



Low Noise Amplifier 50-69GHz NF: 3.8dB



- Short Haul / High Capacity Links
- Wireless LANs
- Military & Space
- Noise Figure: 3.8 dB
- P1dB: +15 dBm
- Gain: 10 dB
- Supply Voltage: +5V AND -5V
- 50 Ohm Matched Input/Output

Electrical Specifications [1], TA = +25 ° C
Vd = +5V, Vg = -5V, Id = 220mA



Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	50		58	59		69	GHz
Gain	10	11	11.5	9	10	10.5	dB
Gain Flatness		±0.5			±0.5		dB
Gain Variation Over Temperature(-45 ~ +85)		±0.5			±0.5		dB
Noise Figure		3.8			3.8		dB
Input Return Loss	18	25	30	10	12	18	dB
Output Return Loss	17	25	32	15	20	27	dB
Output Power for 1 dB Compression (P1dB)		14		14	15		dBm
Supply Current (Idd) (Vcc=+5V)		220			220		mA
Isolation S12		32			29		dB
Input Max Power(no damage)			+2			+2	dBm
Weight	20						g
Impedance	50						Ohms
Input /Output Connector	1.85mm-Female						
Finishing	Standard: Gold 40 micron; Nickel 220 micron thickness						
	Option: Gold 80 micron; Nickel 180 micron thickness						
Material	Aluminum/copper						
Package Sealing	Epoxy Sealing (Standard)						
	Hermetically Seal (Option with extra charge)						

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Absolute Maximum Ratings

Drain Biasing	+5~+5.2Vdc
Gate Biasing	-5V to -5.2Vdc
RF Input Power (RFIN)	+2dB m
Storage Temperature(C°)	-65 to +150

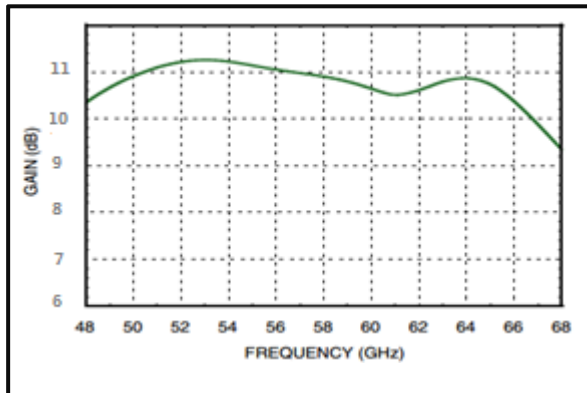
Environment specifications

Operational Temperature (C°)	-45 ~ +85(Case Temperature must be less than 85C all time)
Storage Temperature (C°)	-65 ~ +150
Altitude	30,000 ft. (Epoxy Seal Controlled environment) 60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional)
Vibration	25g rms (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH at 40°c
Shock	20G for 11msc half sin wave,3 axis both directions

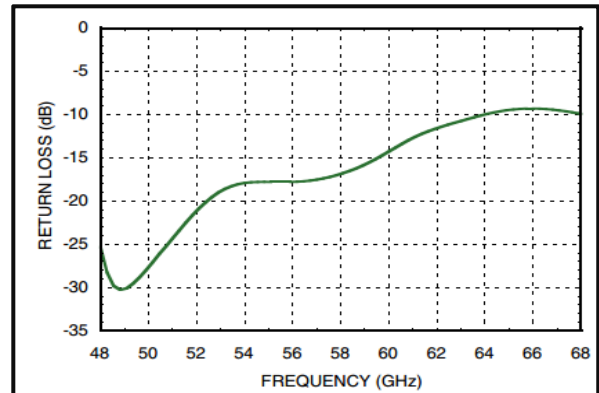
Biasing Up Procedure	
Step 1	Connect input and output
Step 2	Connect Ground Pin
Step 3	Connect -5V biasing
Step 4	Connect +5V biasing
Power OFF Procedure	
Step 1	Turn off -5V biasing
Step 2	Turn off +5V biasing
Step 3	Remove RF connection
Step 4	Remove Ground.

performance plots

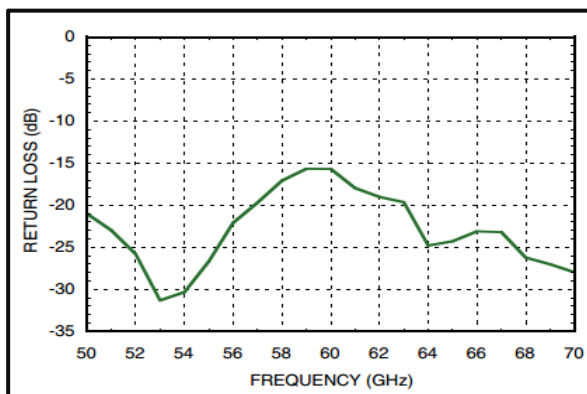
Gain



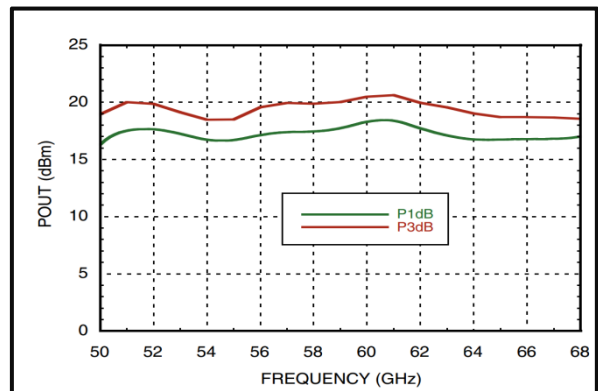
Input Return Loss



Output Return Loss



P1dB vs. Frequency



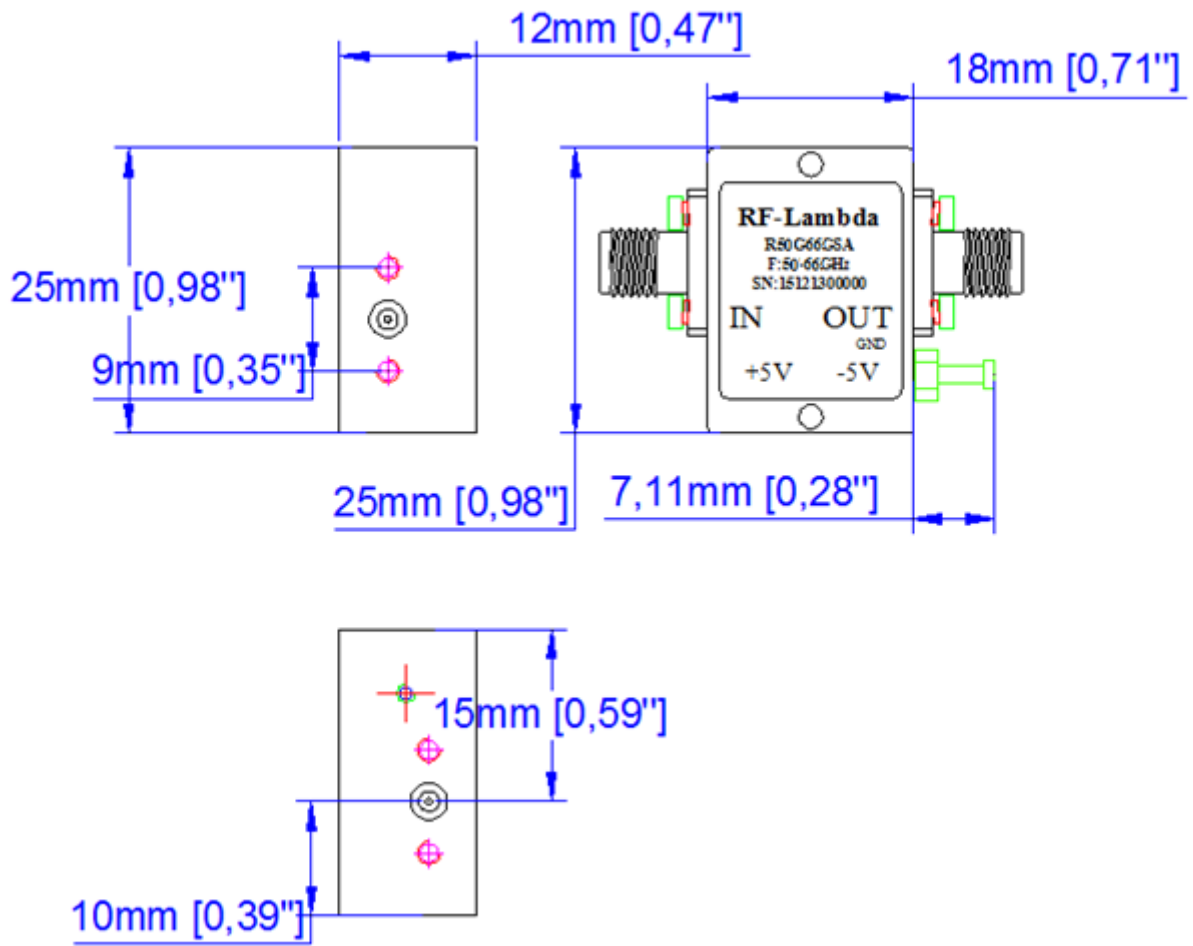


RF-LAMBDA

The power beyond expectations

R50G69GSA

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Heat Sink required during operation. (Heat Sink sold separately)

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