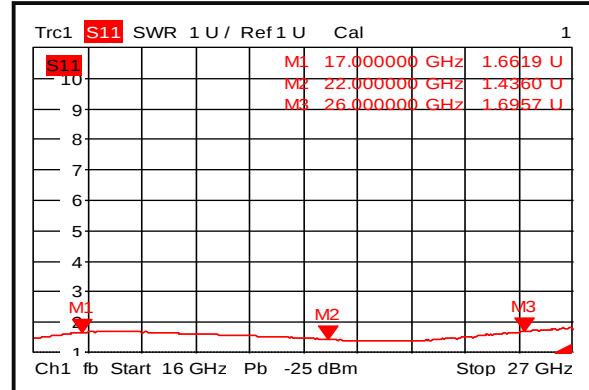
Isolation @+25°C



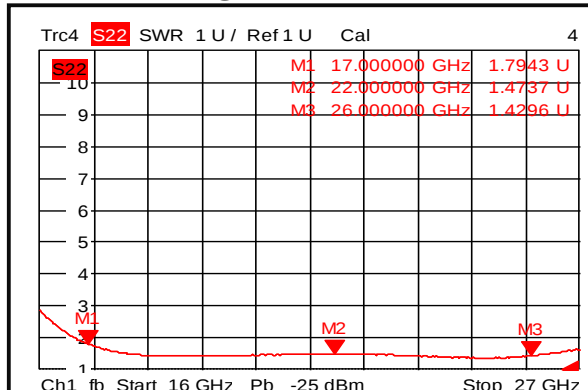
Gain @-45°C



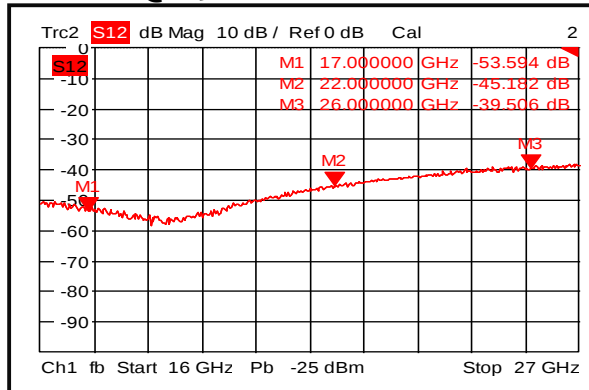
Input VSWR @-45°C



Output VSWR @-45°C



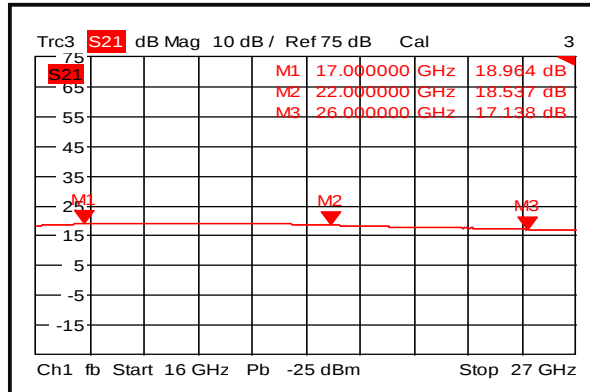
Isolation @-45°C



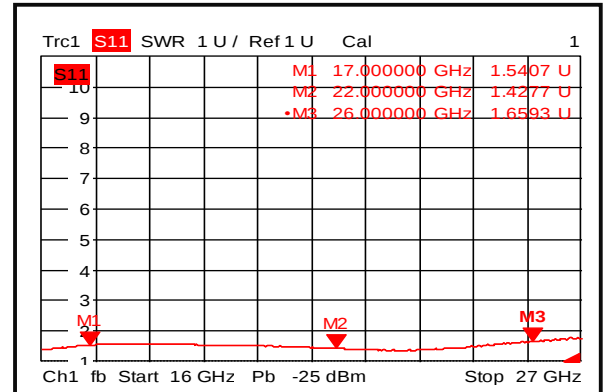
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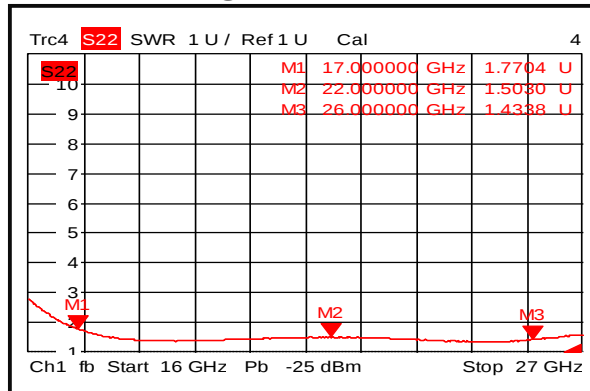
Gain @+85°C



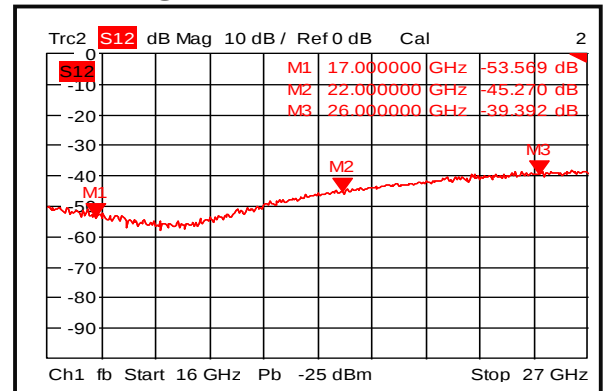
Input VSWR @+85°C



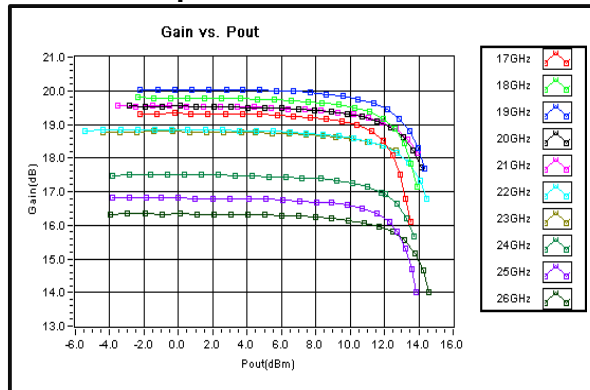
Output VSWR @+85°C



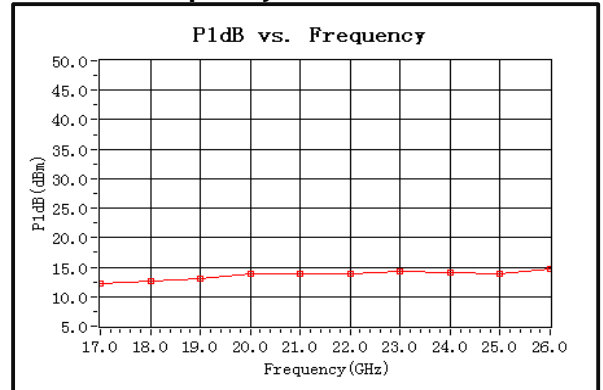
Isolation @+85°C



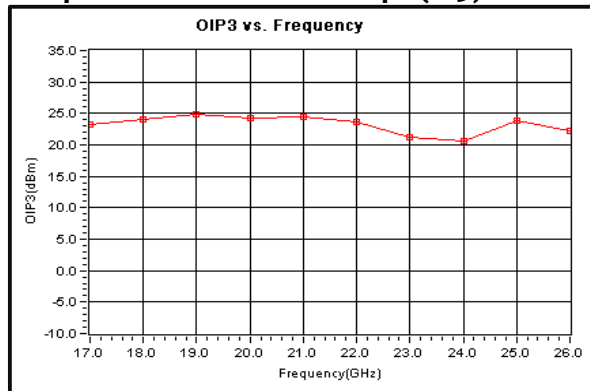
Gain vs. Output Power



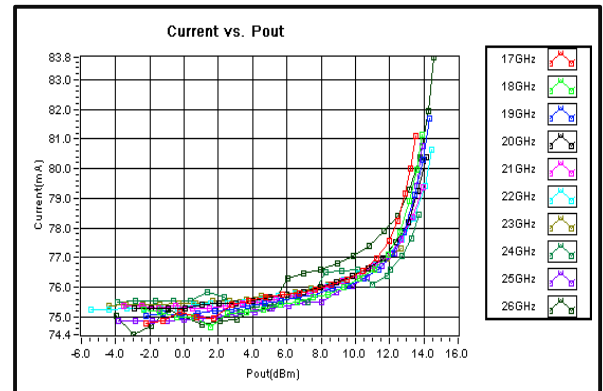
P1dB vs. Frequency



Output Third Order Intercept (IP3)

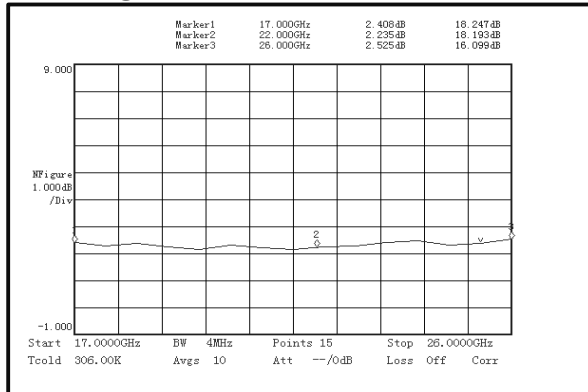


Current

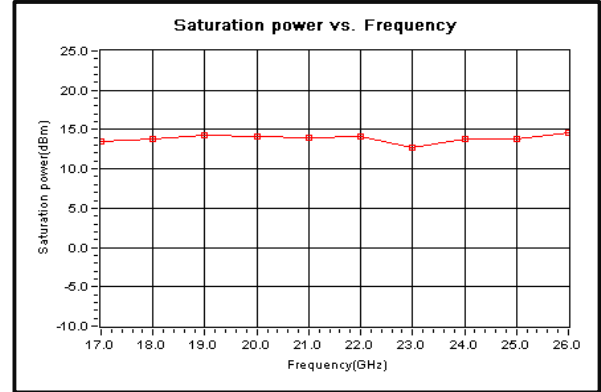




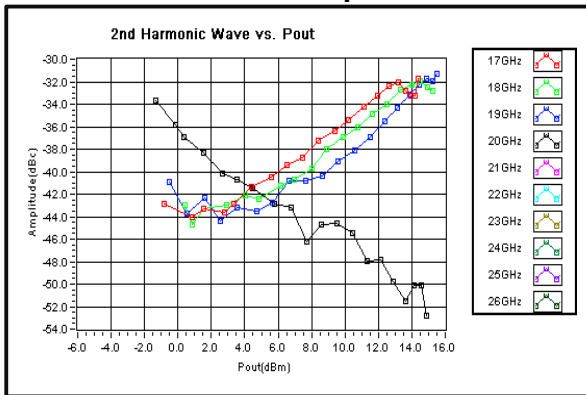
Noise Figure



Saturation Power vs. Frequency



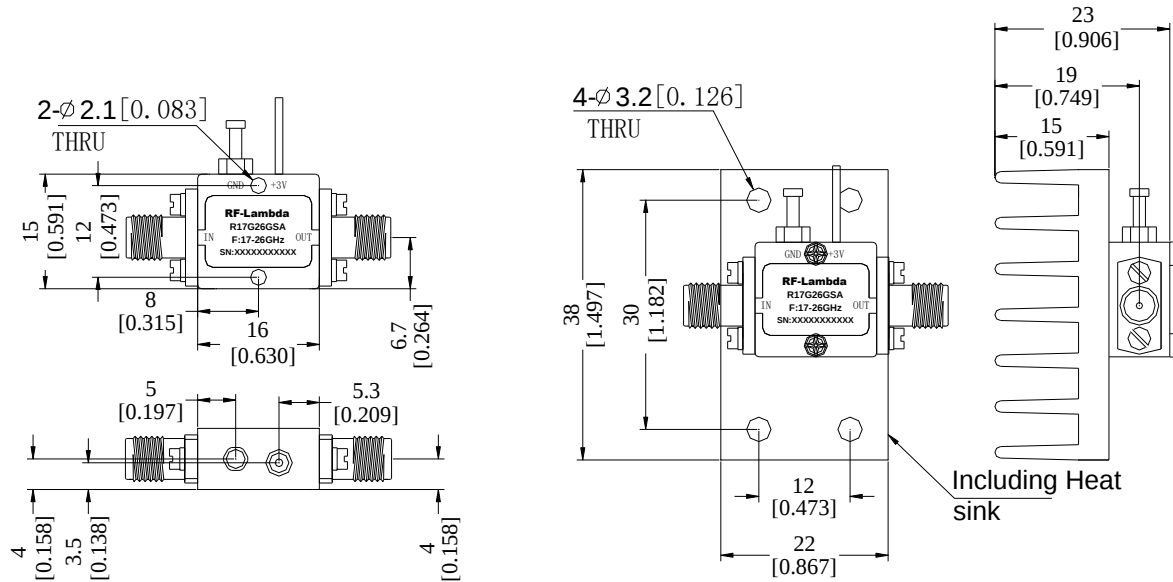
2nd Harmonic Wave Output Power





Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



Ordering Information

Part No.	ECCN	Description
R17G26GSA	EAR99	17-26GHz Low Noise Amplifier

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