SBL-3335033040-2F22-S1

Rev 1.0

Q-Band Low Noise Amplifier, 33 to 50 GHz, 30 dB Gain, 4 dB NF

Description:

Model SBL-3335033040-2F22-S1 is a low noise amplifier with a typical small signal gain of 30 dB and a nominal noise figure of 4.0 dB across the frequency range of 33 to 50 GHz. The DC power requirement for the amplifier is +8 V_{DC}/160 mA. The mechanical configuration offers an in line structure with WR-22 waveguides and UG-383/U anti-cocking flanges. Other port configurations, such as an in line structure with WR-22 waveguides or 2.4 mm connectors, are also available under different model numbers.

Features:

- Full Waveguide Band Coverage
- State-of-the-Art Noise Figure
- Good Gain Flatness

Applications:

- Radar Systems
- Communication Systems
- Low Noise Receivers

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	33 GHz		50 GHz
Gain		30 dB	
Noise Figure		4.0 dB	
P_{1dB}		+12 dBm	
P_{in}			+15 dBm
Input Return Loss		10 dB	
Output Return Loss		7 dB	
DC Voltage	+6 V_{DC}	+8 V_{DC}	+15 V_{DC}
DC Supply Current		160 mA	
Specification Temperature		+25 ˚C	
Operating Temperature	0 ˚C		+50 ˚C

Mechanical Specifications:

Item	Specification
Input	2.4 mm (F)
Output	WR-22 Waveguide with UG-383/U Anti-Cocking Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.7 Oz
Size	1.20” (W) X 2.00” (L) X 0.50” (H)
Outline	FA-SQ-1-A

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Phone: 424-757-0168 | Fax: 424-757-0188 | Email: sales@sagemillimeter.com

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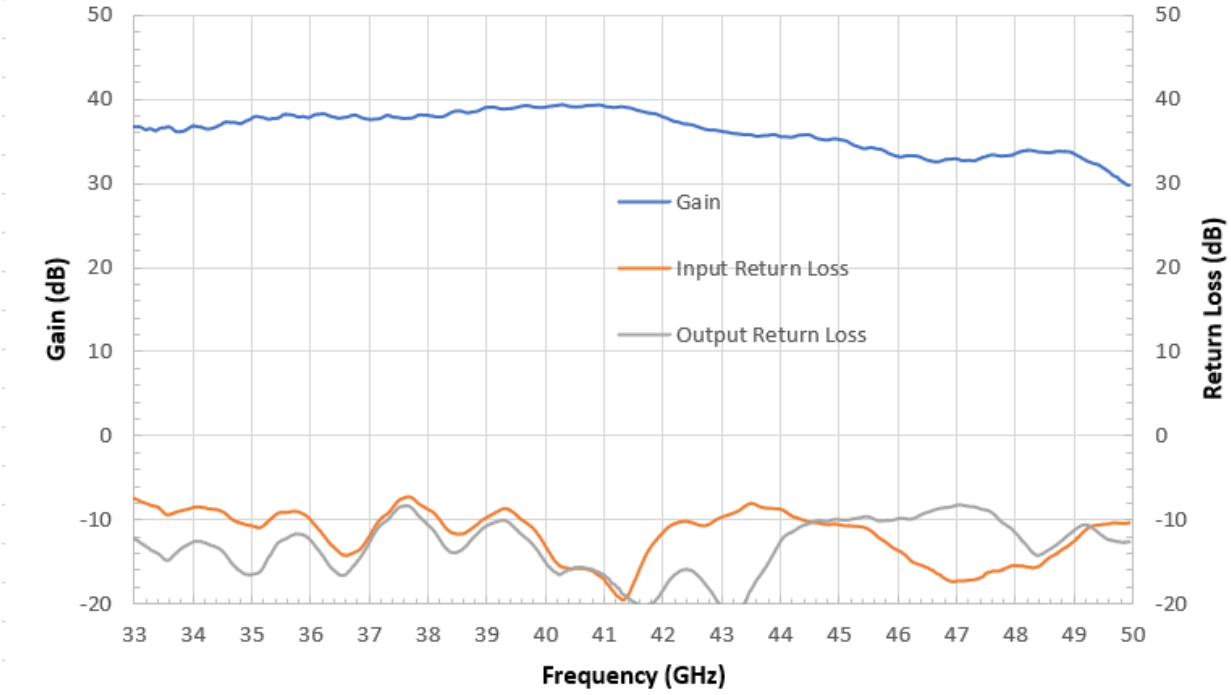
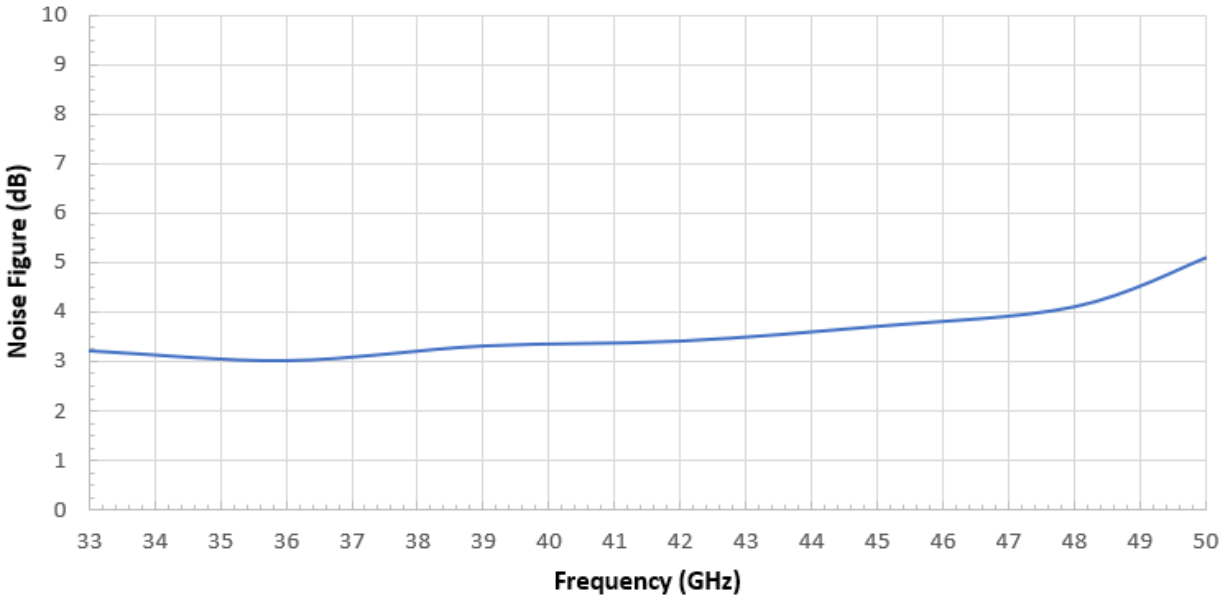
Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/160 mA



Noise Figure vs. Frequency

Bias: +8V_{DC}/160 mA



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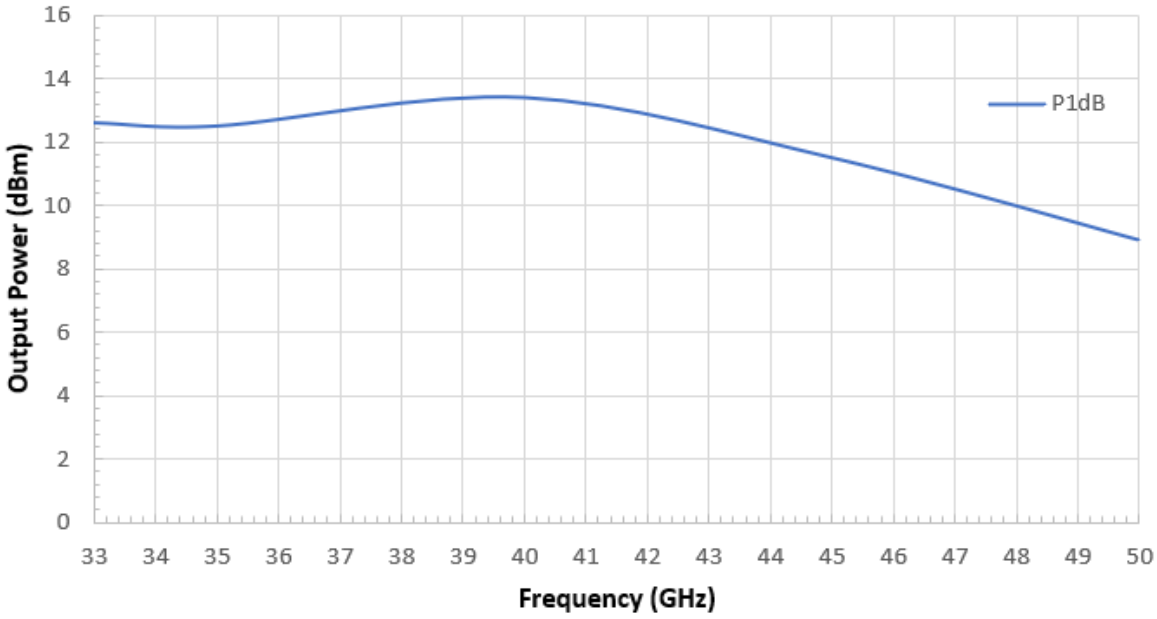
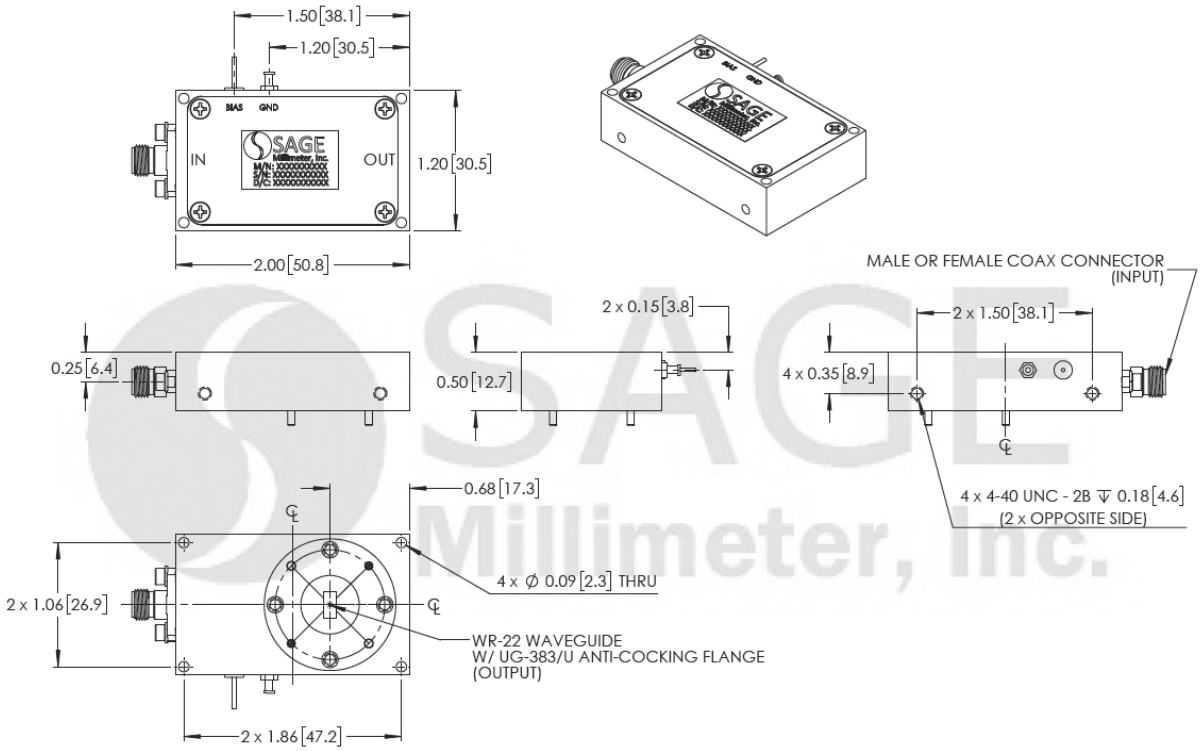
Output Power vs. Frequency

Bias: +8 V_{DC}/170 mA



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



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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.
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.
- 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.**

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