



Wide Band Low Noise Amplifier 24GHz ~ 36GHz



Features

- Gain: 20dB Typical
- Noise Figure: 2.5dB Typical
- P1dB Output Power: +7dBm Typical
- Supply Voltage: +3V @ 68mA
- 50 Ohm Matched

Typical Applications

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

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

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	24		32	32		36	GHz
Gain	18	21		17	19		dB
Gain Flatness		± 2.0			± 1.0		dB
Gain Variation Over Temperature (-45 ~ +85)		± 2.0			± 2.0		dB
Noise Figure		2.5	4.0		2.5	3.5	dB
Input VSWR		2.0			2.0		:1
Output VSWR		1.8			1.8		:1
Output 1dB Compression Point (P1dB)	-1	5		4	7		dBm
Saturated Output Power (Psat)		7			10		dBm
Output Third Order Intercept (IP3)		16			19		dBm
Supply Current (Vcc=+3V)		68	90		68	90	mA
Isolation S12		-40			-40		dB
Weight	0.35						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	Aluminum						
Package Sealing	Epoxy Sealing (Standard)						
	Hermetically Sealed (Option with extra charge)						

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Absolute Maximum Ratings

Operating Voltage	+5V
RF Input Power	-5dBm

Biasing Up Procedure

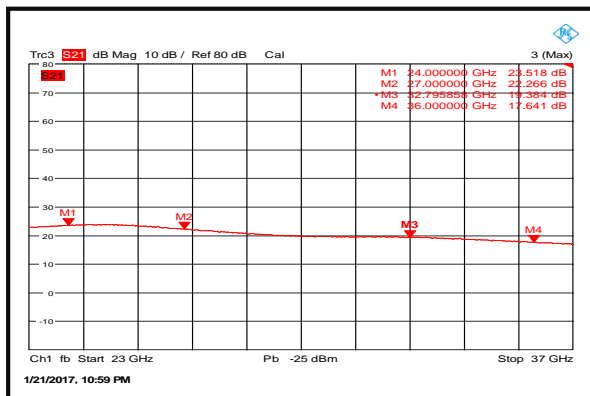
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +3V biasing
Power OFF Procedure	
Step 1	Turn off +3V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications

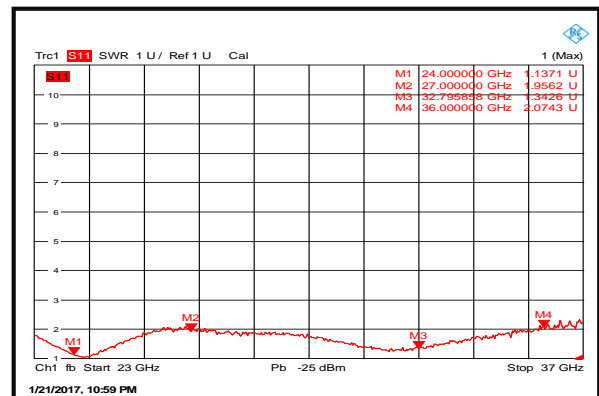
Operational Temperature (°C)	-45 to +85
Storage Temperature (°C)	-55 to +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c,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

Typical Performance Plots

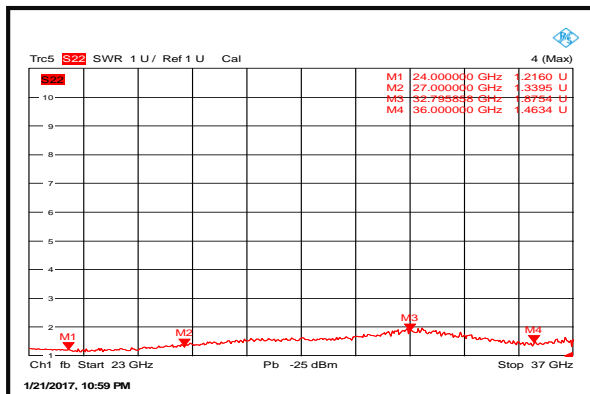
Gain



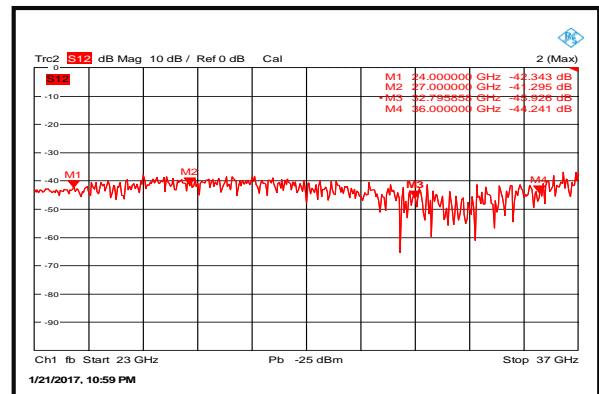
Input VSWR



Output VSWR



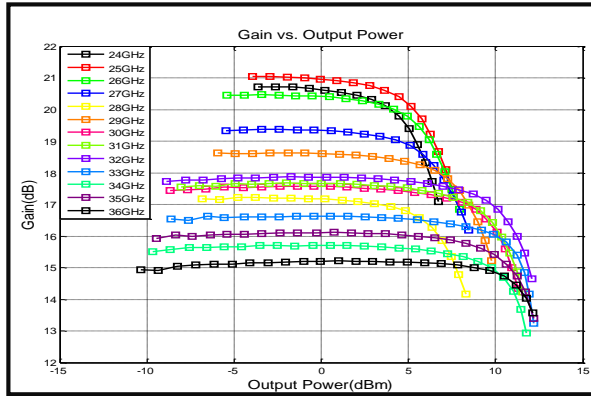
Isolation



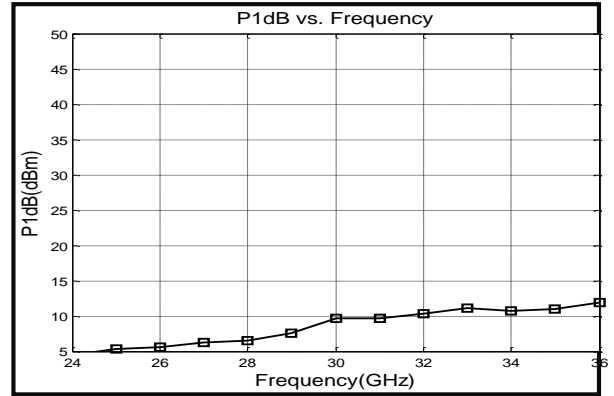
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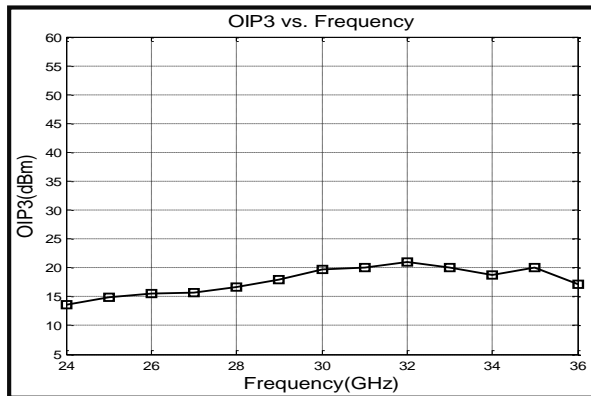
Gain vs. Output Power



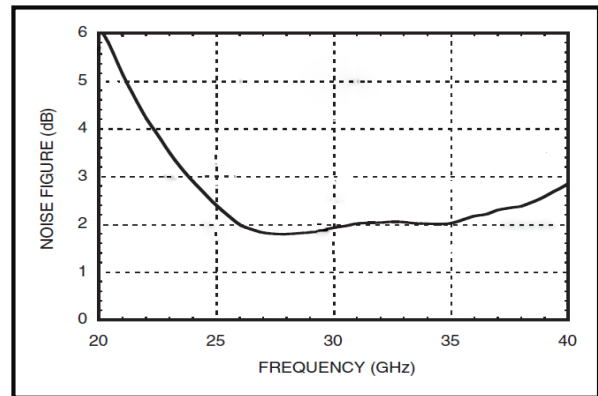
P1dB vs. Frequency



Output Third Order Intercept (IP3)



Noise Figure

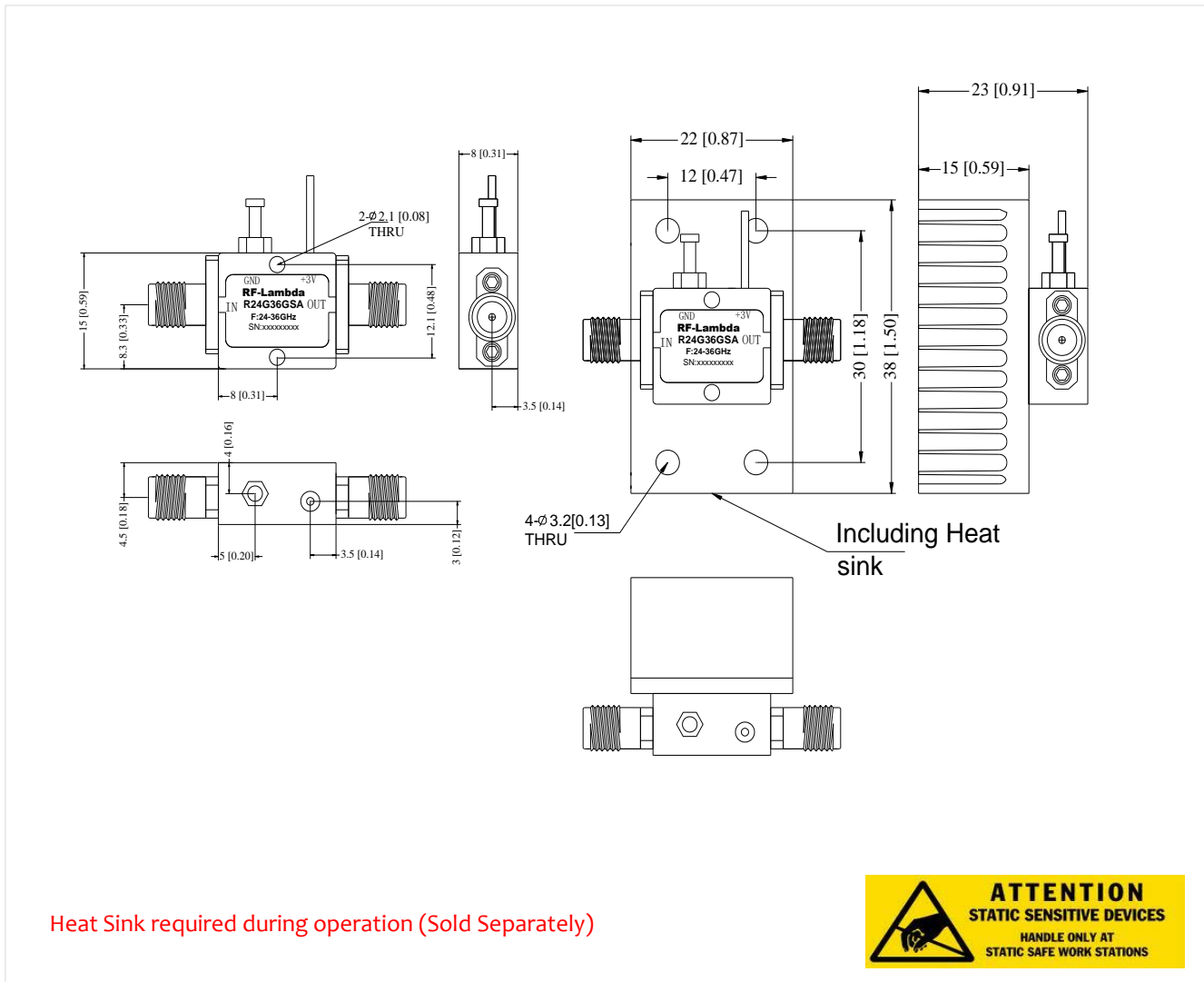


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Outline Drawing:

All Dimensions in mm [inches]



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Ordering Information

Part No.	ECCN	Description
R24G36GSA	EAR99	24-36GHz Low Noise Amplifier

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