

Hermetically Sealed Wide Band Low Noise Amplifier 5GHz ~ 12GHz



- Gain: 29dB Typical
- Noise Figure: 1.5dB Typical
- P1dB Output Power: +12.5dBm Typical
- Supply Voltage: +4V

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test Instrument

Electrical Specifications, TA = +25 °C, Vcc = +4V

Parameter	Min.	Typ.	Max.	Units
Frequency Range	5		12	GHz
Gain	25	28		dB
Gain Flatness		±1.0		dB
Gain Variation Over Temperature (-40°C~+85°C)		±0.8		dB
Noise Figure		1.5	2.3	dB
Input VSWR		1.6	2.0	: 1
Output VSWR		1.6	2.0	: 1
Output 1dB Compression Point (P1dB)	11	13.5		dBm
Saturated Output Power (Psat)		16		dBm
Output Third Order Intercept (OIP3)		25		dBm
Supply Current (Vcc=+4V)		45	60	mA
Isolation S12		-45		dB
Impedance		50		Ohms
Weight		0.30		ounces
Input / Output Connectors	SMA-Female			
Finish	Gold Plated			
Material	Aluminum			
Package Sealing	Epoxy Sealed (Standard)			
	Hermetically Sealed (Optional)			

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Absolute Maximum Ratings

Operating Voltage	+5.5V
RF Input Power	+20dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
step3	Connect +4V biasing
Power OFF Procedure	
Step 1	Turn off +4V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

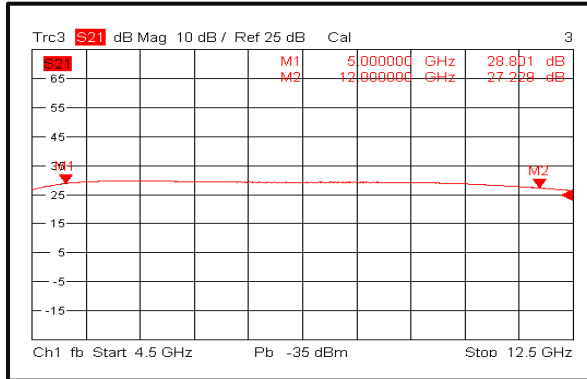
Environmental Specifications and Test Standards

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)

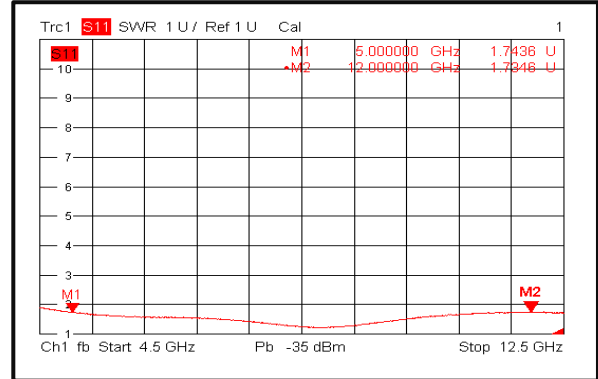
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Typical Performance Plots

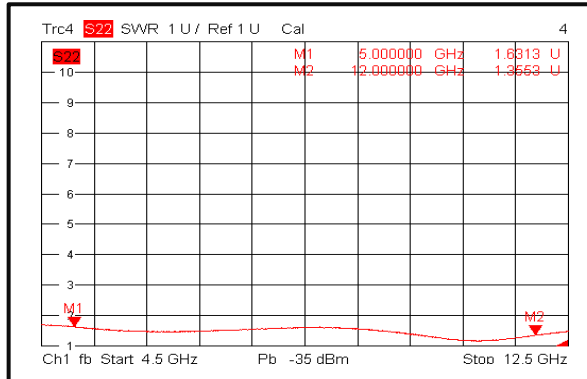
Gain@+25°C



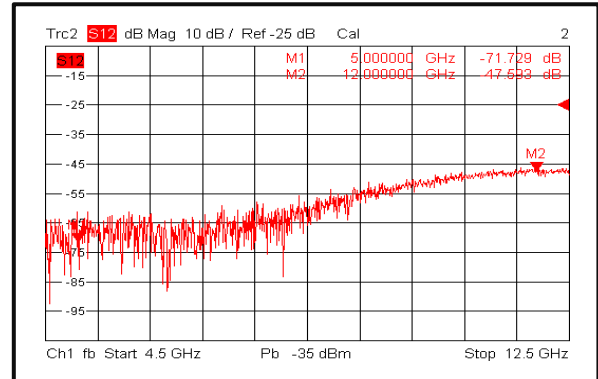
Input VSWR@+25°C



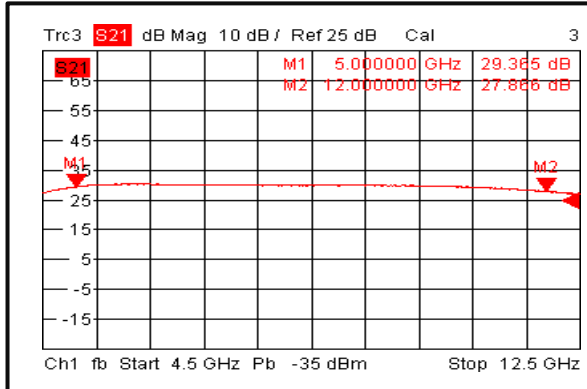
Output VSWR@+25°C



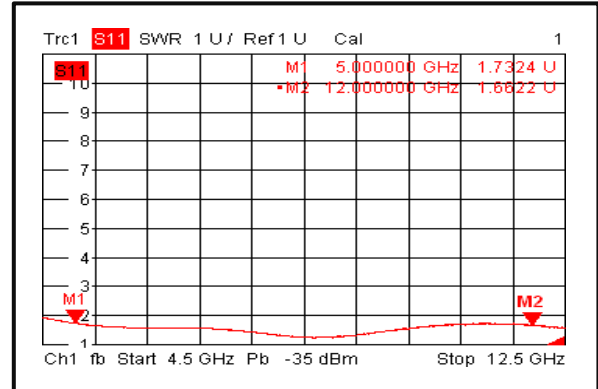
Isolation@+25°C



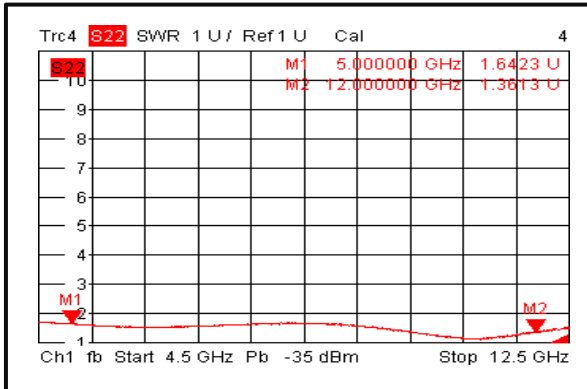
Gain@-40°C



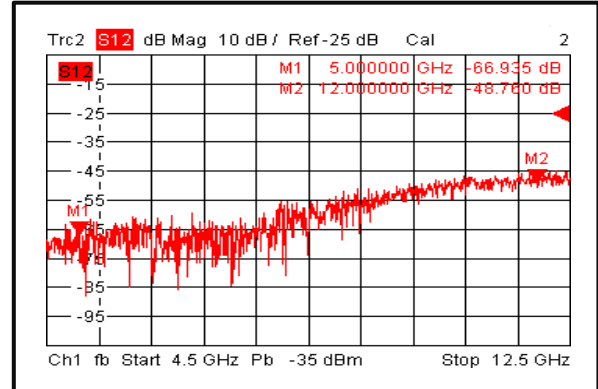
Input VSWR@-40°C



Output VSWR@-40°C

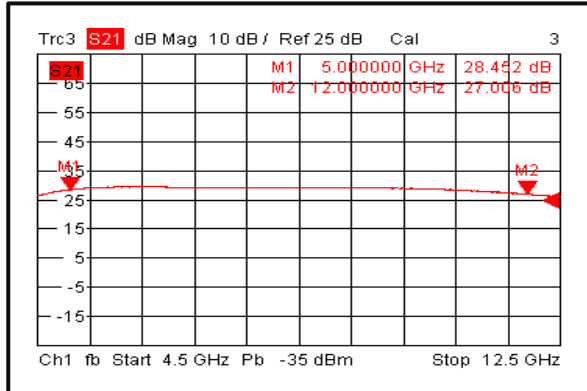


Isolation@-40°C

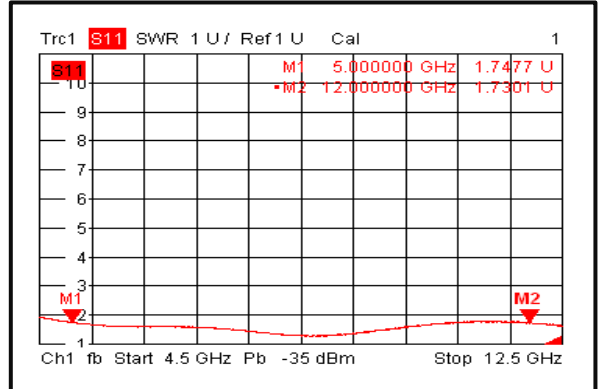


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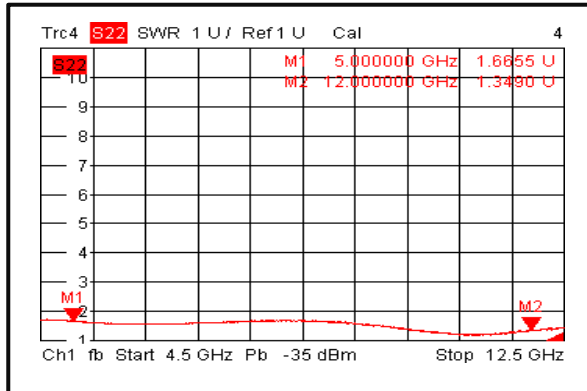
Gain@+85°C



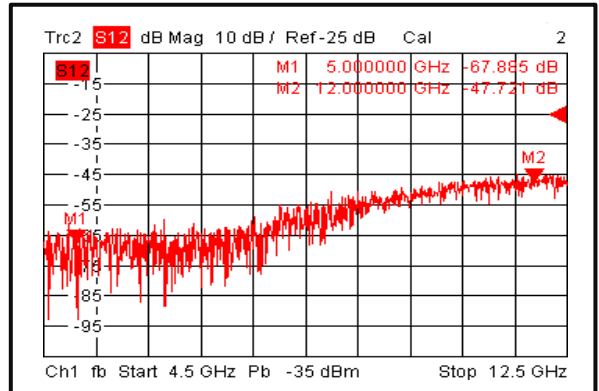
Input VSWR@+85°C



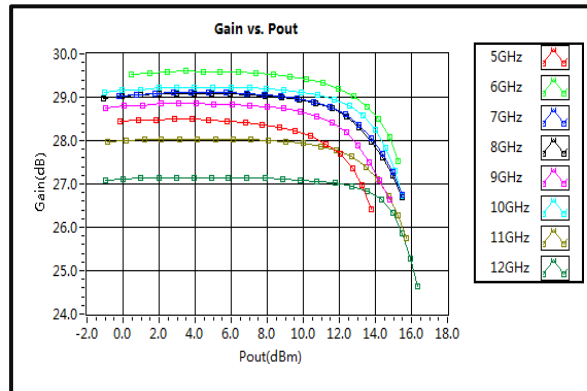
Output VSWR@+85°C



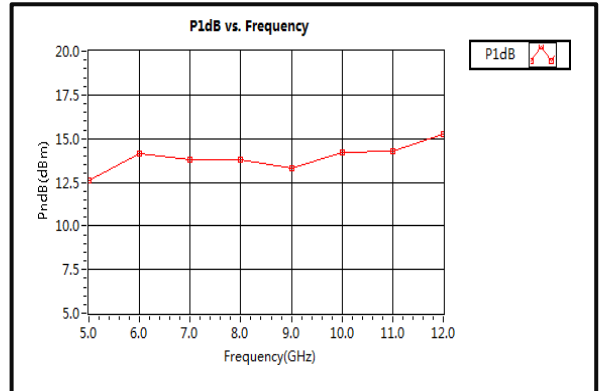
Isolation@+85°C



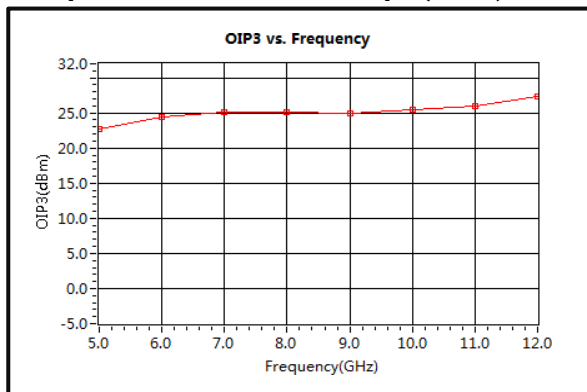
Gain vs. Output Power



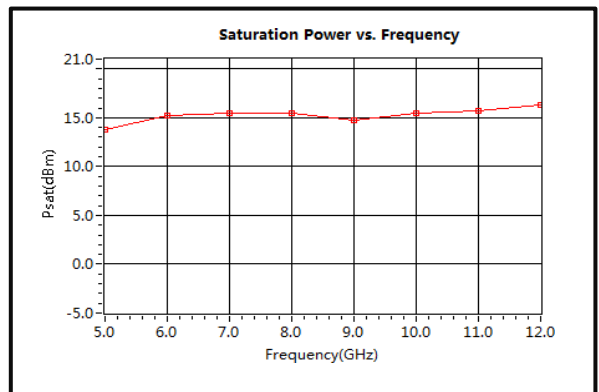
P1dB vs. Frequency



Output Third Order Intercept (OIP3)

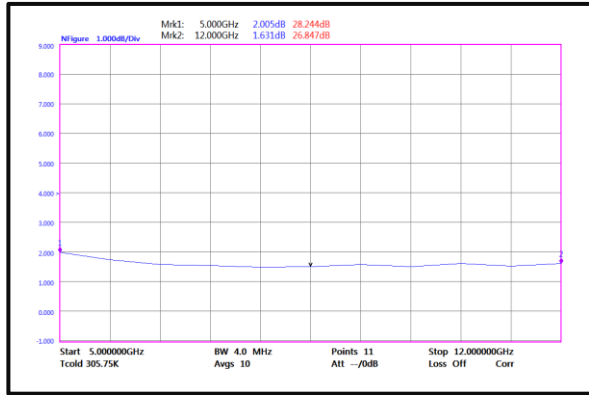


Saturation Power vs. Frequency

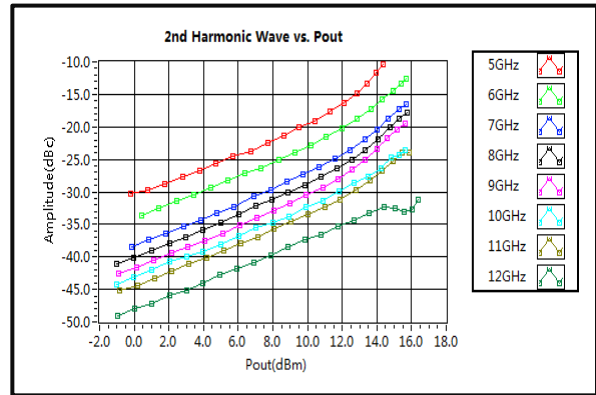


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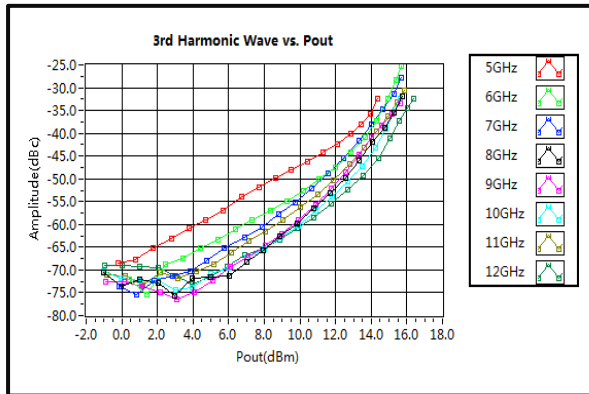
Noise Figure



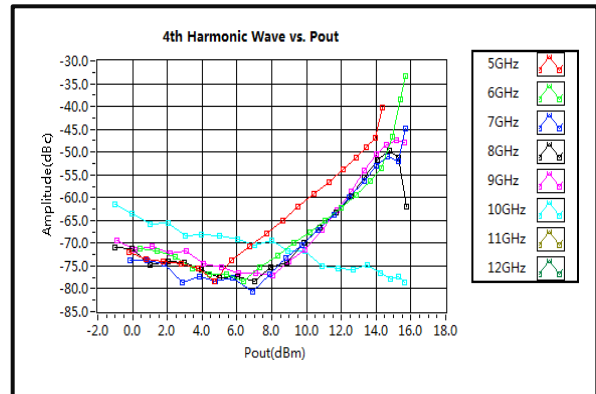
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



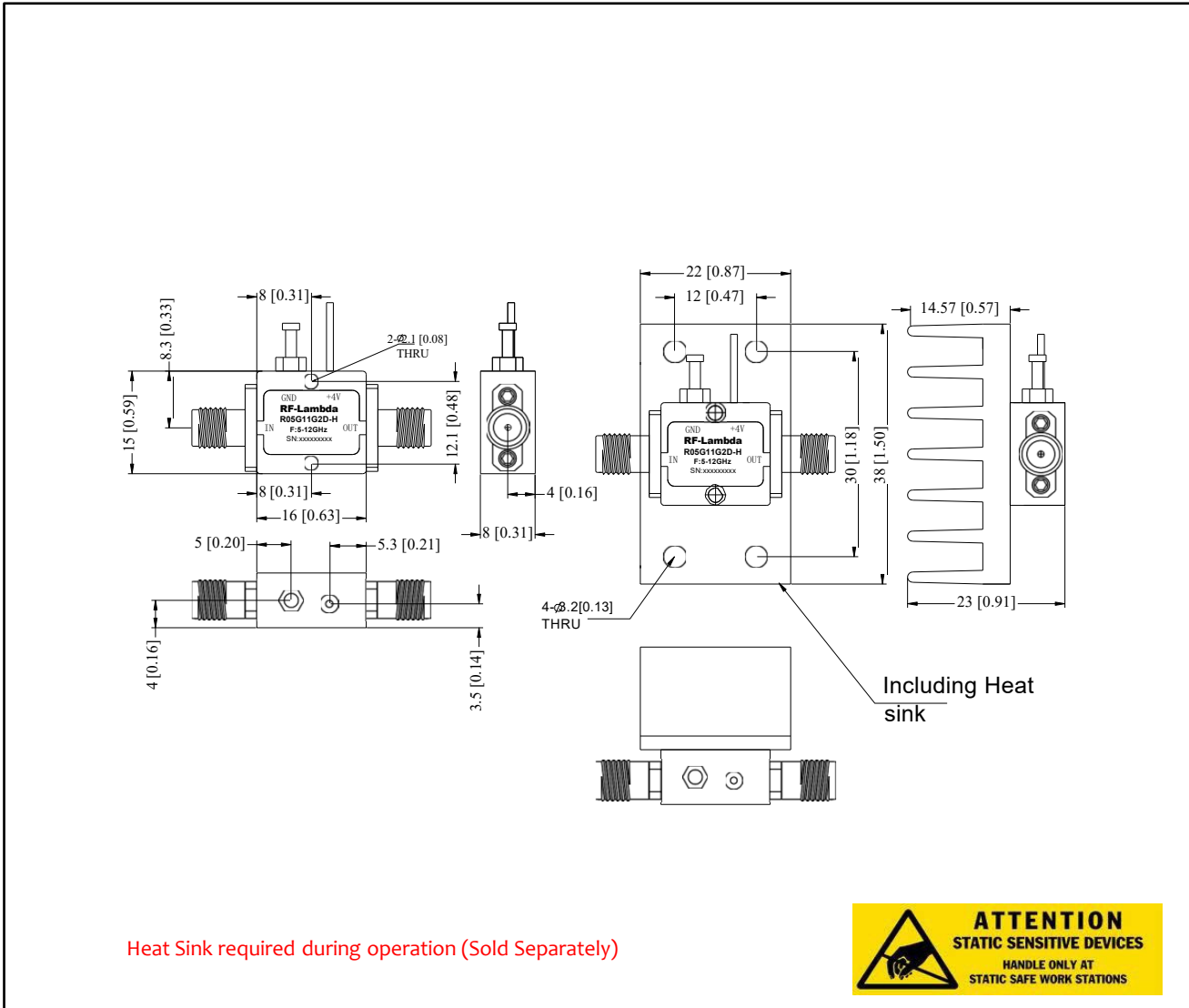
4th Harmonic Wave Output Power



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Outline Drawing:

All Dimensions in mm [inches]
Housing Tolerances ± 0.1 [0.004]



Ordering Information

Part No.	Description
R05G11G2D-H	5-12GHz Low Noise Amplifier

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