

Wide Band Low Noise Amplifier 6GHz~18GHz



Features

- Gain: 19dB Typical
- Noise Figure: 1.8dB Typical
- P1dB Output Power: +15dBm Typical
- Supply Voltage: +4V

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test and Measurement

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

Parameter		Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range		6		12	12		18	GHz
Gain		17	20		17	19		dB
Gain Flatness			±1.2	±1.5		±0.8	±1.2	dB
Gain Variation Over Temperature (-40°C~+85°C)			±0.5			±0.5		dB
Noise Figure			2.0	2.8		1.8	2.5	dB
Input VSWR			1.8	2.1		1.8	2.1	: 1
Output VSWR			1.9	2.2		1.8	2	: 1
Output 1dB Compression Point (P1dB)		13	15		13	16		dBm
Saturated Output Power (Psat)			16			17		dBm
Output Third Order Intercept (OIP3)			25			25		dBm
Supply Current (Vcc=+4V)			90	120		90	120	mA
Isolation S12			-35			-36		dB
Weight	Net	0.29 Max.						Ounces
	Including Heat sink	0.9 Max.						
Impedance		50						Ohms
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	+4.5V
RF Input Power	+10dBm

Biasing Up Procedure

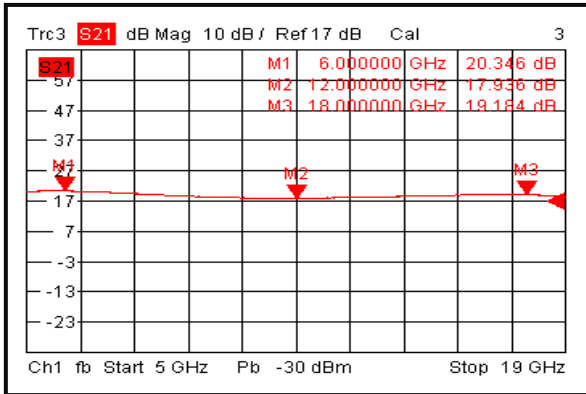
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +4V biasing
Power OFF Procedure	
Step 1	Turn off +4V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications and Test Standards

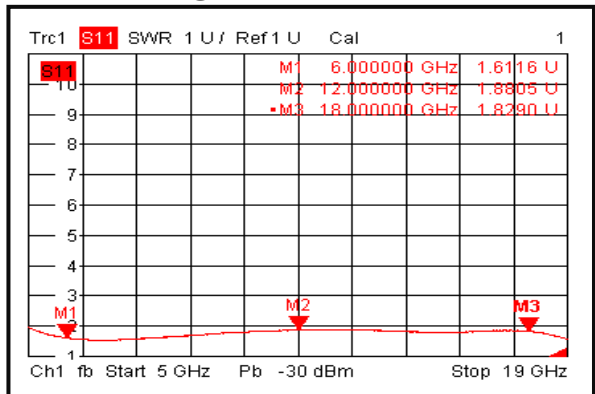
Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours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

Typical Performance Plots

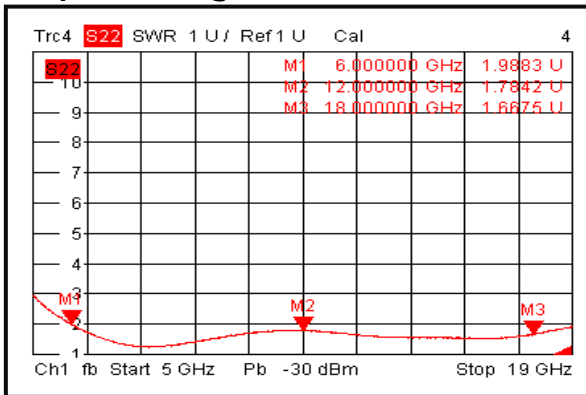
Gain @+25°C



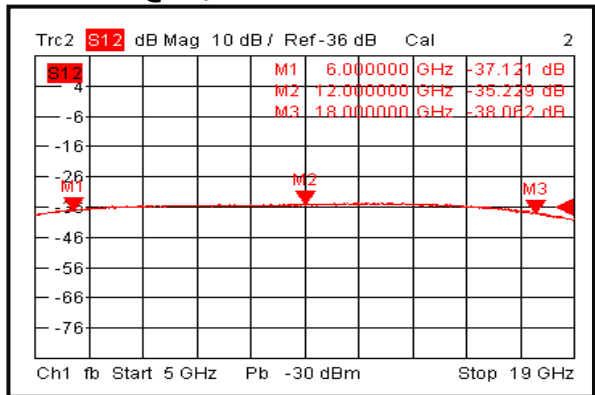
Input VSWR @+25°C



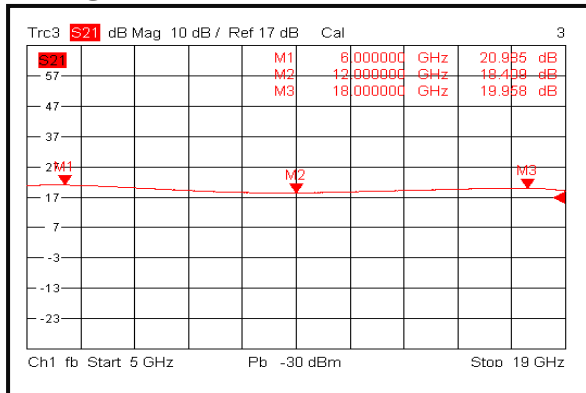
Output VSWR @+25°C



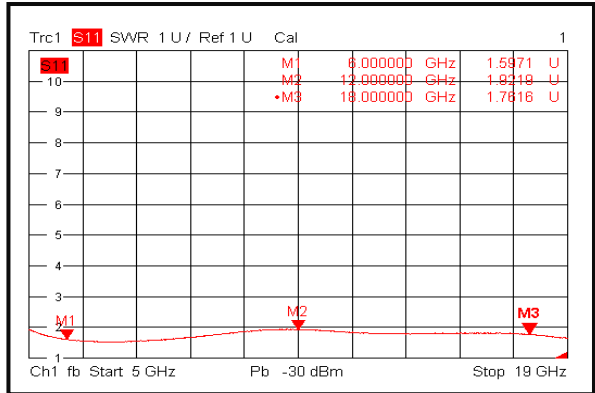
Isolation @+25°C



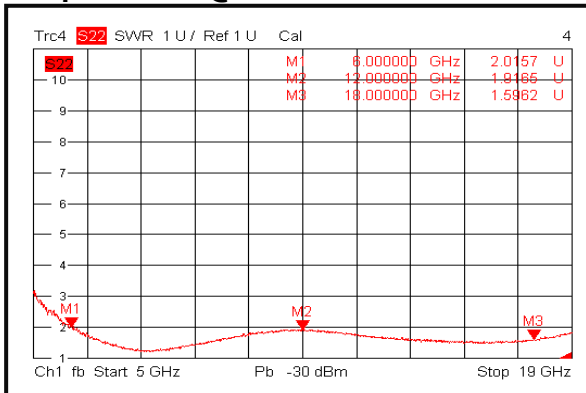
Gain @-40°C



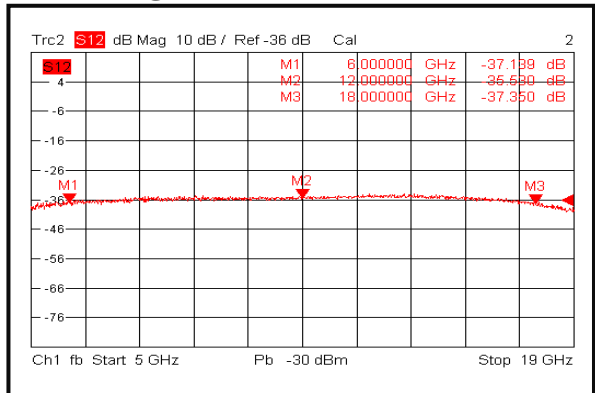
Input VSWR @-40°C



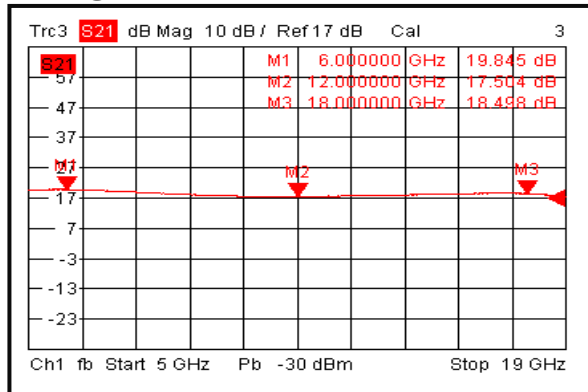
Output VSWR @-40°C



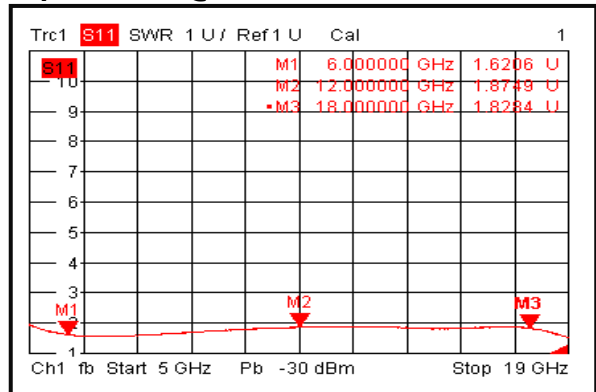
Isolation @-40°C



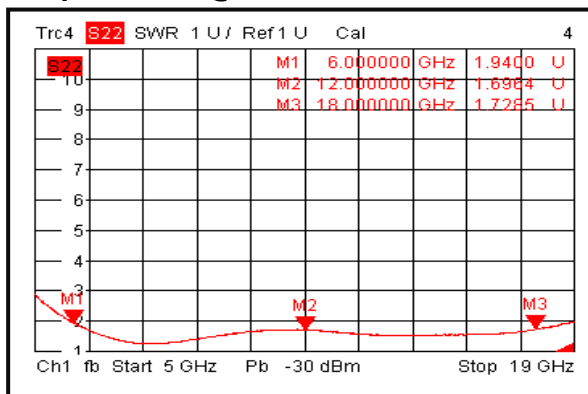
Gain @+85°C



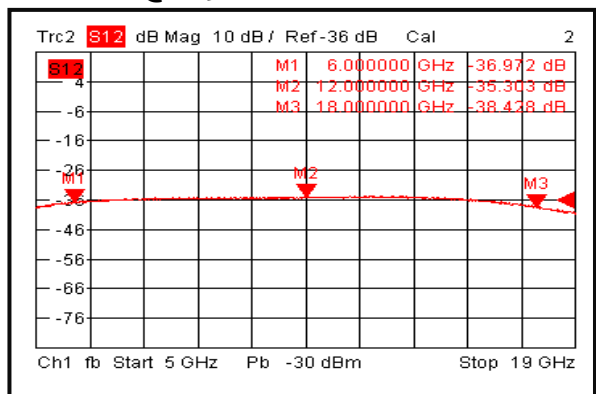
Input VSWR @+85°C



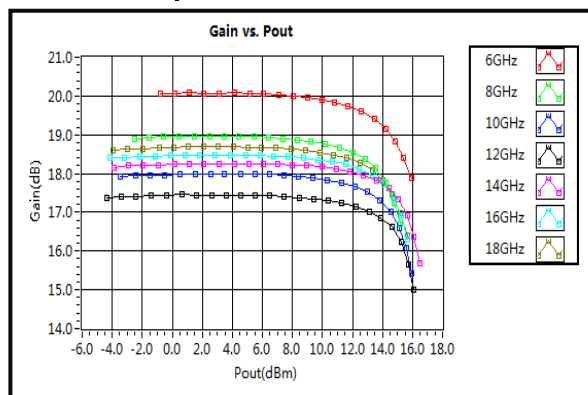
Output VSWR @+85°C



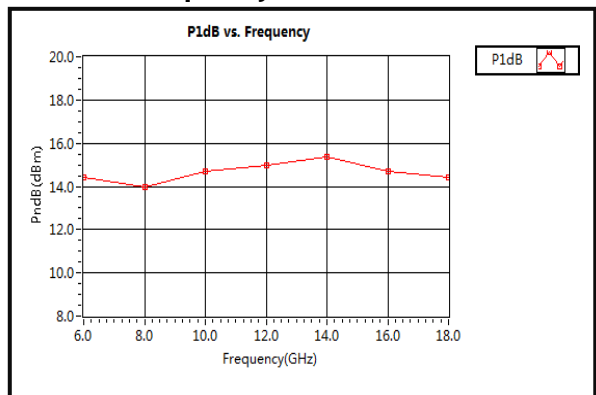
Isolation @+85°C



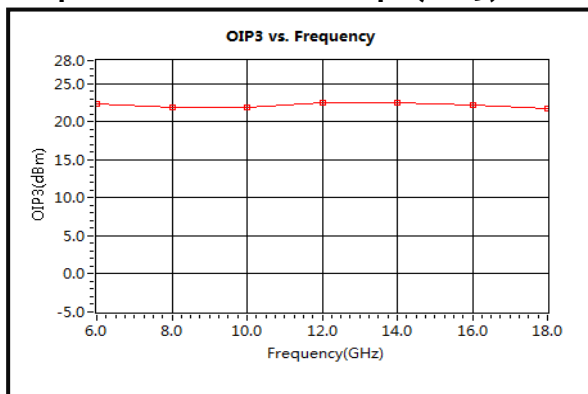
Gain vs. Output Power



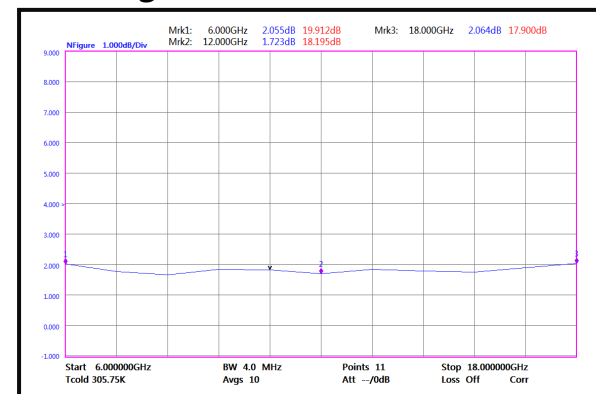
P1dB vs. Frequency



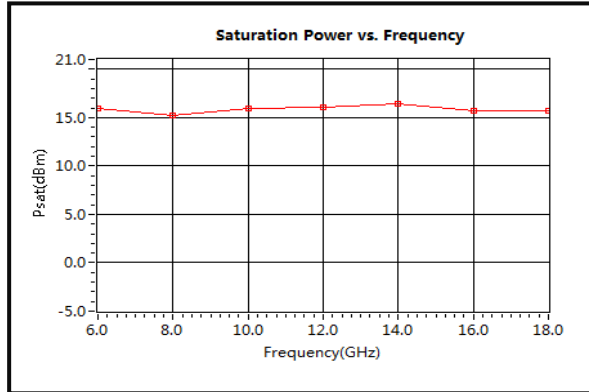
Output Third Order Intercept (OIP3)



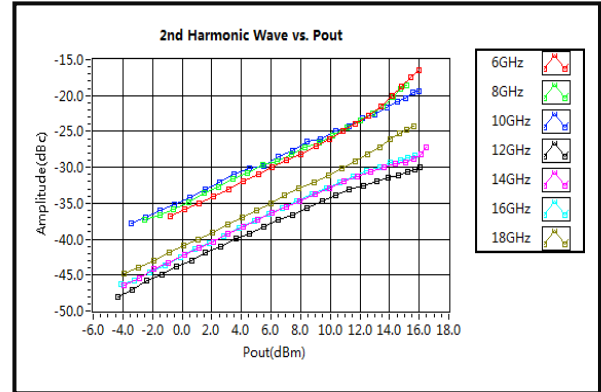
Noise Figure



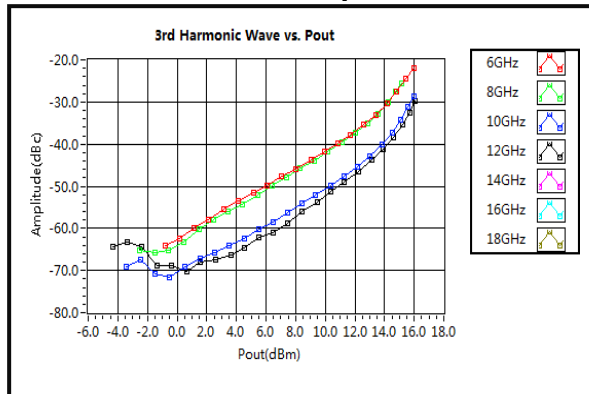
Saturation Power vs. Frequency



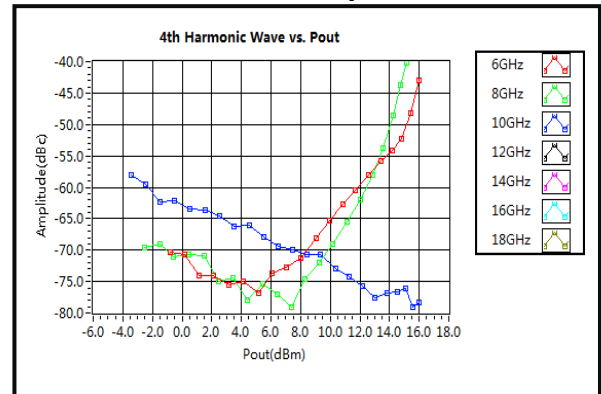
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



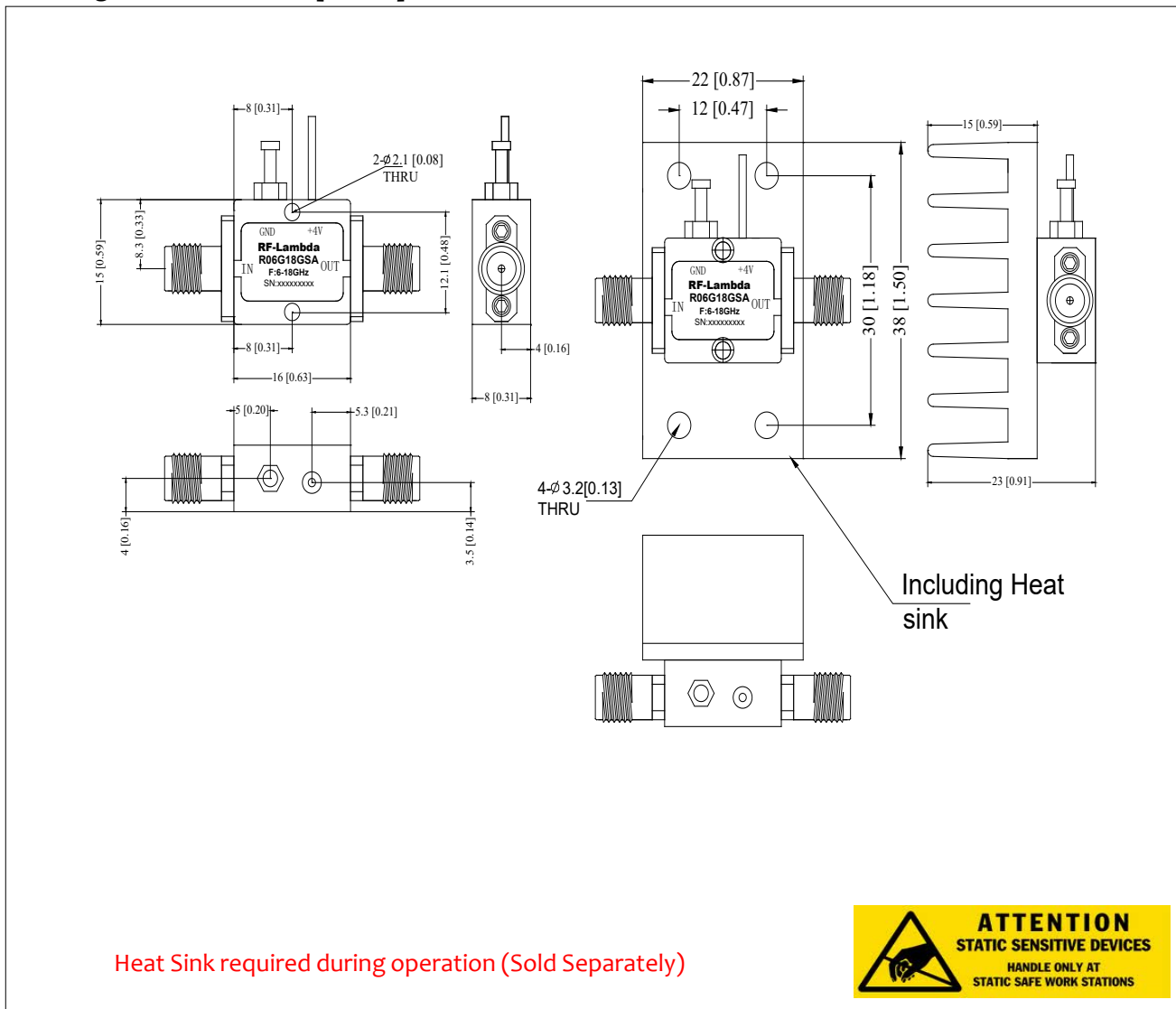
4th Harmonic Wave Output Power



Outline Drawing:

All Dimensions in mm [inches]

Housing Tolerances ± 0.1 [0.004]



Ordering Information

Part No.	Description
R06G18GSA	6-18GHz Low Noise Amplifier

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