



Q-Band Low Noise Amplifier, 40 to 45 GHz, 35 dB Gain, 4.0 dB NF

Description:

Model SBL-4034533540-2F2F-S1 is a low noise amplifier with a typical small signal gain of 35 dB and a nominal noise figure of 4.0 dB across the frequency range of 40 to 45 GHz. The typical DC power requirement for the amplifier is +8 V_{DC}/100 mA. The input and output port configurations are both female 2.4 mm connectors. Other port configurations, such as male 2.4 mm connectors and WR-22 waveguides for either the input or output port, are also available under different model numbers.



Features:

- State-of-the-Art Noise Figure
- High Gain
- Low Power Consumption

Applications:

- Low Noise Receivers
- Communication Systems
- Radar Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	40 GHz		45 GHz
Gain		35 dB	
Noise Figure		4.0 dB	
P _{in}			10 dBm
Input Return Loss		8 dB	
Output Return Loss		8 dB	
DC Voltage	+6 V _{DC}	+8 V _{DC}	+12 V _{DC}
DC Supply Current		100 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

Mechanical Specifications:

Item	Specification
Input Port	2.4 mm (F)
Output Port	2.4 mm (F)
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.3 Oz
Size	1.20" (W) 1.20" (L) X 0.50" (H)
Outline	BG-SC-1

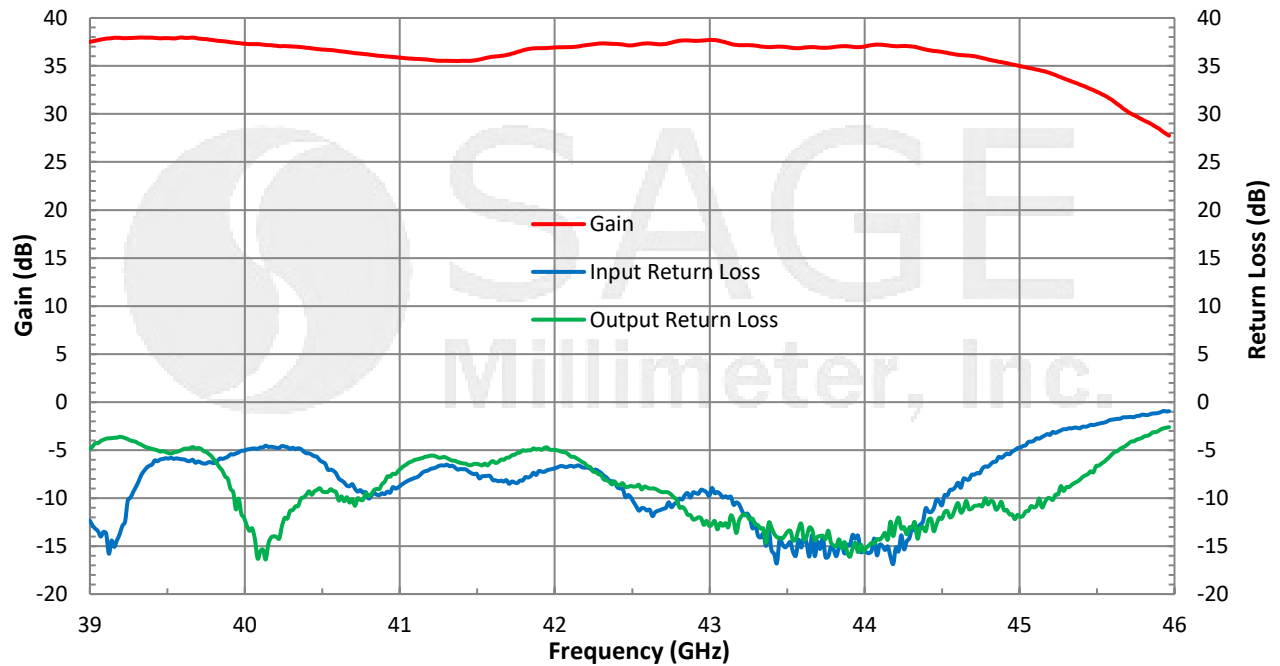




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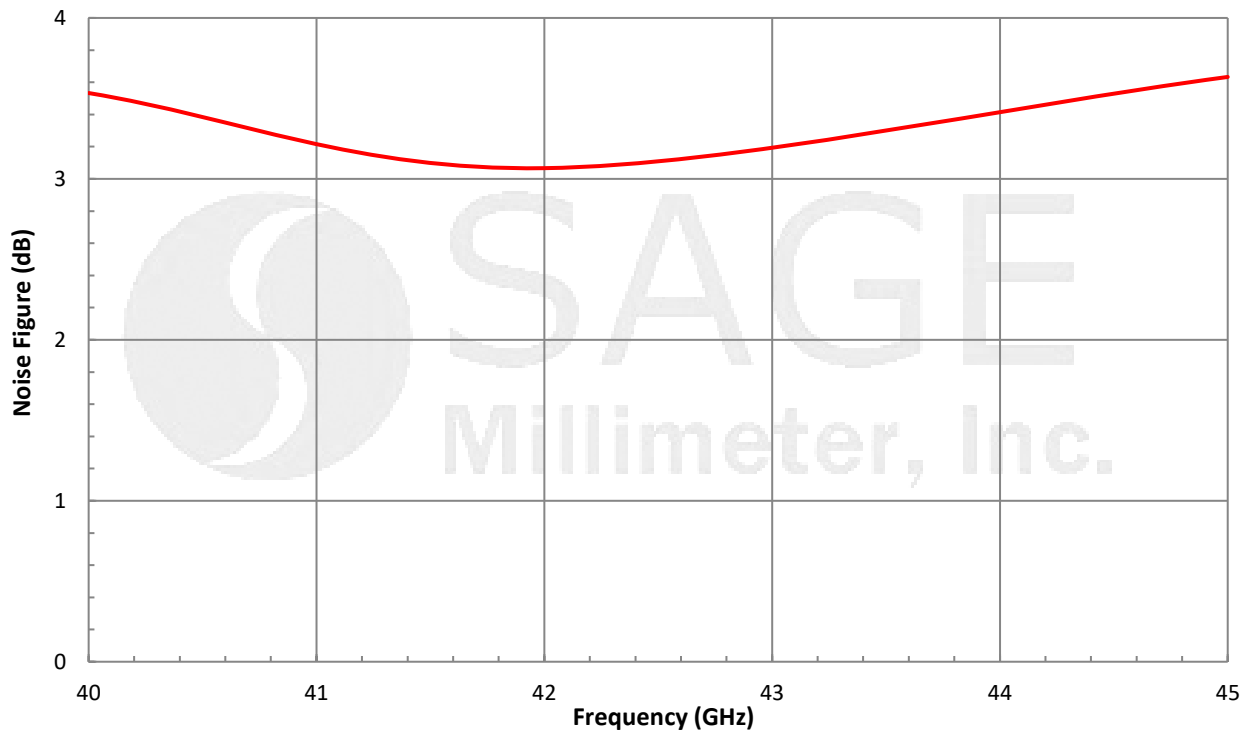
Typical Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/100 mA



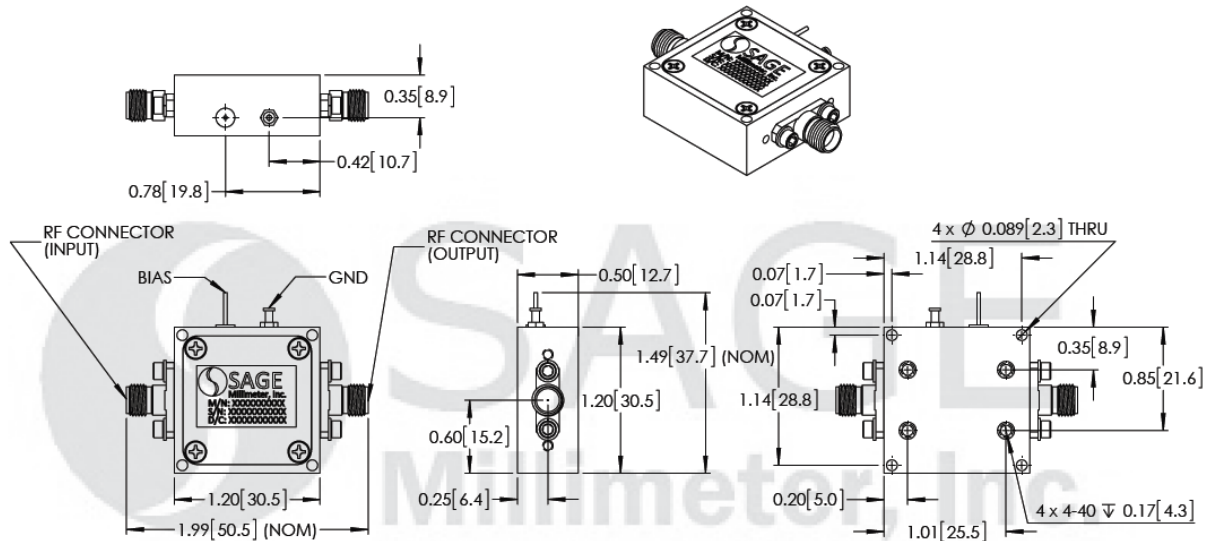
Typical Noise Figure vs. Frequency

Bias: +8 V_{DC}/100 mA



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Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Note:

- All data presented is collected from a sample lot. Actual data may vary unit to unit.
- All testing was performed under +25 °C case temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.
- Other mechanical configurations are available under different model numbers.

Caution:

- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- The case temperature of the device shall never exceed +50 °C. Use proper heatsink or fan if necessary.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

