



### Wide Band Low Noise Amplifier 17GHz~27GHz

#### Features

- Gain: 28dB typical
- Noise Figure: 2.2dB typical
- High P1dB: +21dBm typical
- Supply Voltage: +12V

#### Typical Applications

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



Electrical Specifications, TA = +25 °C, Vcc = +12V

Parameter	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range	17		22	22		27	GHz
Gain	26	28		25	27.5		dB
Gain Flatness		±0.5	±1.0		±1.0	±1.5	dB
Gain Variation Over Temperature (-45 ~ +85 )		±0.8			±1.0		dB
Noise Figure		2.2	3.0		2.2	3.0	dB
Input VSWR		1.5	1.8		1.5	1.8	:1
Output VSWR		1.7	2.0		1.6	1.8	:1
Output 1dB Compression Point (P1dB)	17	21		19	21		dBm
Saturated Output Power (Psat)		23			23		dBm
Output Third Order Intercept (IP3)		25			25		dBm
Supply Current (Vcc=+12V)		160	200		160	200	mA
Isolation S12		-70			-65		dB
Weight	3.53						ounces
Impedance	50						Ohms
Input / Output Connectors	2.92-Female						
Finish	Standard: Gold 40 micron; Nickel 220 micron thickness						
	Option: Gold 80 micron; Nickel 180 micron thickness						
Material	Aluminum						
Package Sealing	Epoxy Sealed (Standard)						
	Hermetically Sealed (Optional)						

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**Absolute Maximum Ratings**

Operating Voltage	+15V
RF Input Power	-2dBm

**Biasing Up Procedure**

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

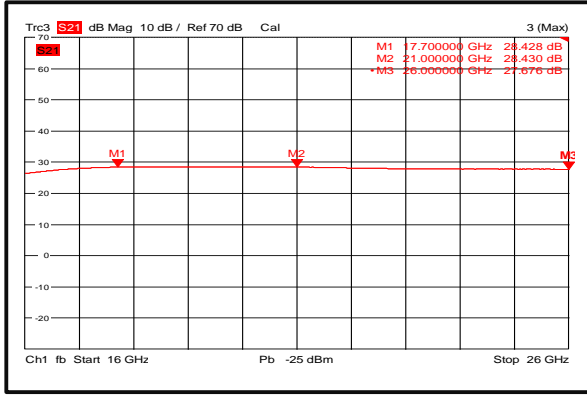
**Environmental Specifications and Test Standards**

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-50°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)

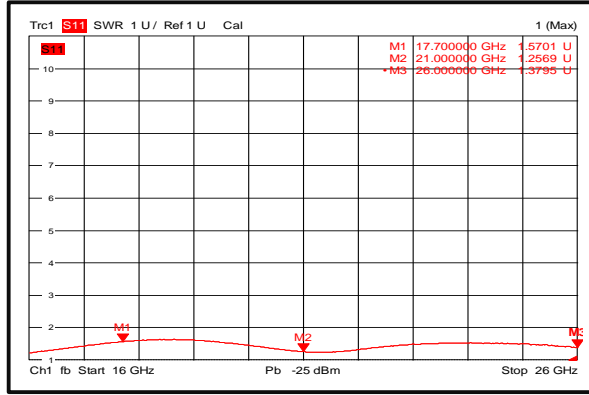


Typical Performance Plots

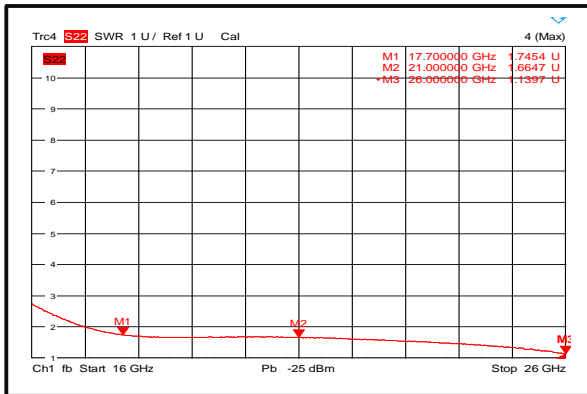
**Gain**



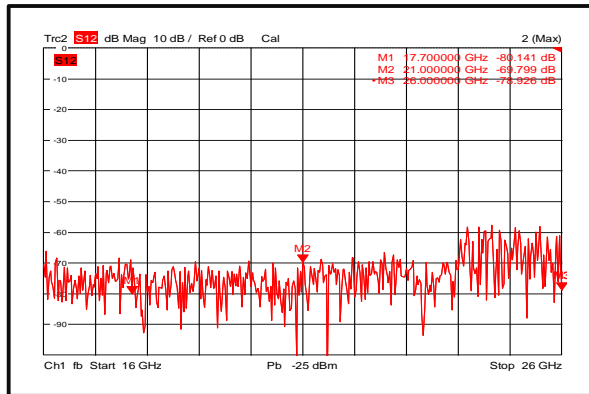
**Input VSWR**



**Output VSWR**

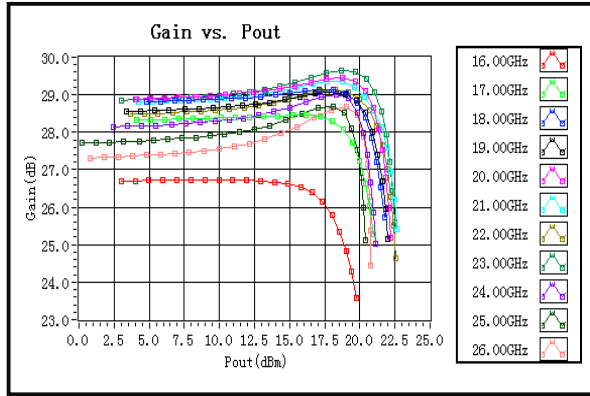


**Isolation**

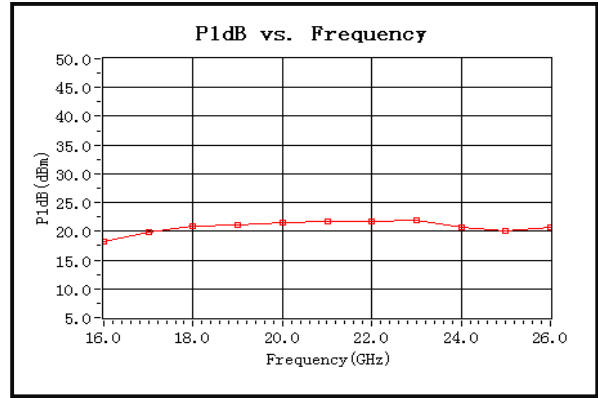




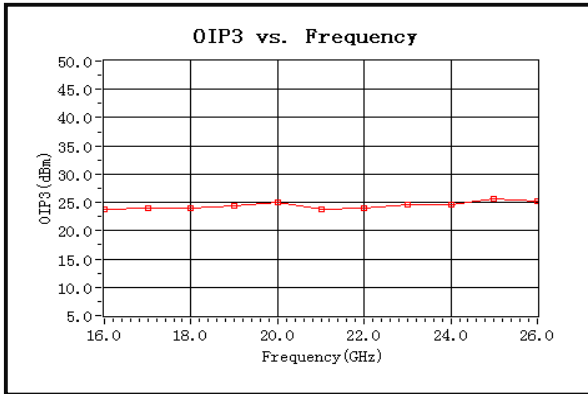
**Gain vs. Output Power**



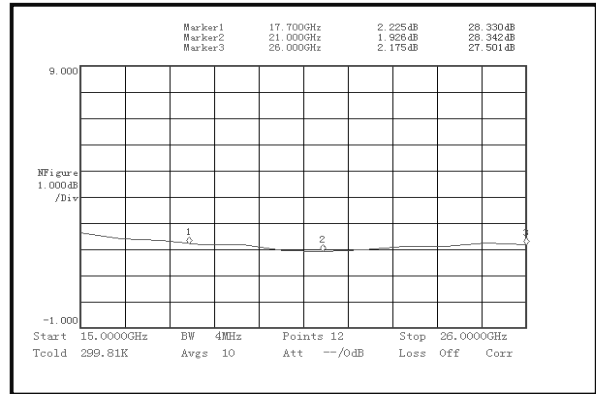
**P1dB vs. Frequency**



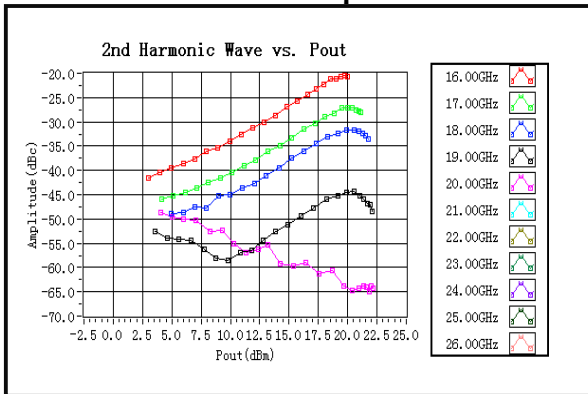
**Output Third Order Intercept (IP3)**



**Noise Figure**



**2nd Harmonic Wave Output Power**

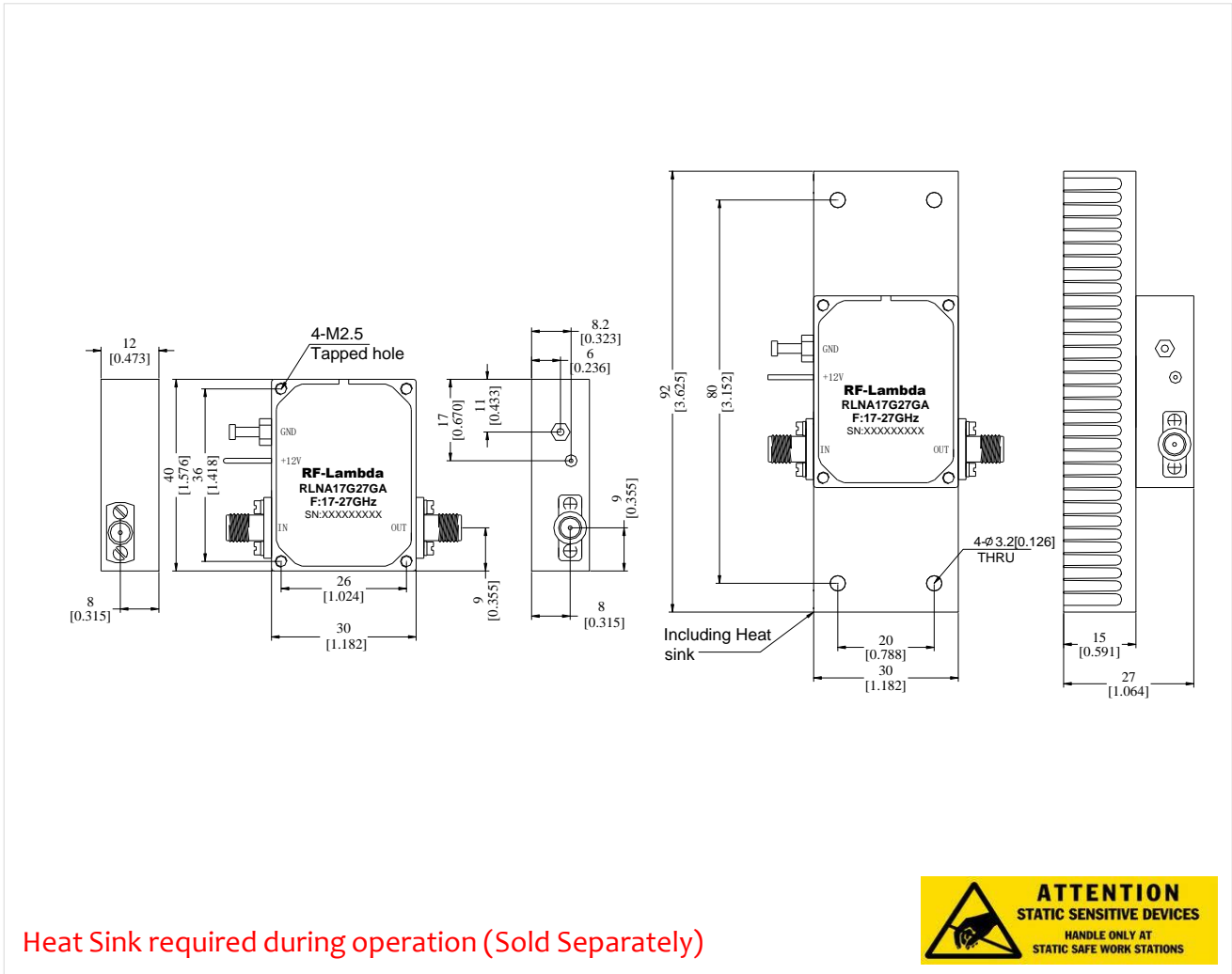


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**Outline Drawing:**

All Dimensions in mm [inches]



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**Ordering Information**

Part No.	ECCN	Description
RLNA17G27GA	EAR99	17-27GHz Low Noise Amplifier

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