

Wide Band Low Noise Amplifier 8GHz~11GHz



Features

- Gain: 45dB Typical
- Noise Figure: 2.5dB Typical
- P1dB Output Power: +29dBm Typical
- Supply Voltage: +12V

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test Instrument

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

Parameter	Min.	Typ.	Max.	Units
Frequency Range	8~11			GHz
Gain	42	45	50	dB
Gain Flatness		±0.5	±1.0	dB
Gain Variation Over Temperature (-40°C~+85°C)		±2.5		dB
Noise Figure		2.2	3.0	dB
Input VSWR		1.5	2.0	:1
Output VSWR		1.6	2.0	:1
Output 1dB Compression Point (P1dB)	27	29		dBm
Saturated Output Power (Psat)		31		dBm
Output Third Order Intercept (OIP3)		33		dBm
Supply Current (Vcc=+12V)		360	500	mA
Isolation S12		-60		dB
Weight	3.5 Max.			Ounces
Impedance	50			Ohms
Input / Output Connectors	SMA-Female			
Finish	Gold Plated			
Material	Copper			
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

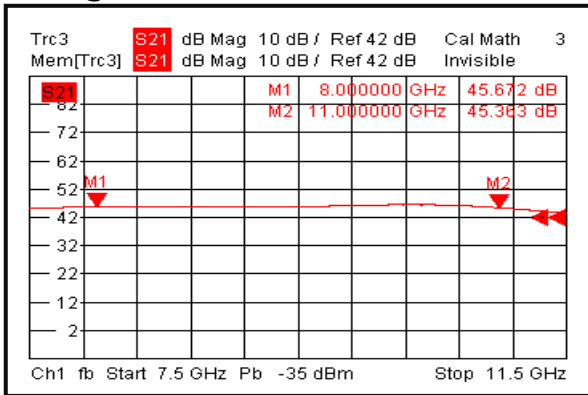
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing
Power OFF Procedure	
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications and Test Standards

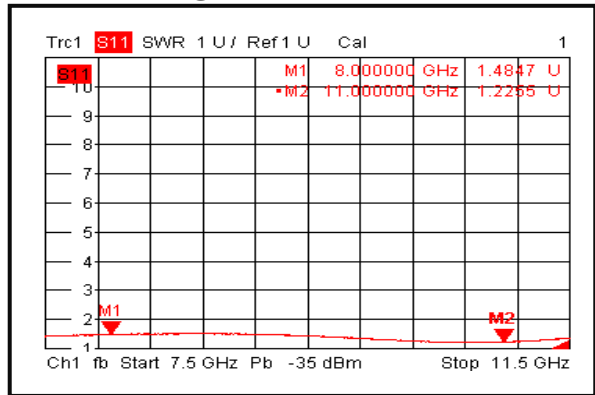
Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours
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 (For Hermetically Sealed Units)

Typical Performance Plots

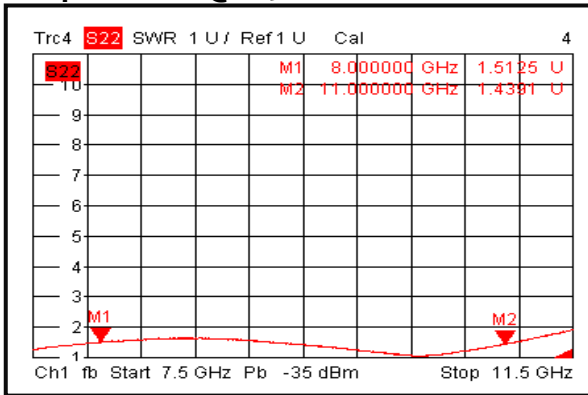
Gain @+25°C



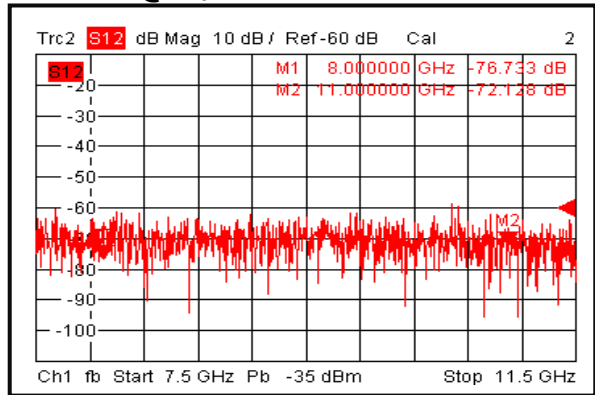
Input VSWR @+25°C



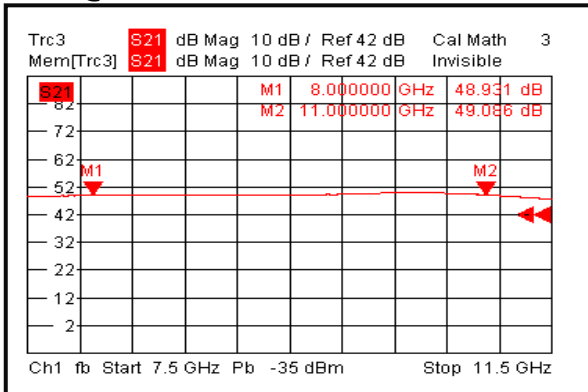
Output VSWR @+25°C



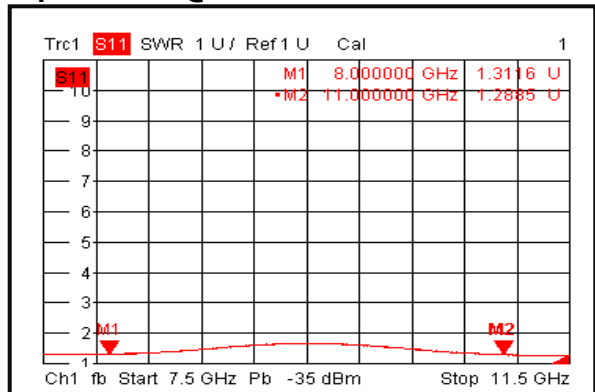
Isolation @+25°C



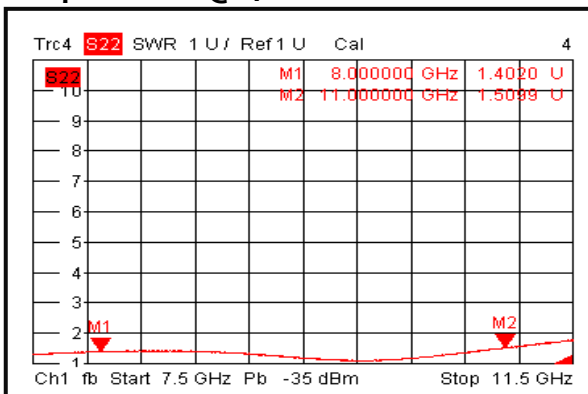
Gain @-40°C



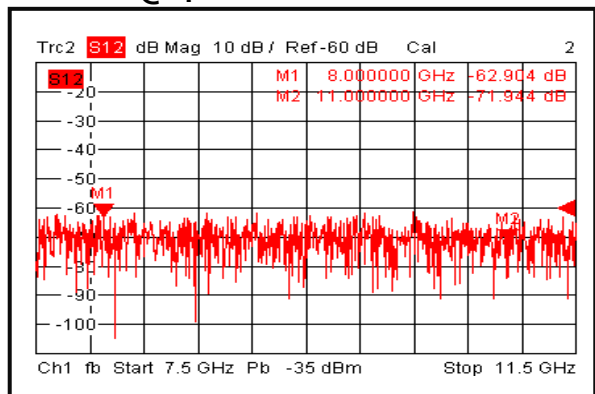
Input VSWR @-40°C



Output VSWR @-40°C

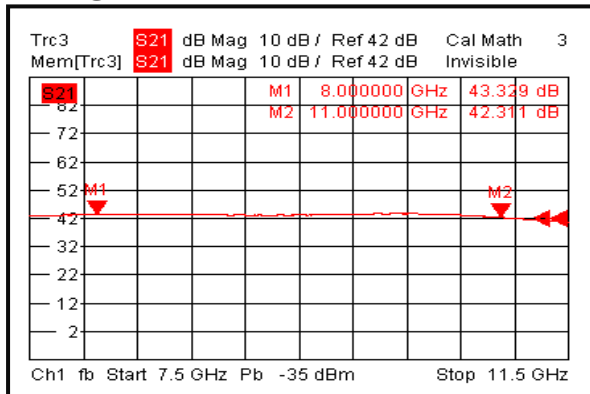


Isolation @-40°C

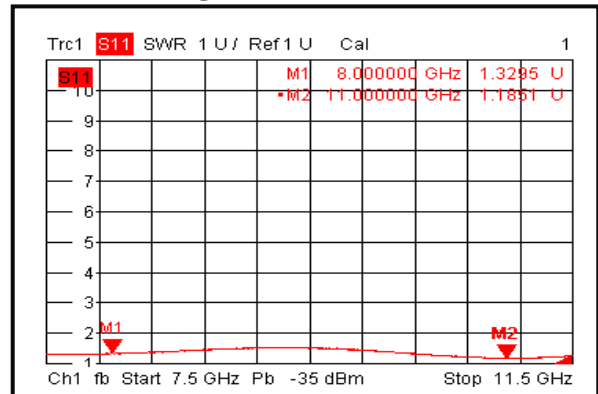


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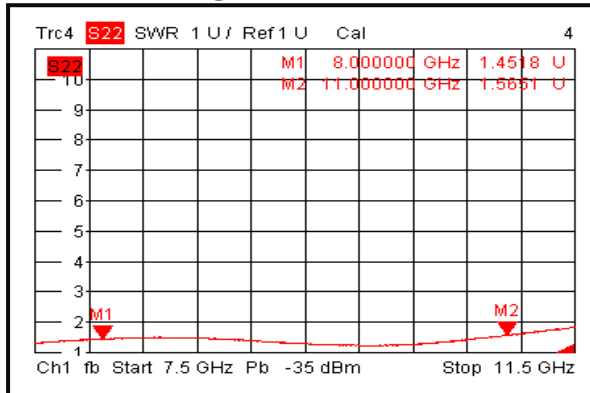
Gain @+85°C



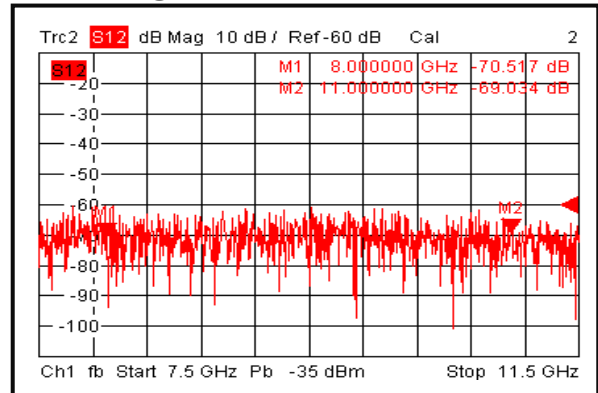
Input VSWR @+85°C



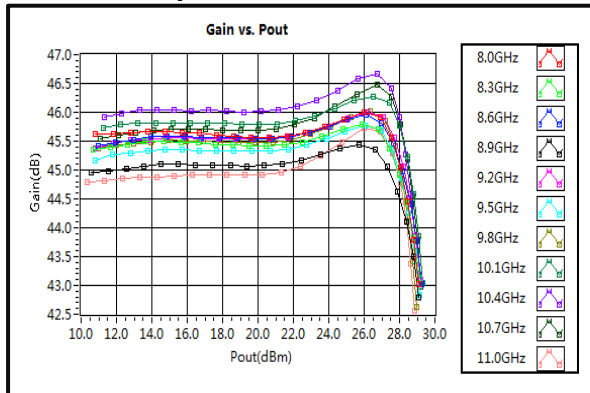
Output VSWR @+85°C



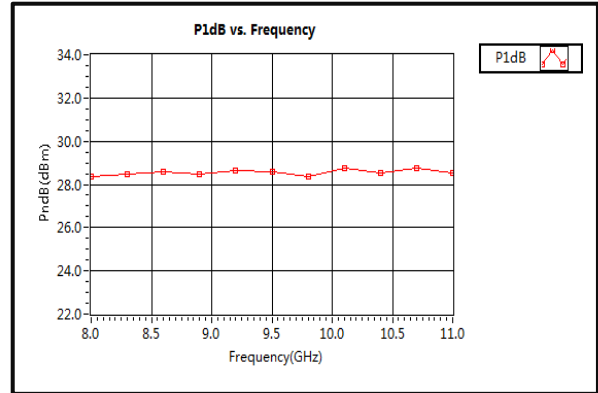
Isolation @+85°C



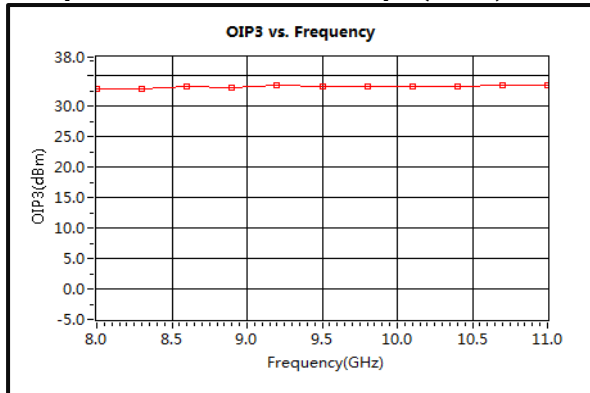
Gain vs. Output Power



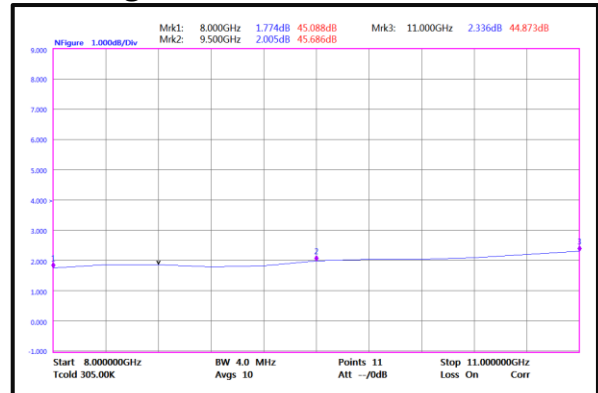
P1dB vs. Frequency



Output Third Order Intercept (OIP3)

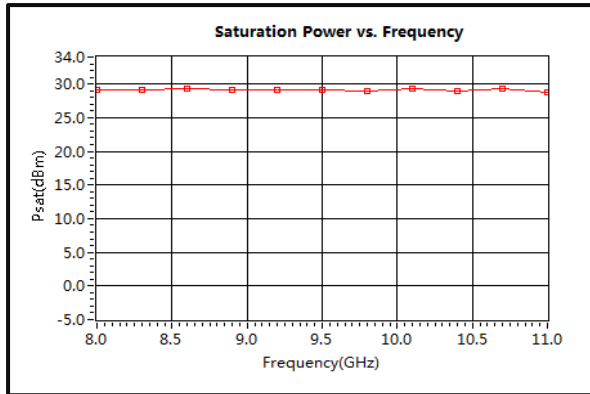


Noise Figure

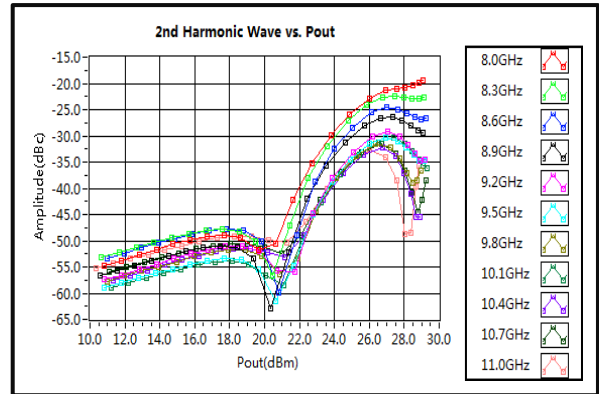


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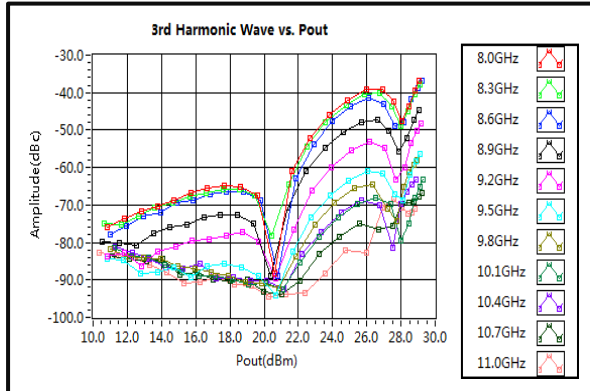
Saturation Power vs. Frequency



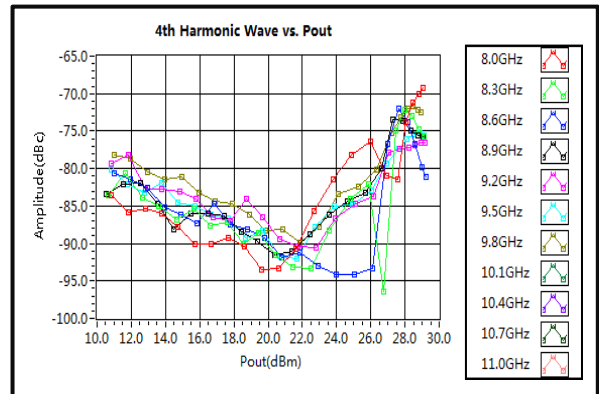
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



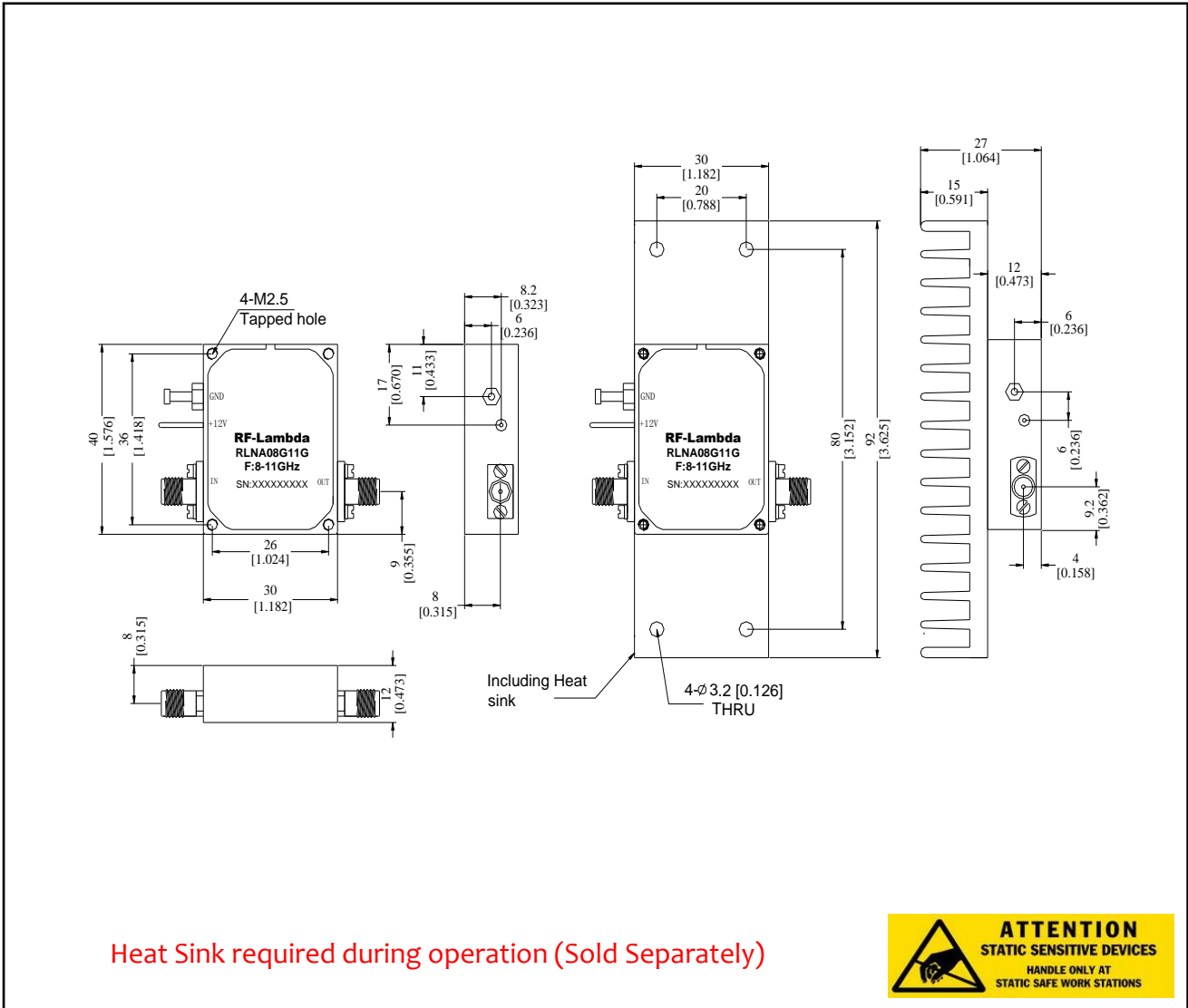
4th Harmonic Wave Output Power



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Outline Drawing:

All Dimensions in mm [inches]



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Ordering Information

Part No.	Description
RLNA08G11G	8-11GHz Low Noise Amplifier

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