



1W Front End Over Drive Protected Wide Band LNA 1GHz~7GHz



Features

- Gain: 42dB Typical
- Noise Figure: 1.2dB Typical
- P1dB Output Power: +20dBm Typical
- Supply Voltage: +24V

Typical Applications

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

Electrical Specifications, TA = +25°C, Vcc = +24V

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	1		2	2		7	GHz
Gain	29	42		36	42		dB
Gain Flatness		±6.0			±3.5	±4.5	dB
Gain Variation Over Temperature (-45 ~ +85)		±2.0			±2.0		dB
Noise Figure		1.5	3.3		1.2	2.0	dB
Input VSWR		3			1.5	2.5	:1
Output VSWR		5			1.4	2.0	:1
Input Power (dBm)			30			30	dBm
Output 1dB Compression Point (P1dB)	16	20		20	22		dBm
Saturated Output Power (Psat)		22			25		dBm
Output Third Order Intercept (IP3)		28			33		dBm
Supply Current (Idd) (Vcc=+24V)		200	300		200	300	mA
Isolation S12		-65			-65		dB
Weight	2.3						Ounces
Impedance	50						Ohms
Input / Output Connectors	SMA-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	+24~28V
RF Input Power@(50Ω)	+30dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +24V biasing
Power OFF Procedure	
Step 1	Turn off +24V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications and Test Standards

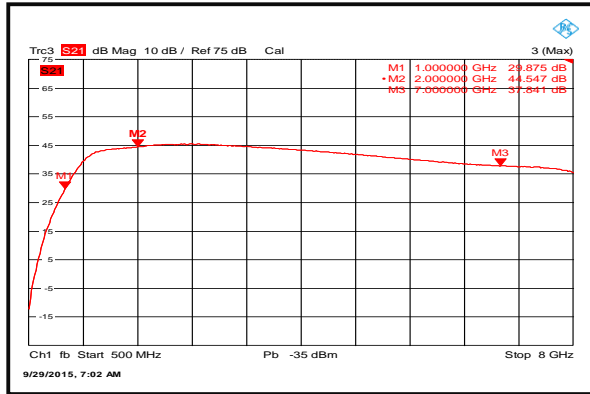
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-55°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C(5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 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		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)

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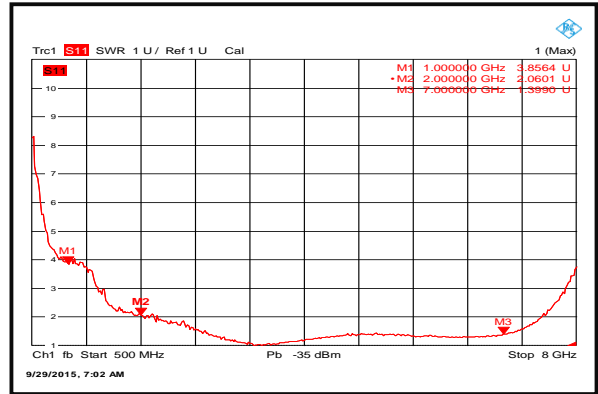


Typical Performance Plots

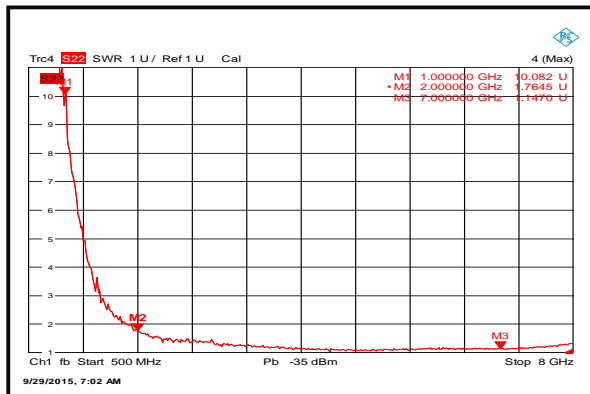
Gain



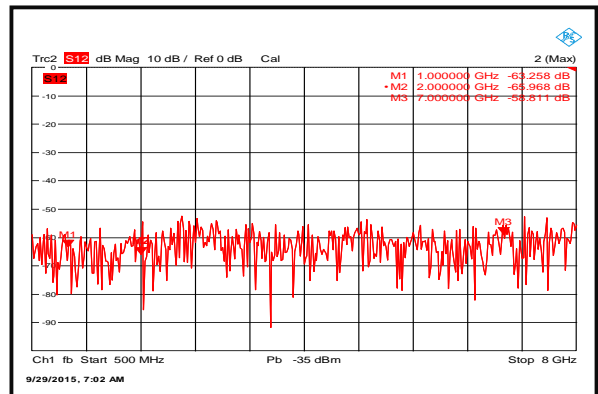
Input VSWR



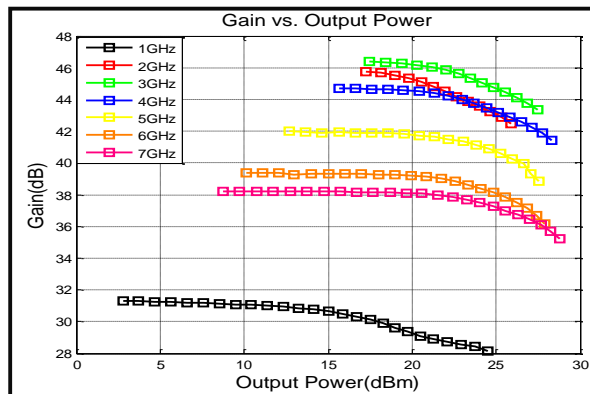
Output VSWR



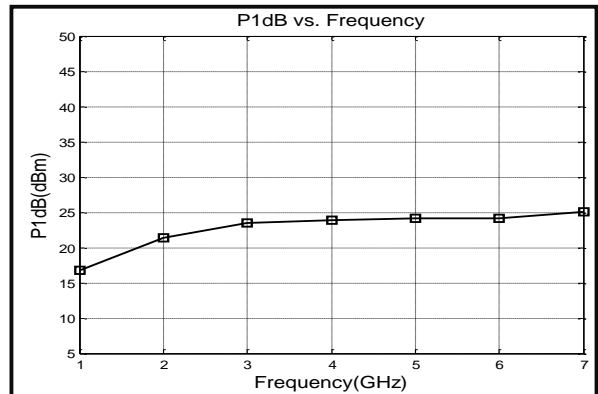
Isolation



Gain vs. Output Power



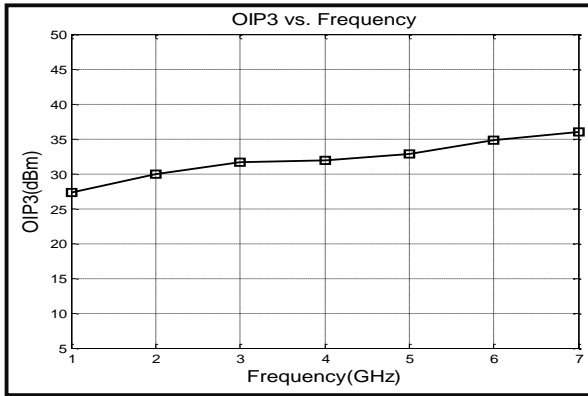
P1dB vs. Frequency



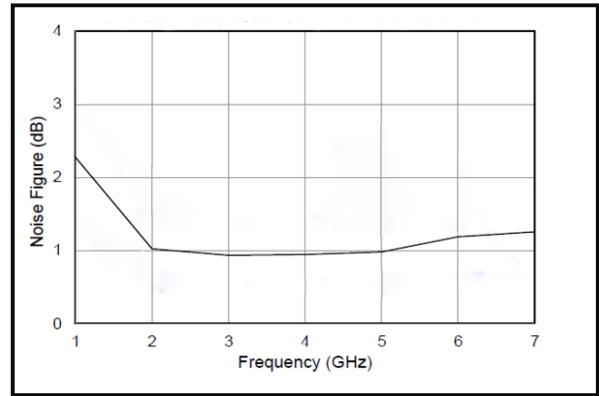
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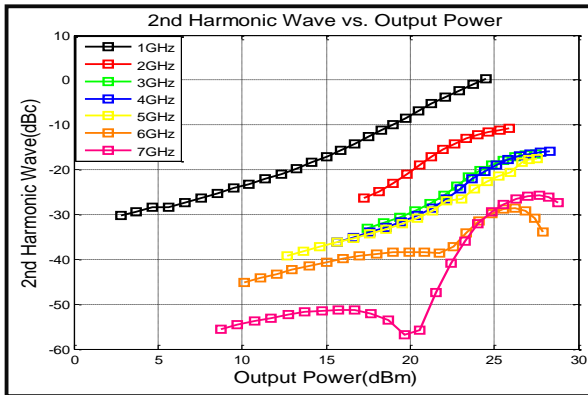
Output Third Order Intercept (IP₃)



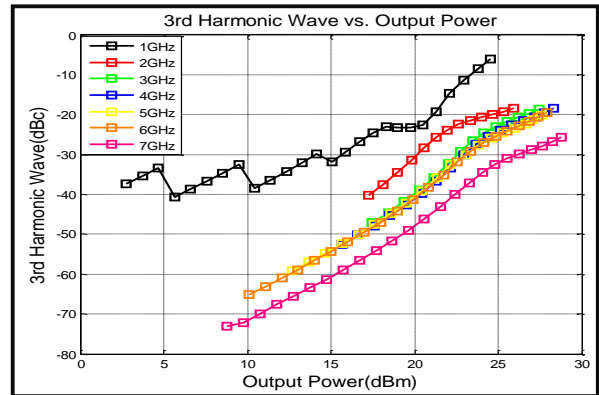
Noise Figure



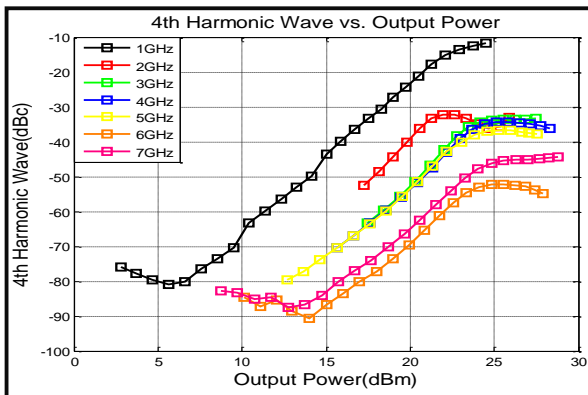
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power

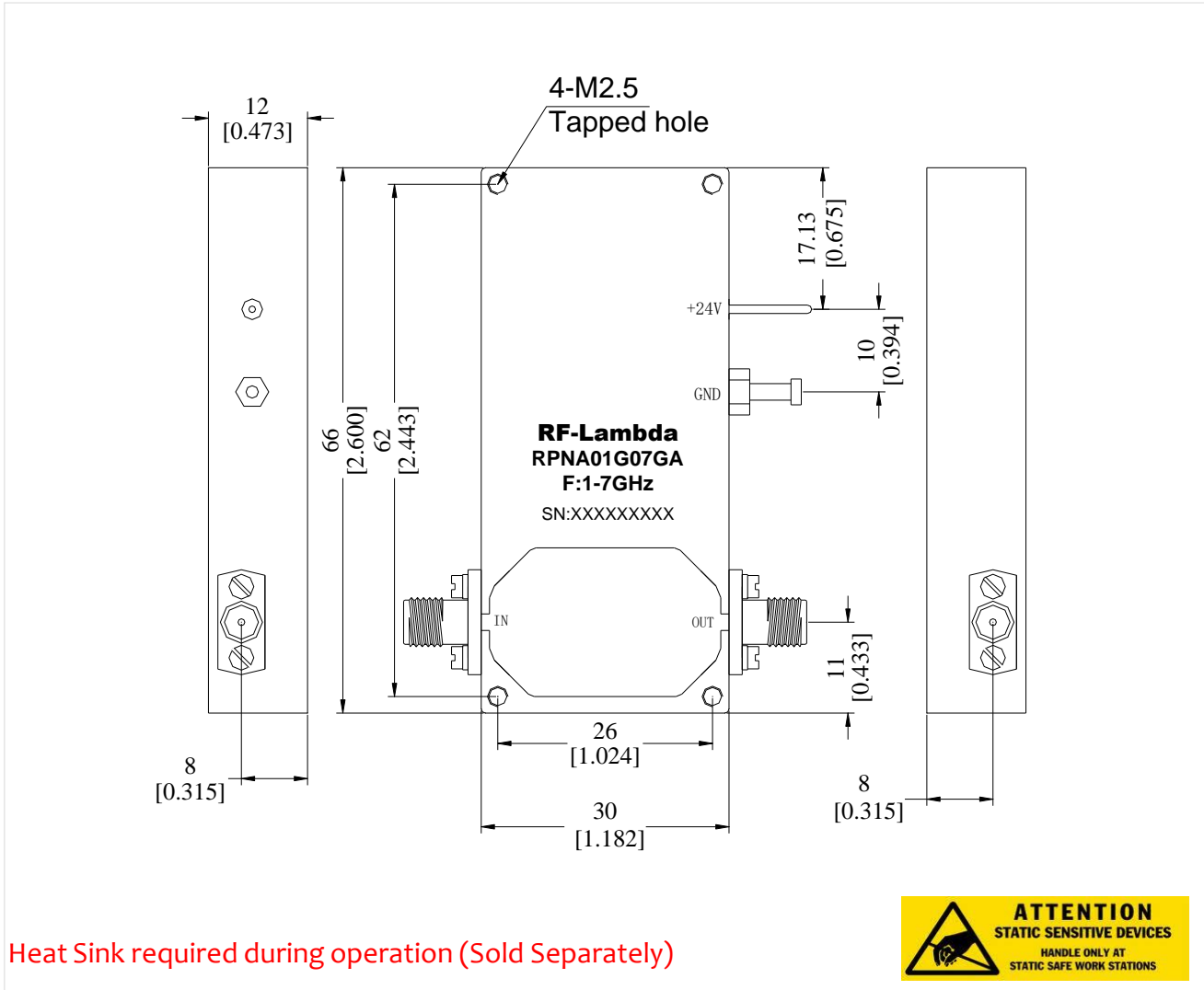


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Outline Drawing:

All Dimensions in mm [inches]



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Ordering Information

Part No.	ECCN	Description
RPNA01G07GA	EAR99	1-7GHz Low Noise Amplifier

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