

Q-Band Low Noise Amplifier, 36 to 45.5 GHz, 25 dB Gain, 3.5 dB NF

Description:

Model SBL-3634632535-2F2F-S1 is a low noise amplifier with a typical small signal gain of 25 dB and a nominal noise figure of 3.5 dB across the frequency range of 36 to 45.5 GHz. The 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
- Broadband Performance

Applications:

- Low Noise Receivers
- Communication Systems
- Radar Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	36.0 GHz		45.5 GHz
Gain		25 dB	
Noise Figure		3.5 dB	
P _{1dB}		+10 dBm	
P _{in}			-15 dBm
Input Return Loss		10 dB	
Output Return Loss		10 dB	
DC Voltage	+6 V _{DC}	+8 V _{DC}	+15 V _{DC}
DC Supply Current		100 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

Mechanical Specifications:

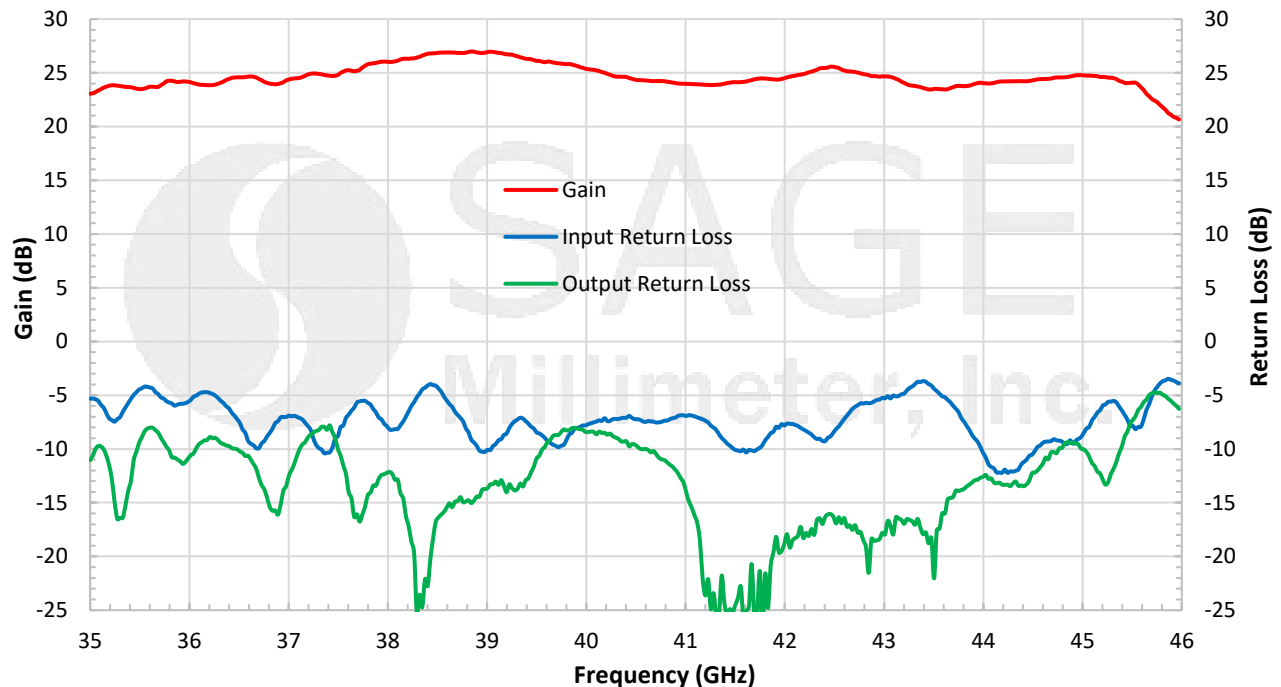
Item	Specification
Input Port	2.4 mm (F)
Output Port	2.4 mm (F)
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.3 Oz
Size	1.20" (W) X 1.20" (L) X 0.50" (H)
Outline	BG-SC-1



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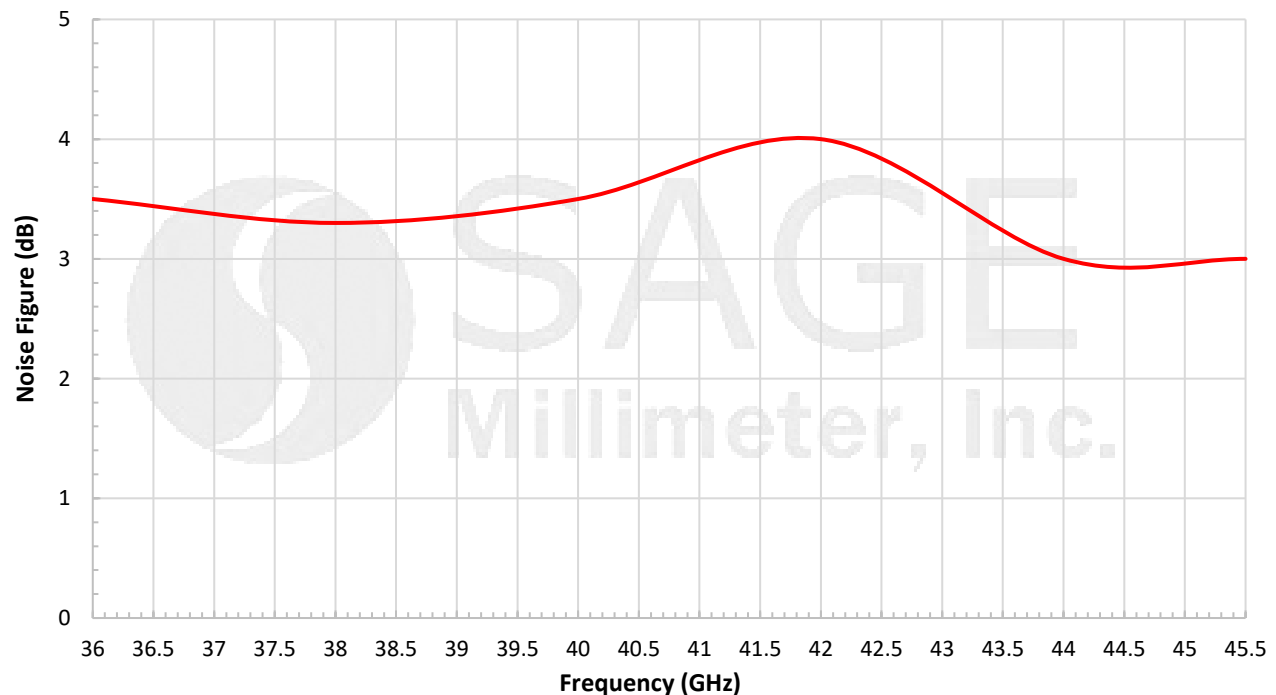
Typical Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/100 mA



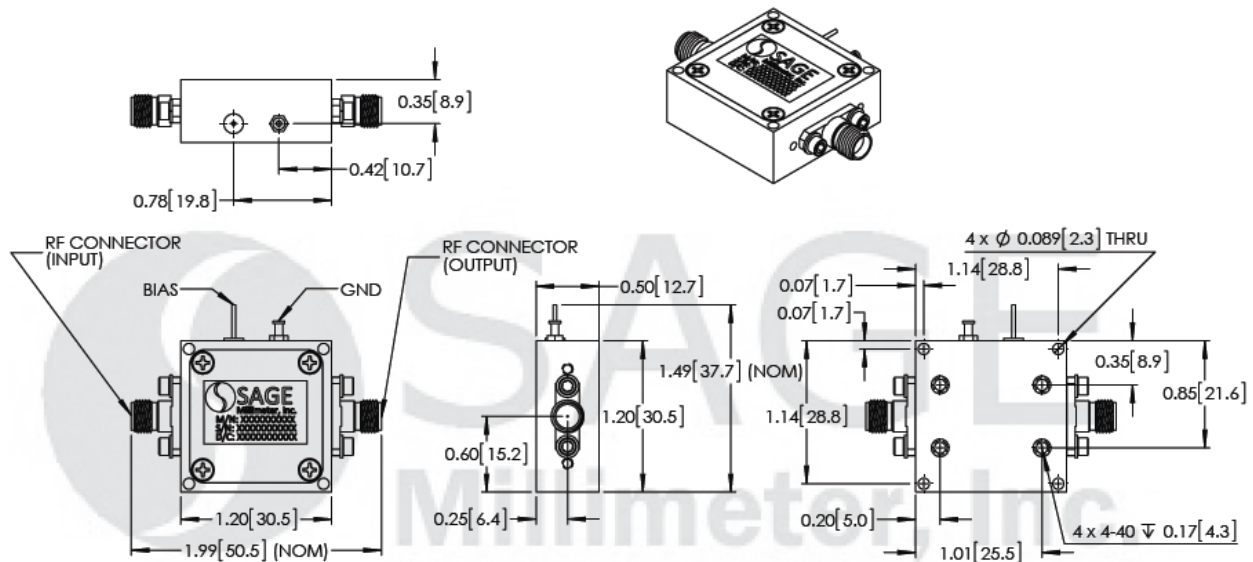
Typical Noise Figure vs. Frequency

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.**