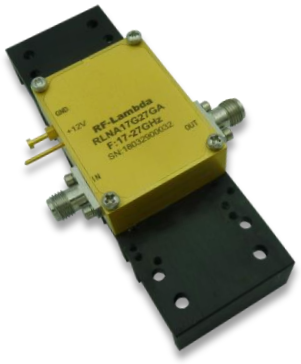
Wide Band Low Noise Amplifier
17GHz~27GHz



Features

- Gain: 31dB typical
- Noise Figure: 2.0dB typical
- High P1dB: +21dBm typical
- Supply Voltage: +12V

Typical Applications

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

RoHS Compliant

Electrical Specifications, TA = +25℃, Vcc = +12V

Parameter	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range	17		22	22		27	GHz
Gain	29	32		28	30		dB
Gain Flatness		±0.5	±1.0		±1.0	±1.5	dB
Gain Variation Over Temperature (-45 ~ +85)		±1.0			±1.5		dB
Noise Figure		2.2	3.0		2.2	3.0	dB
Input VSWR		1.6	2.0		1.8	2.0	: 1
Output VSWR		1.7	2.0		1.8	2.0	: 1
Output 1dB Compression Point (P1dB)	17	21		18	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	3.17						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	+15V
RF Input Power	-2dBm

Biasing Up Procedure

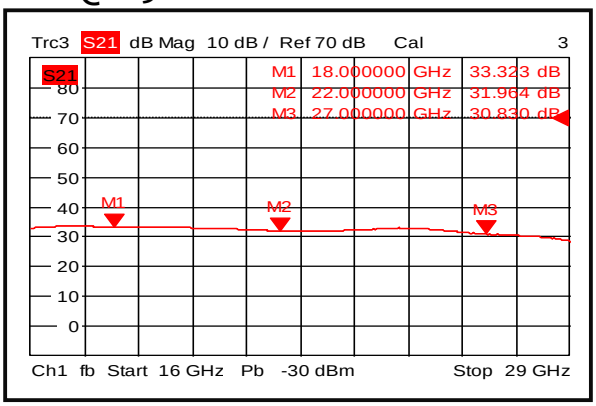
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect bias voltage
Power OFF Procedure	
Step 1	Turn off bias voltage
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications and Test Standards

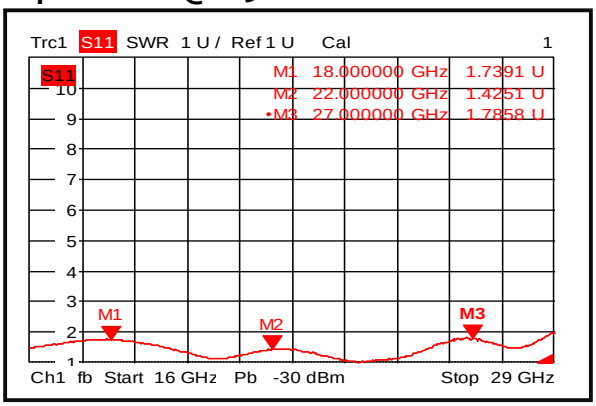
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45℃~+85℃
Storage Temperature		-50℃~+125℃
Thermal Shock		1 Hour@ -45℃→ 1 Hour @ +85℃ (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85℃ for 72 Hours
Shock		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

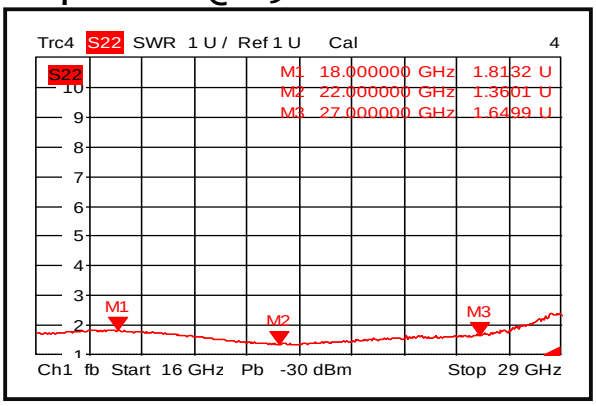
Gain @+25℃



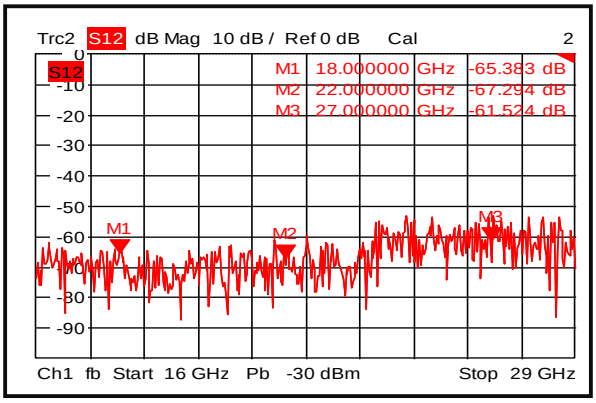
Input VSWR @+25℃



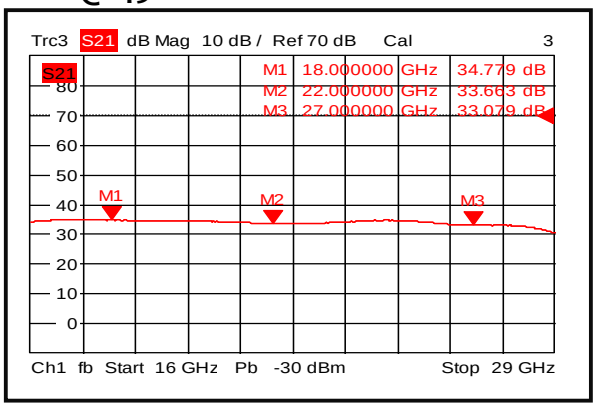
Output VSWR @+25℃



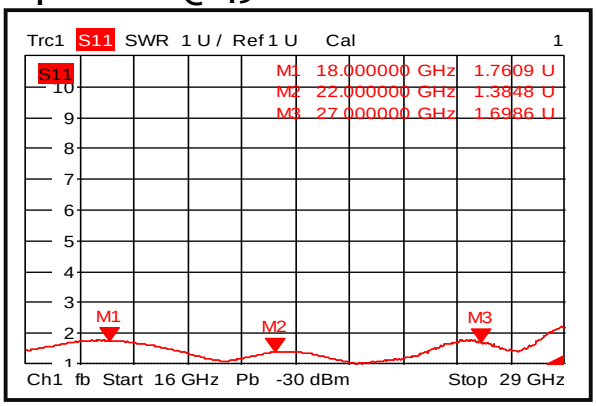
Isolation @+25℃



Gain @-45℃



Input VSWR @-45℃



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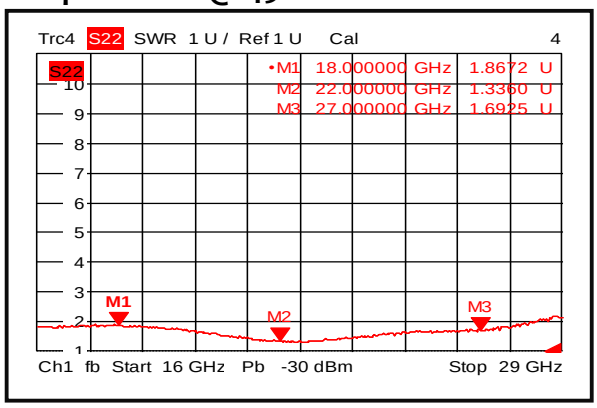
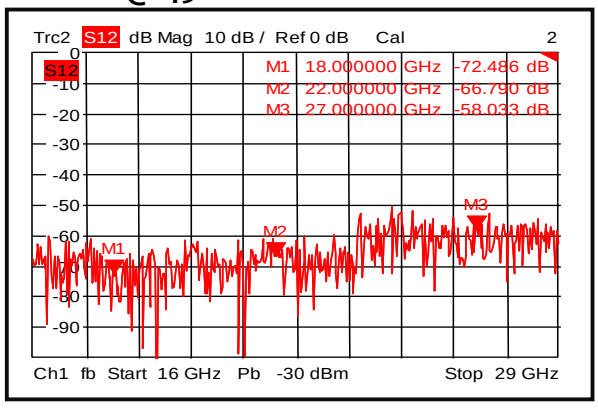
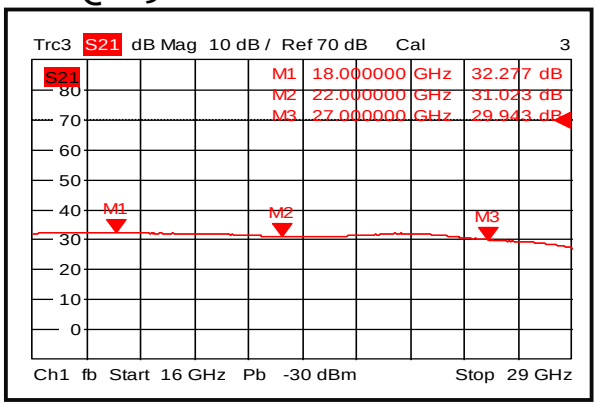
Output VSWR @-45℃



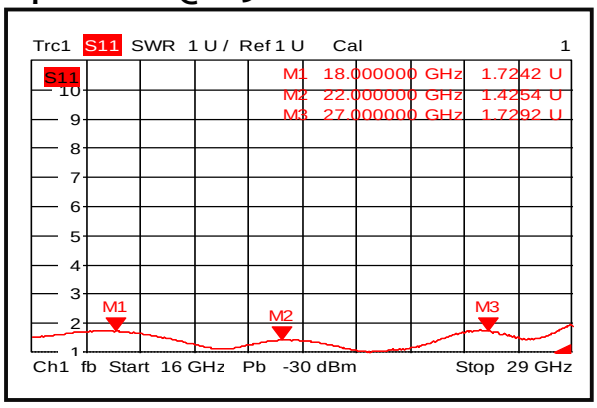
Isolation @-45℃



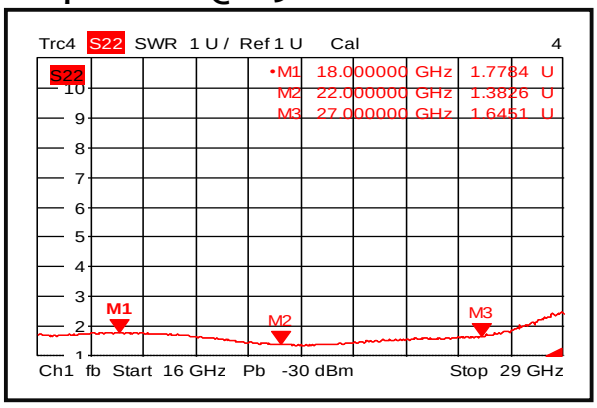
Gain @+85℃



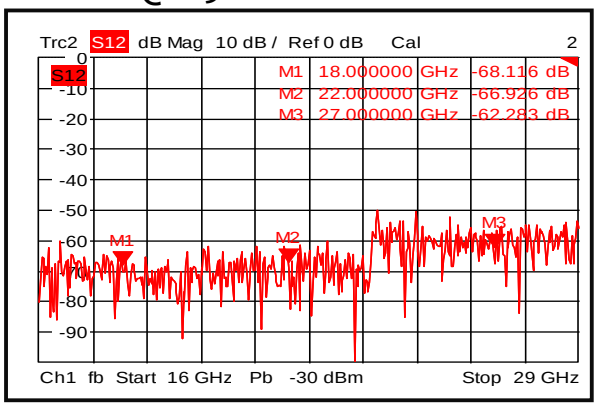
Input VSWR @+85℃



Output VSWR @+85℃



Isolation @+85℃



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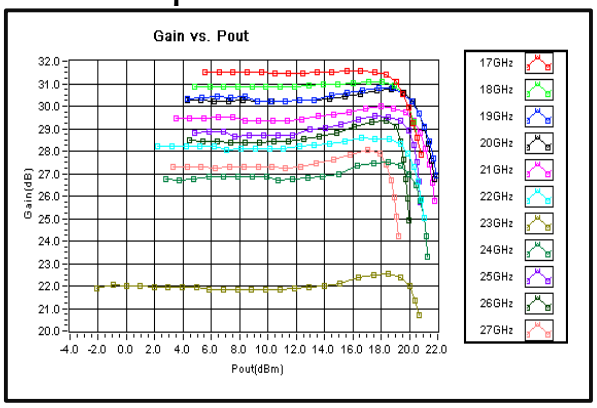
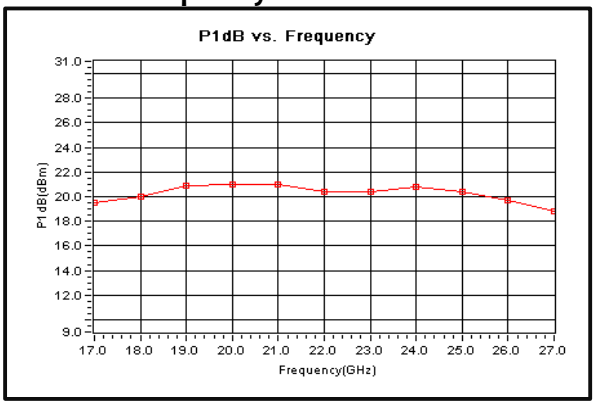
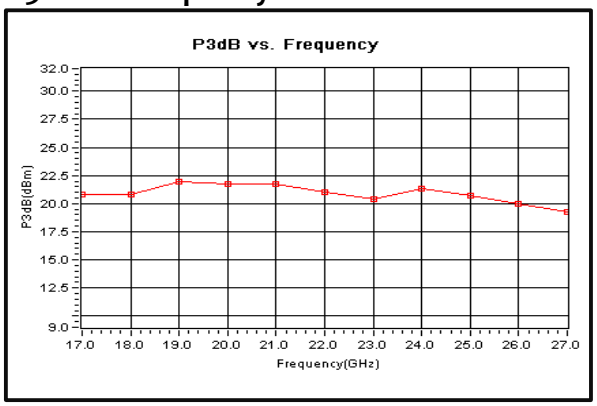
Gain vs. Output Power



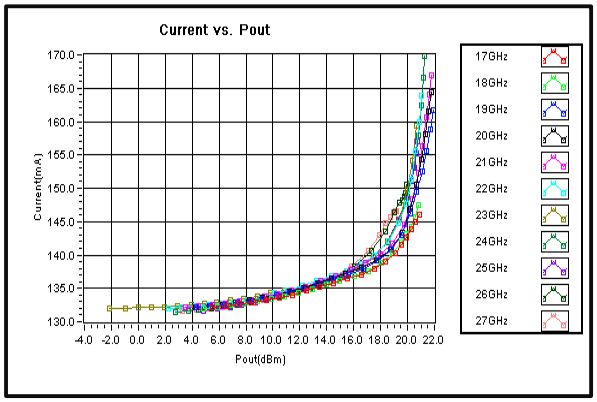
P1dB vs. Frequency



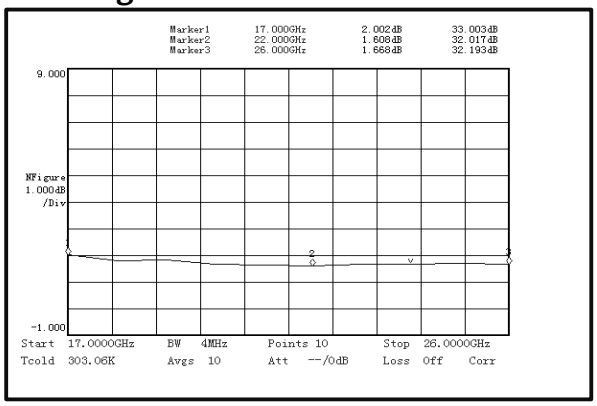
P3dB vs. Frequency



Current vs. Pout



Noise Figure



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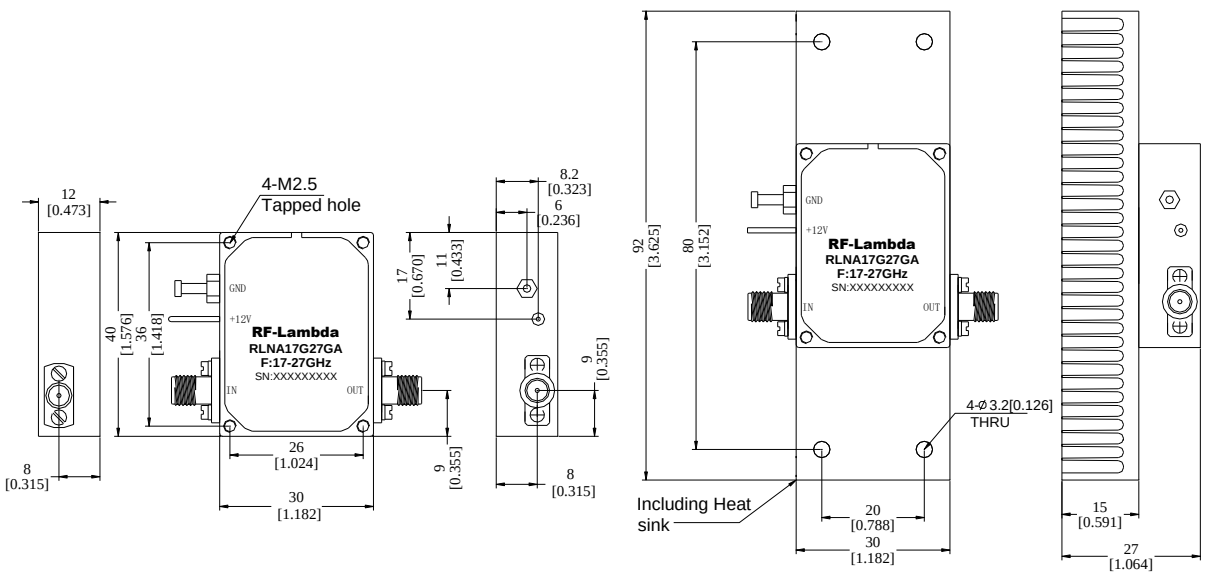
Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)

Ordering Information

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

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