Medium Power Ultra Wide Band Driver Amplifier
0.1GHz~4GHz

RoHS Compliant

Features

- Gain: 33 dB Typical
- Noise Figure: 3 dB Typical
- Output P1dB : +33 dBm Typical
- Supply Voltage: +12V

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test Instrument
- Fiber Optics

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

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.1		2	2		4	GHz
Gain	32	33		32	33		dB
Gain Flatness		±0.75	±1.5		±0.75	±1.5	dB
Gain Variation Over Temperature(-45 ~ +85)		±1.0			±1.0		dB
Noise Figure		2.5	3.5		3.5	4.5	dB
Input VSWR		1.4	1.8		1.4	1.8	: 1
Output 1dB Compression Point (P1dB)	33	35		32	34		dBm
Saturated Output Power (Psat)		36			35		dBm
Supply Current (Vcc=+12V)		250	1000		250	1000	mA
Isolation S12		-65			-65		dB
Weight	4.23						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	+15V
RF Input Power	+5dBm

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℃~+85℃
Storage Temperature		-55℃~+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)

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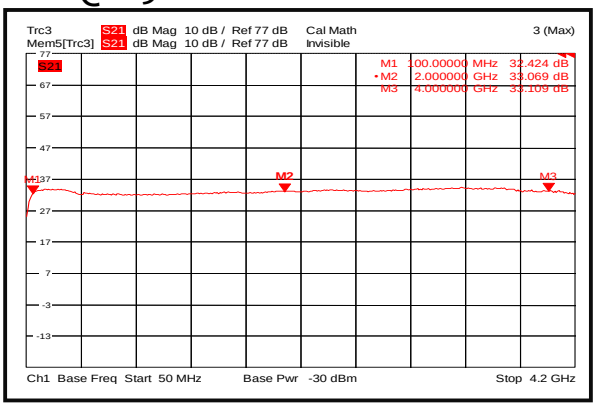
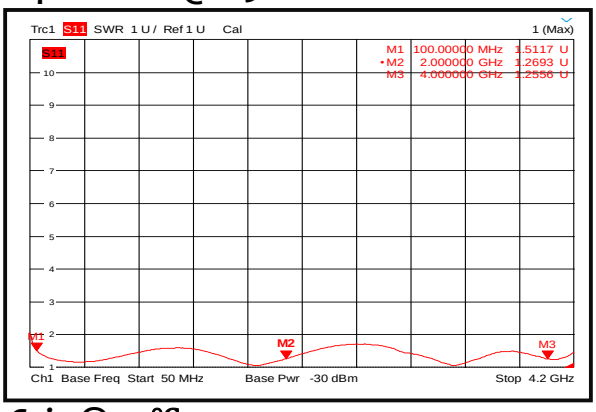
Typical Performance Plots

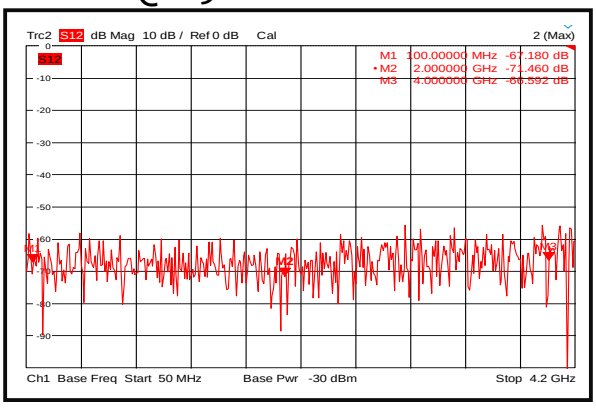
Gain @+25℃



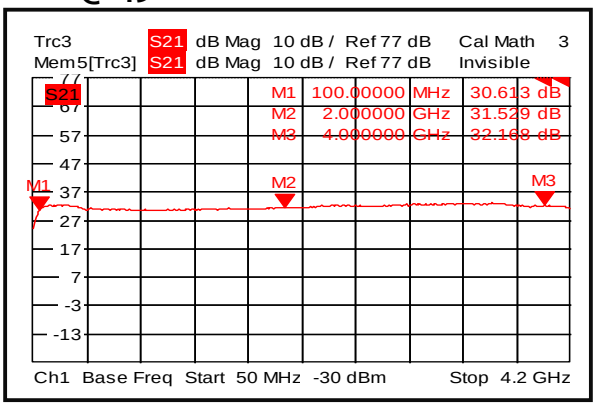
Input VSWR @+25℃



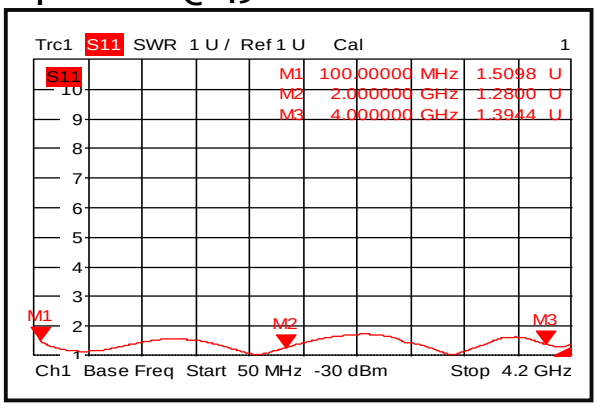
Isolation @+25℃



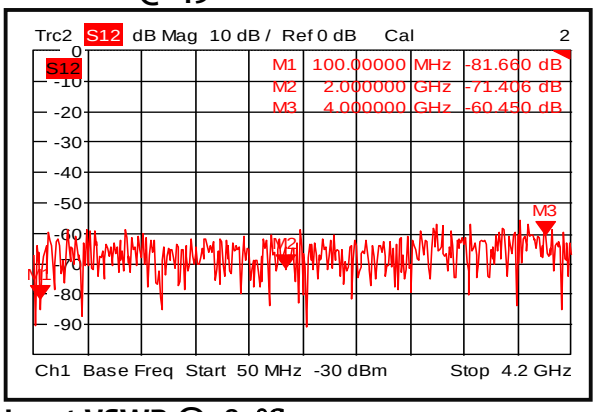
Gain @-45℃



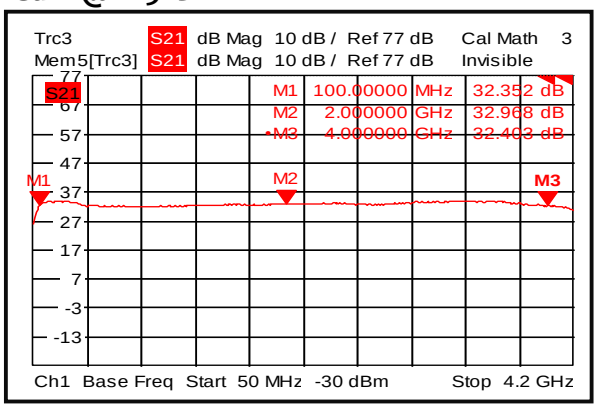
Input VSWR @-45℃



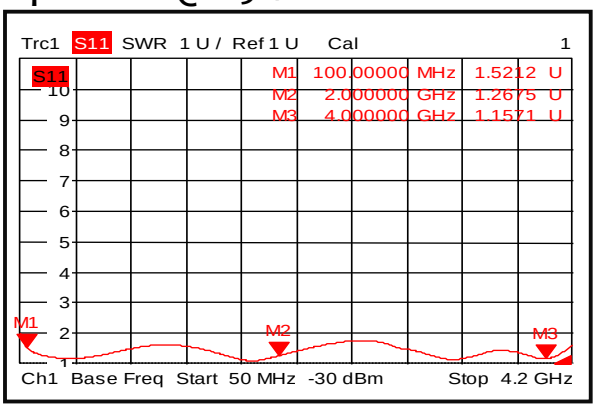
Isolation @-45℃



Gain @+85℃



Input VSWR @+85℃



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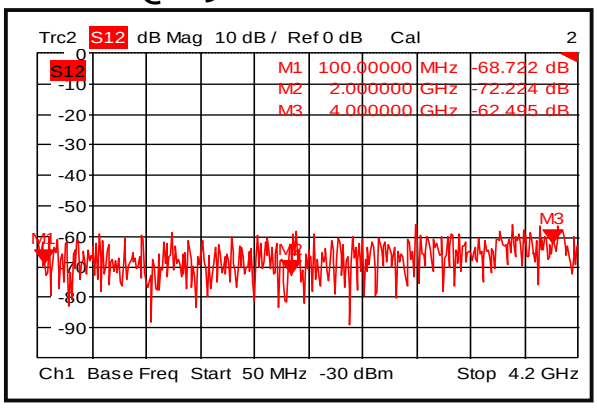
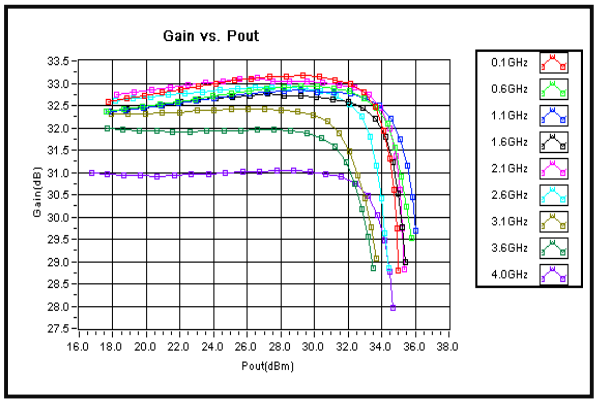
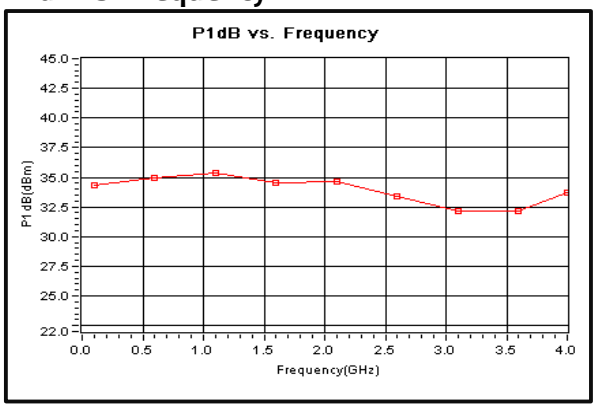
Isolation @+85℃



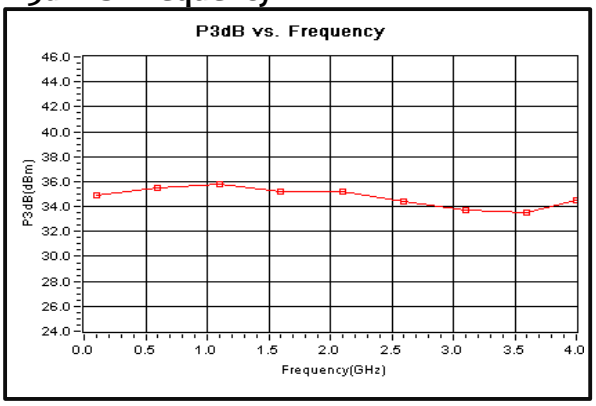
Gain vs. Output Power



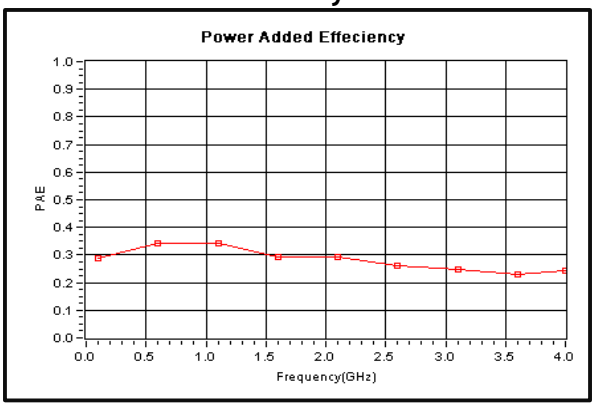
P1dB vs. Frequency



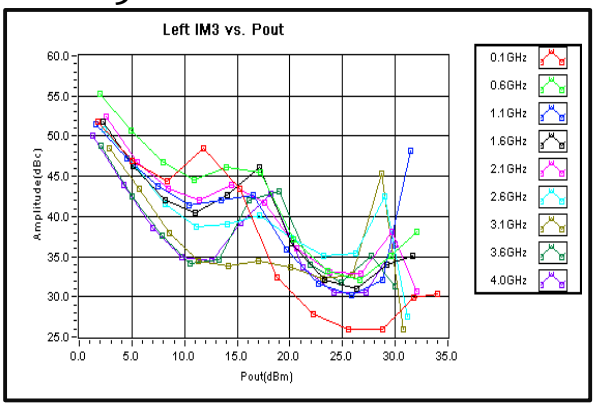
P3dB vs. Frequency



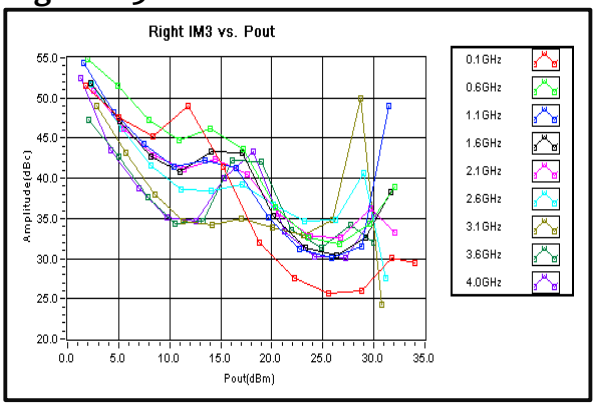
Power Added Efficiency



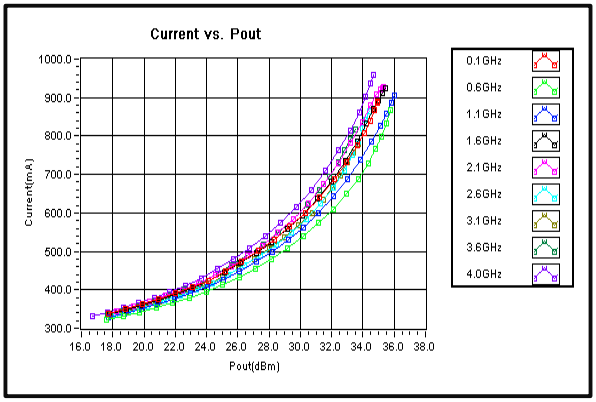
Left IM3 vs. Pout



Right IM3 vs. Pout



Current



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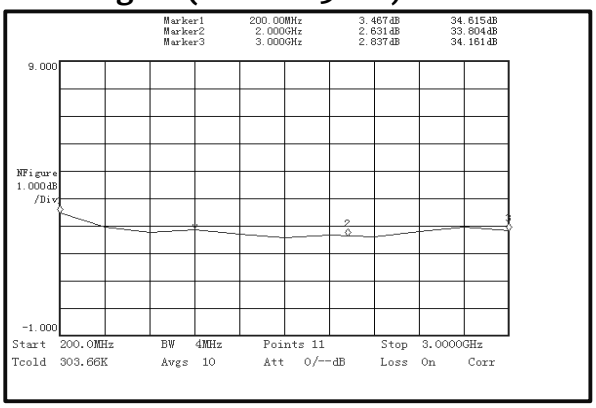
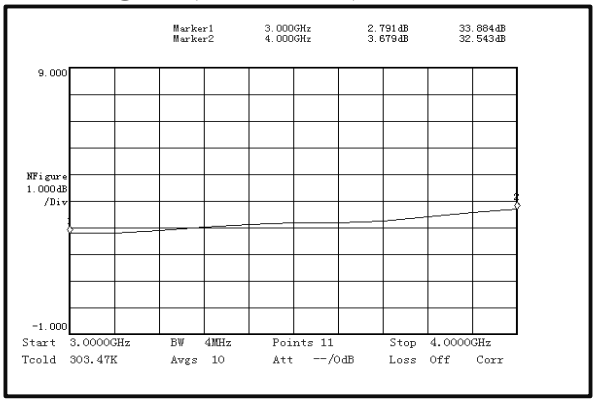
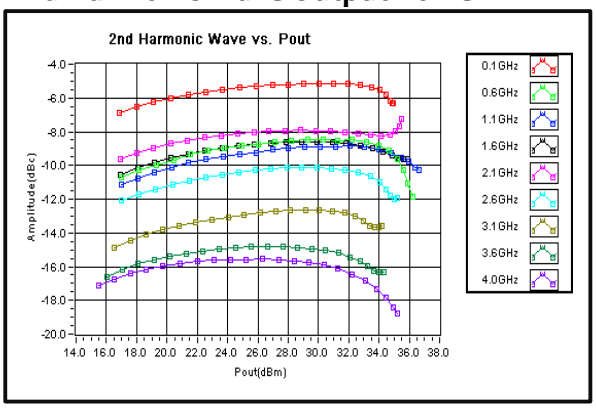
Noise Figure (200MHz-3GHz)



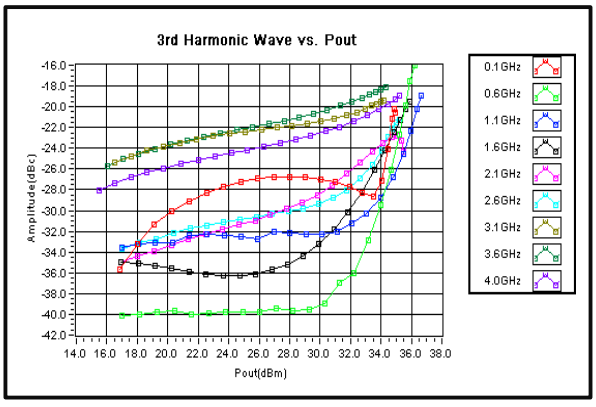
Noise Figure (3GHz-4GHz)



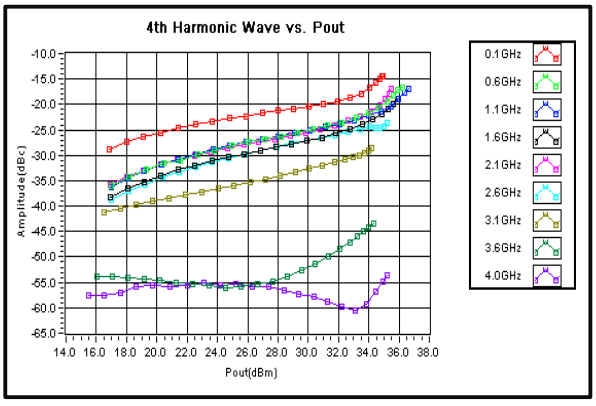
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



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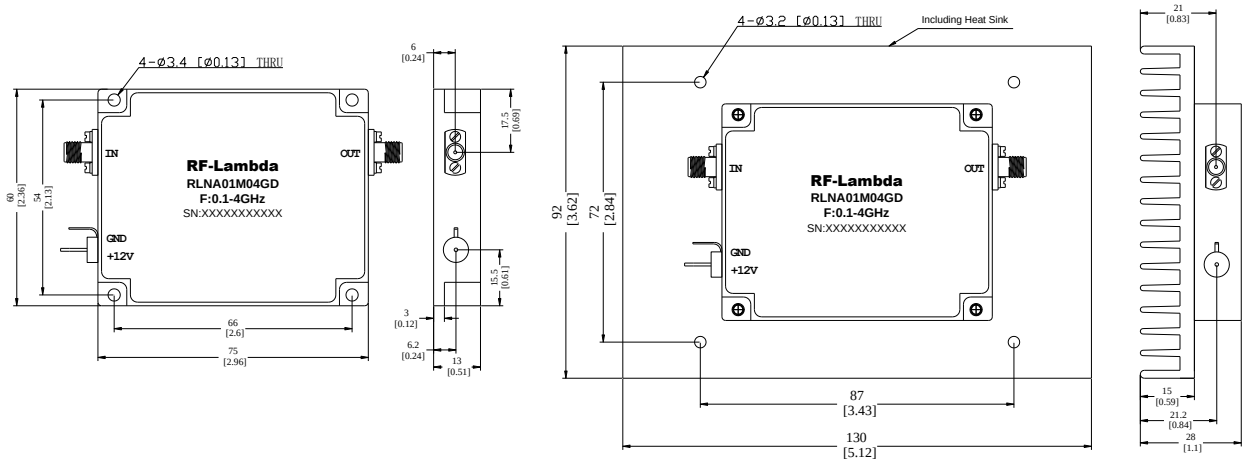
Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)

Ordering Information

Part No.	ECCN	Description
RLNA01M04GD	EAR99	0.1-4GHz Driver Amplifier

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