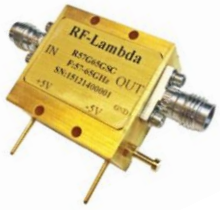
Wide Band Low Noise Amplifier
50-69GHz



Note: The photo is for illustration purposes only.
Please refer to the outline drawing.

RoHS Compliant

Features

- Gain:40dB Typical
- P1dB Output Power: +16dBm
- Single Supply Voltage

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test and Measurement

Electrical Specifications, TA = +25°C Vdd= +5V

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	50		60	61		69	GHz
Gain		40			36		dB
Gain Flatness		±0.5			±0.5		dB
Gain Variation Over Temperature (-45 ~ +85)		±0.5			±0.5		dB
Noise Figure		6			6		dB
Input Return Loss		10			10		dB
Output Return Loss		7			7		dB
Output 1dB Compression Point (P1dB)		16			16		dBm
Output Third Order Intercept (IP3)		25			25		dBm
Supply Current (Vdd=+5V)		220			220		mA
Isolation S12		60			67		dB
Input Max Power(no damage)			-10			-10	dBm
Weight	20						g
Impedance	50						Ohms
Input / Output Connectors	1.85mm-Female						
Finish	Gold Plated						
Material	Aluminum/copper						
Package Sealing	Epoxy Sealed (Standard)						
	Hermetically Sealed (Optional)						

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Absolute Maximum Ratings	
Supply Voltage	+5.5Vdc
RF Input Power (RFIN)	-10dBm
Storage Temperature (°C)	-65 to +150

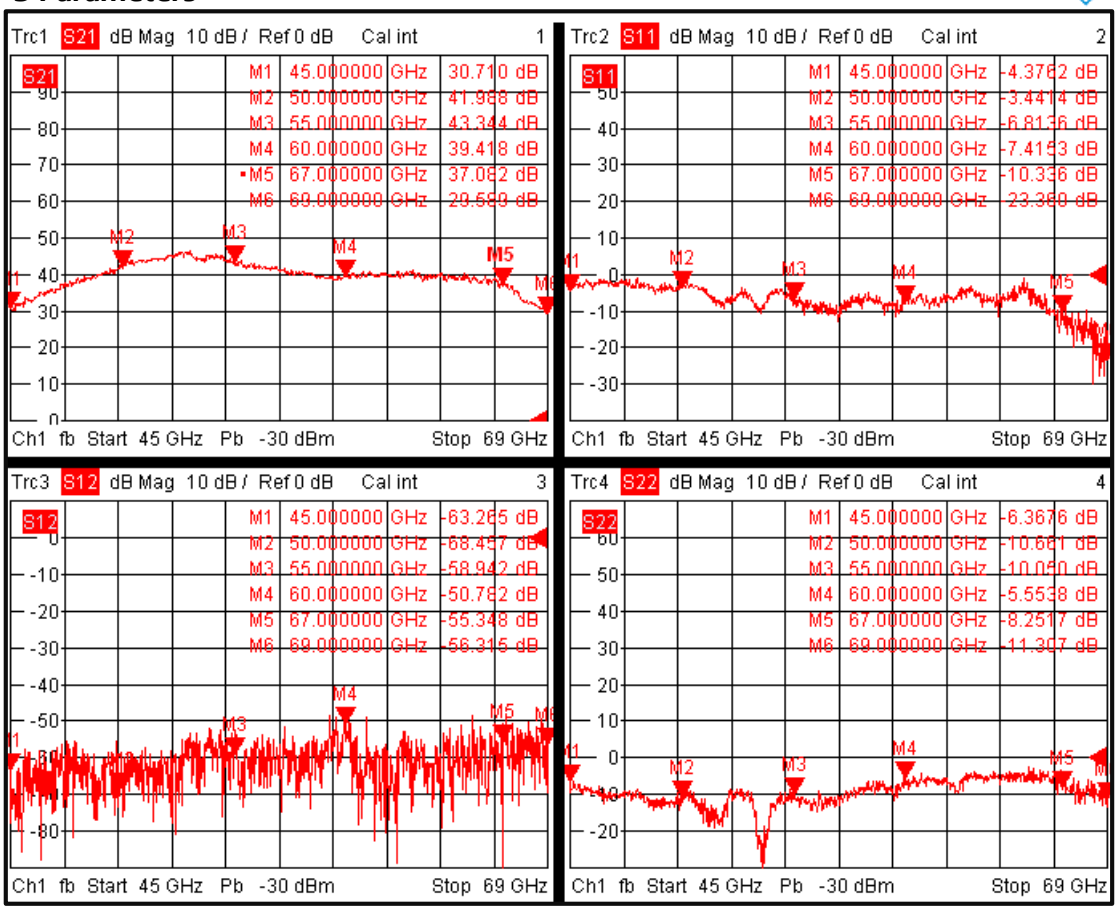
Biasing Up Procedure	
Step 1	Connect input and output
Step 2	Connect Ground Pin
Step 3	Connect +5 VDC
Power OFF Procedure	
Step 1	Turn off +5 VDC
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications and Test Standards

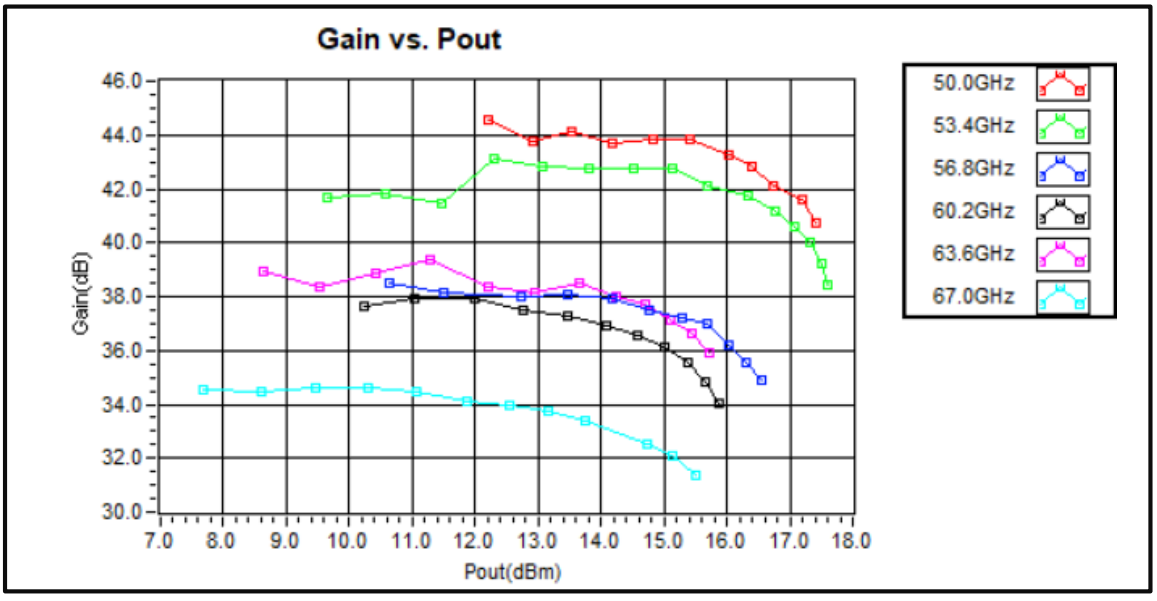
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45℃~+85℃ (Case Temperature must be less than 85C all time)
Storage Temperature		-65℃~+125℃
Thermal Shock		1 Hour@ -45℃ → 1 Hour @ +85℃ (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature 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)

Typical Performance Plots

S-Parameters



Gain vs. Output Power



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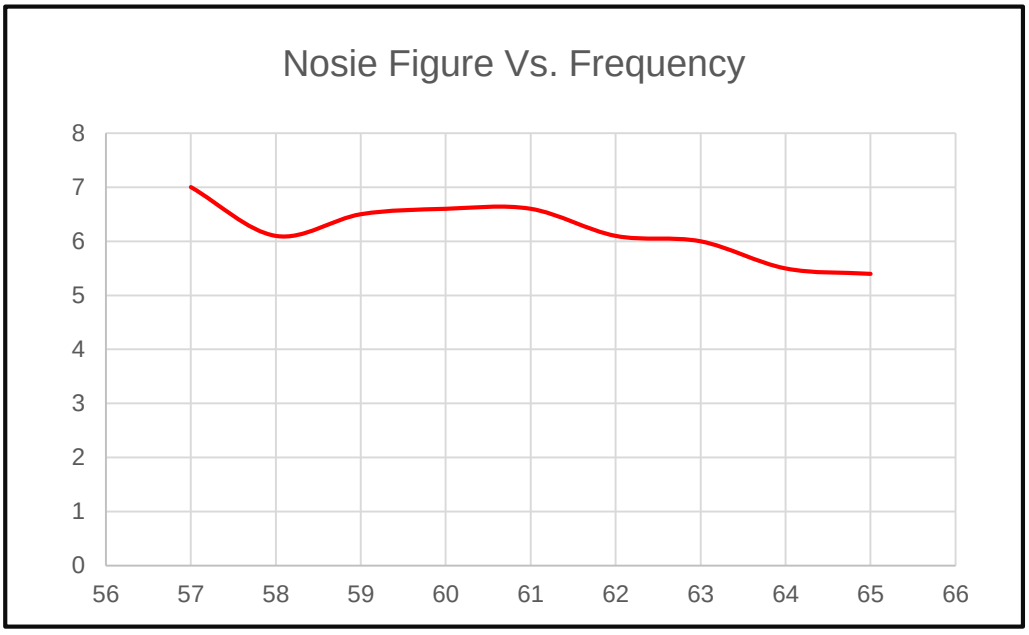
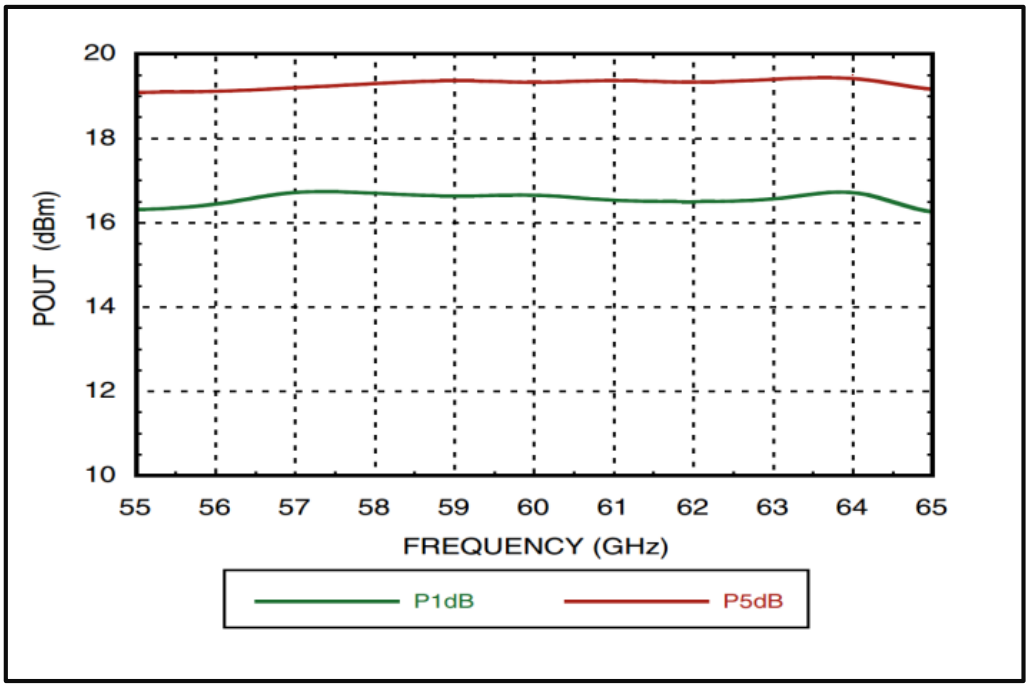
Noise Figure vs. Frequency

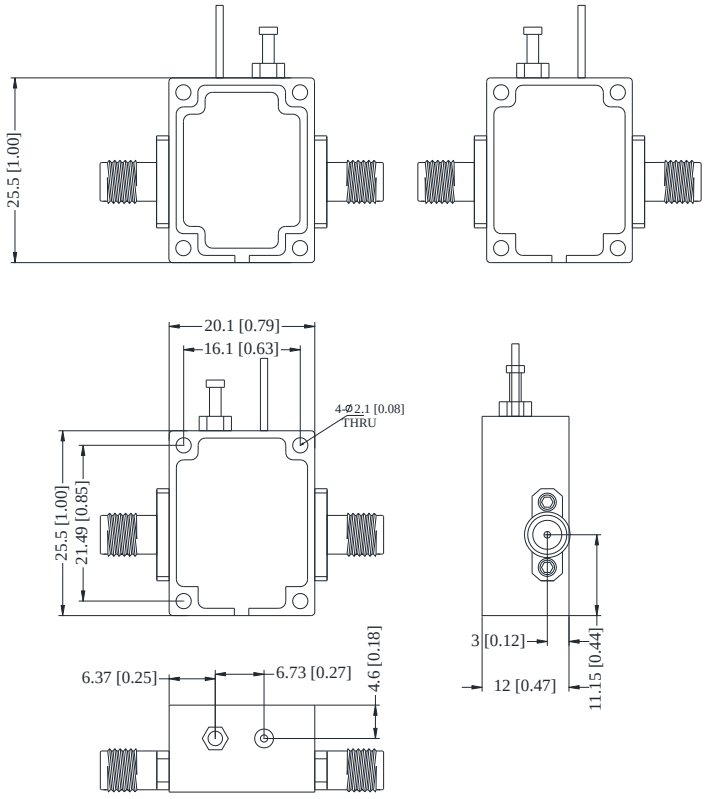


P1dB vs. Frequency



Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation. (Sold Separately)

Ordering Information	
Part No.	**Description**
R50G69GSC-S	Wide Band Low Noise Amplifier 50 - 69GHz

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