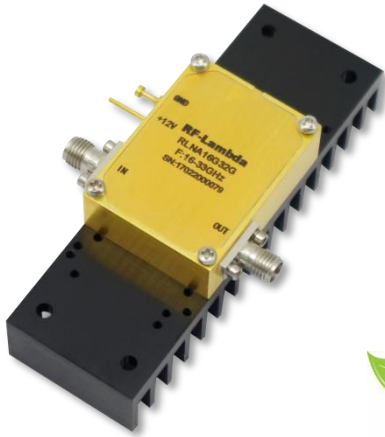




**Wide Band Low Noise Amplifier  
16GHz~33GHz**



**Features**

- Gain: 37dB Typical
- Noise Figure: 2.6dB Typical
- P1dB Output Power: +23dBm Typical
- Supply Voltage: +12V @300mA
- 50 Ohm Matched

**Typical Applications**

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

**Wide Band Low Noise Amplifier 16GHz~33GHz**

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

Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	16		22	22		33	GHz
Gain	31	35		33	37		dB
Gain Flatness		±1.0	±1.5		±1.0	±1.5	dB
Gain Variation Over Temperature (-45 ~ +85)		±1.0			±1.5		dB
Noise Figure		3.5	5.0		3.0	4.0	dB
Input VSWR		1.8	2.4		2.0	2.4	: 1
Output VSWR		1.6	2.0		1.8	2.2	: 1
Output 1dB Compression Point (P1dB)	19	23		19	24		dBm
Saturated Output Power (Psat)		25			26		dBm
Output Third Order Intercept (IP3)		29			28		dBm
Supply Current (Vcc=+12V)		300	350		300	350	mA
Isolation S12		-55			-50		dB
Weight	3.17						Ounces
Impedance	50						Ohms
Input / Output Connectors	2.92-Female						
Finishing	Standard: Gold 40 micron; Nickel 220 micron thickness						
	Option: Gold 80 micron; Nickel 180 micron thickness						
Material	Aluminum						
Package Sealing	Epoxy Sealing (Standard)						
	Hermetically Sealed (Optional)						



**Absolute Maximum Ratings**

Operating Voltage	+12V±5%
RF Input Power	-5dB m

**Biasing Up Procedure**

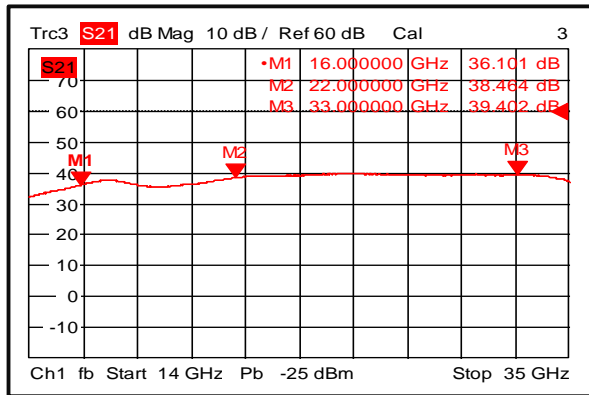
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

**Environmental Specifications**

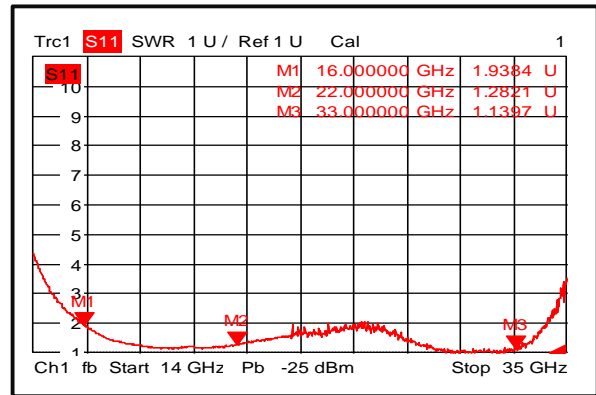
Operational Temperature (°C)	-45 to +85
Storage Temperature (°C)	-55 to +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

**Typical Performance Plots**

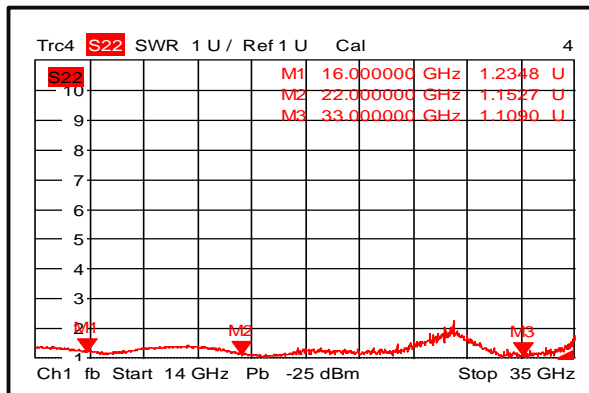
**Gain**



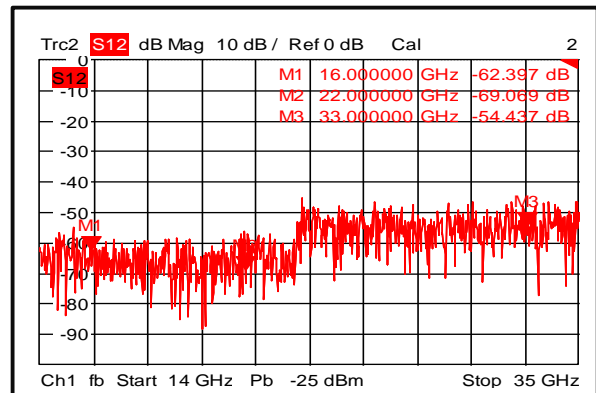
**Input VSWR**



**Output VSWR**



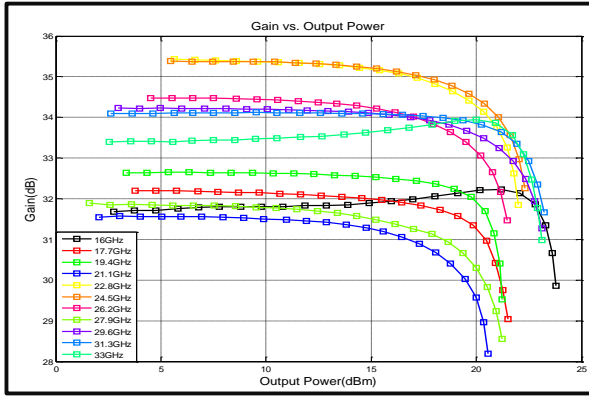
**Isolation**



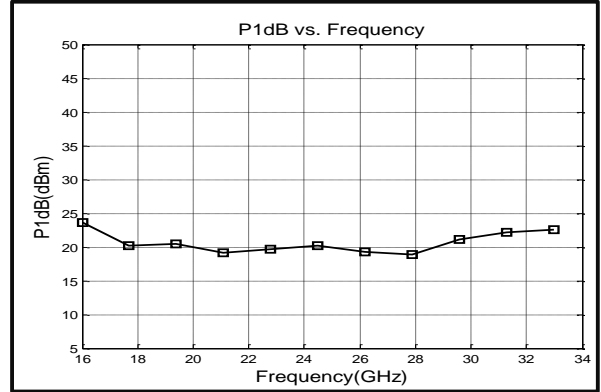
**Wide Band Low Noise Amplifier 16GHz~33GHz**



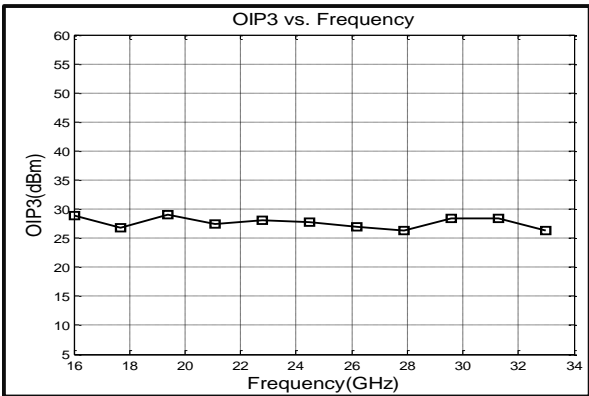
**Gain vs. Output Power**



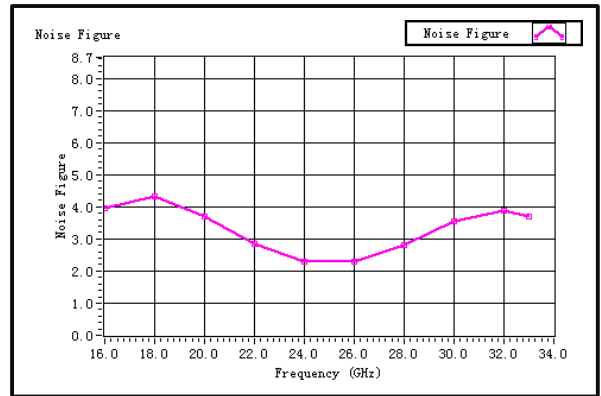
**P1dB vs. Frequency**



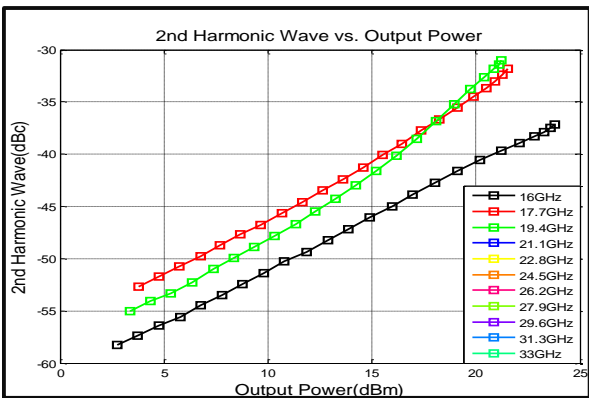
**Output Third Order Intercept (IP3)**



**Noise Figure**



**2nd Harmonic Wave Output Power**

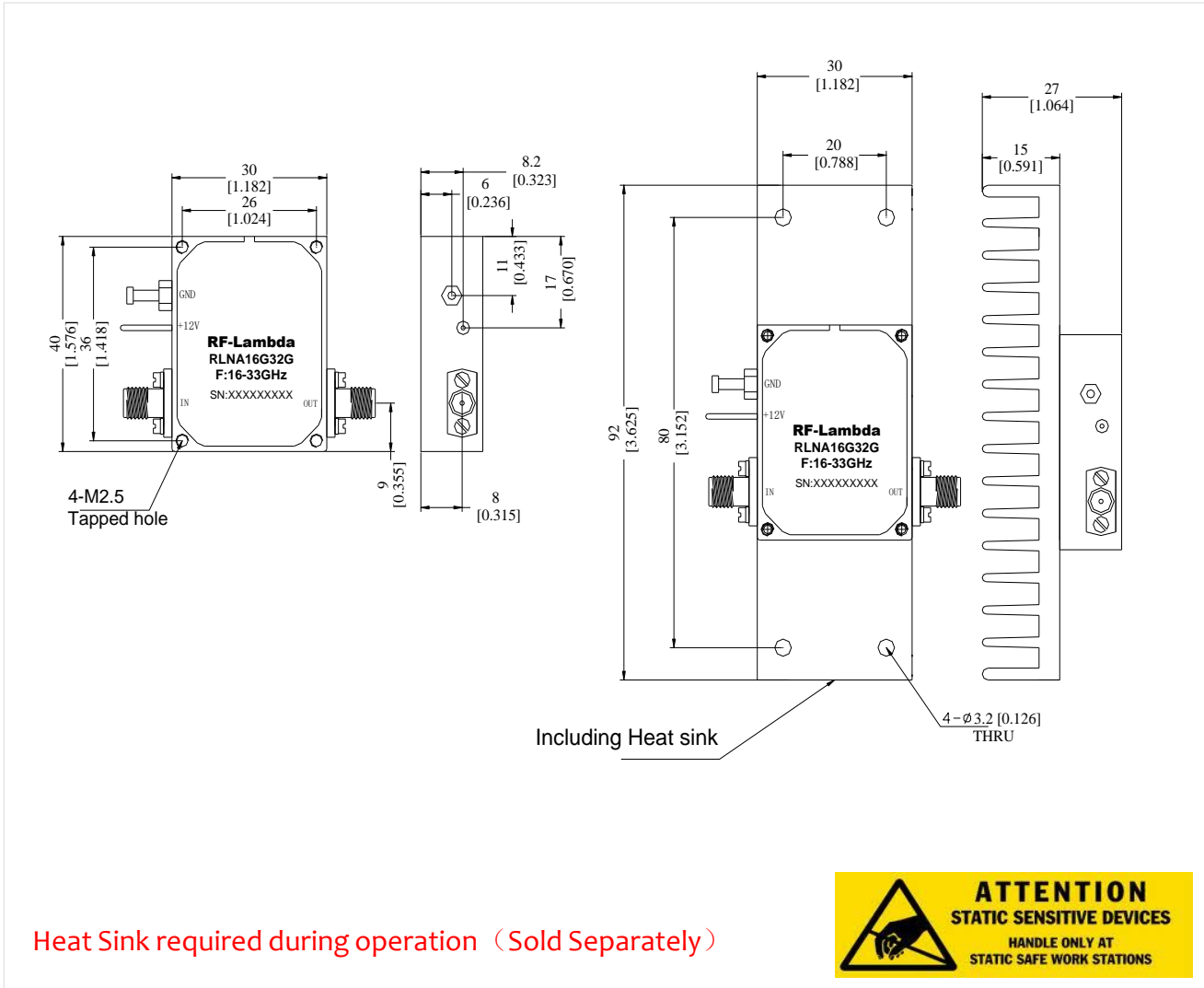


**Wide Band Low Noise Amplifier 16GHz~33GHz**



**Outline Drawing:**

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



**Ordering Information**

Part No.	ECCN	Description
RLNA16G32G	EAR99	16-33GHz Low Noise Amplifier

**Important Notice**

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**Wide Band Low Noise Amplifier 16GHz~33GHz**