



E-Band Low Noise Amplifier, 25 dB Gain, 5.0 dB NF

Description:

Model SBL-6039032550-1212-S1 is a low noise amplifier with a typical small signal gain of 25 dB and a nominal noise figure of 5 dB across the frequency range of 60 to 90 GHz. The DC power requirement for the amplifier is +8 V_{DC}/30 mA. The mechanical configuration offers a right angle structure with WR-12 waveguides and UG-387/U flanges. Other port configurations, such as an in line structure with WR-12 waveguides or 1 mm connectors, are also available under different model numbers.



Features:

- Full Waveguide Band Performance
- State-of-the-Art Noise Figure
- High Gain

Applications:

- Radar Systems
- Communication Systems
- Low Noise Receivers

Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---------------------------|--------------------|--------------------|---------------------|
| Frequency | 60 GHz | | 90 GHz |
| Gain | | 25 dB | |
| Noise Figure | | 5 dB | |
| P _{1dB} | | +3 dBm | |
| P _{in} | | | -24 dBm |
| Input Return Loss | | 8 dB | |
| Output Return Loss | | 8 dB | |
| DC Voltage | +6 V _{DC} | +8 V _{DC} | +15 V _{DC} |
| DC Supply Current | | 30 mA | |
| Specification Temperature | | +25 °C | |
| Operating Temperature | 0 °C | | +50 °C |

Mechanical Specifications:

| Item | Specification |
|---------------|--------------------------------------|
| Input | WR-12 Waveguide with UG-387/U Flange |
| Output | WR-12 Waveguide with UG-387/U Flange |
| Bias | Solder Pin |
| Case Material | Aluminum |
| Finish | Gold Plated |
| Weight | 1.3 Oz |
| Size | 1.10" (W) X 1.70" (L) X 0.50" (H) |
| Outline | BG-SE-1 |

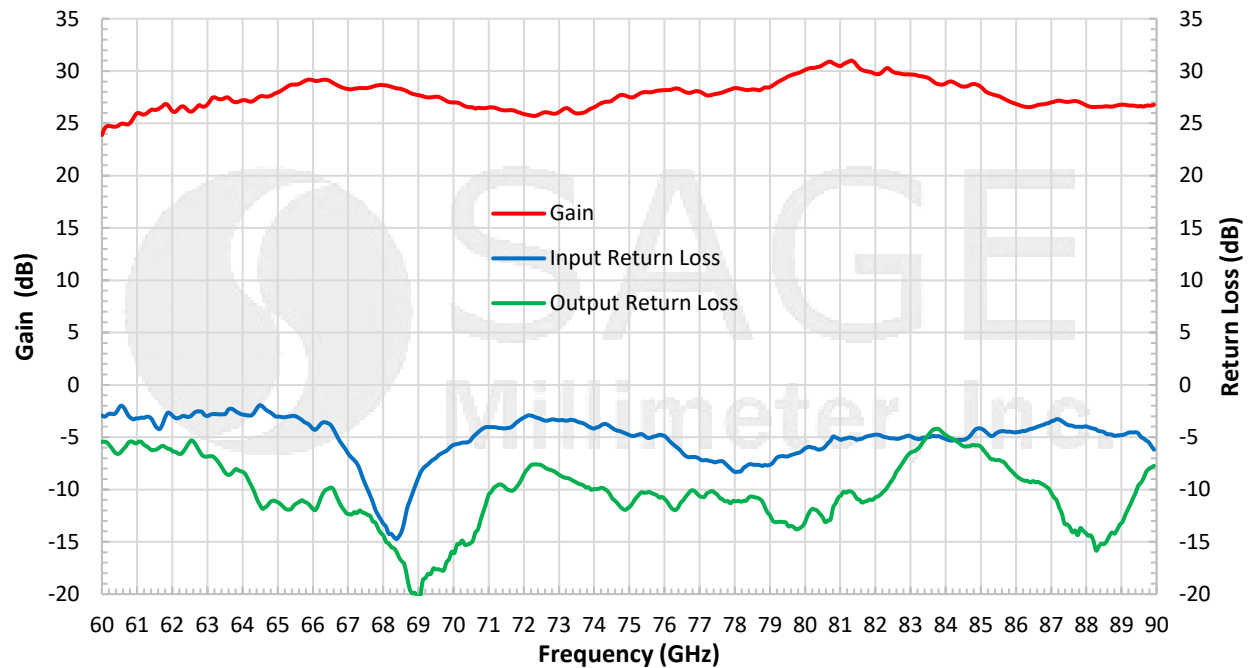




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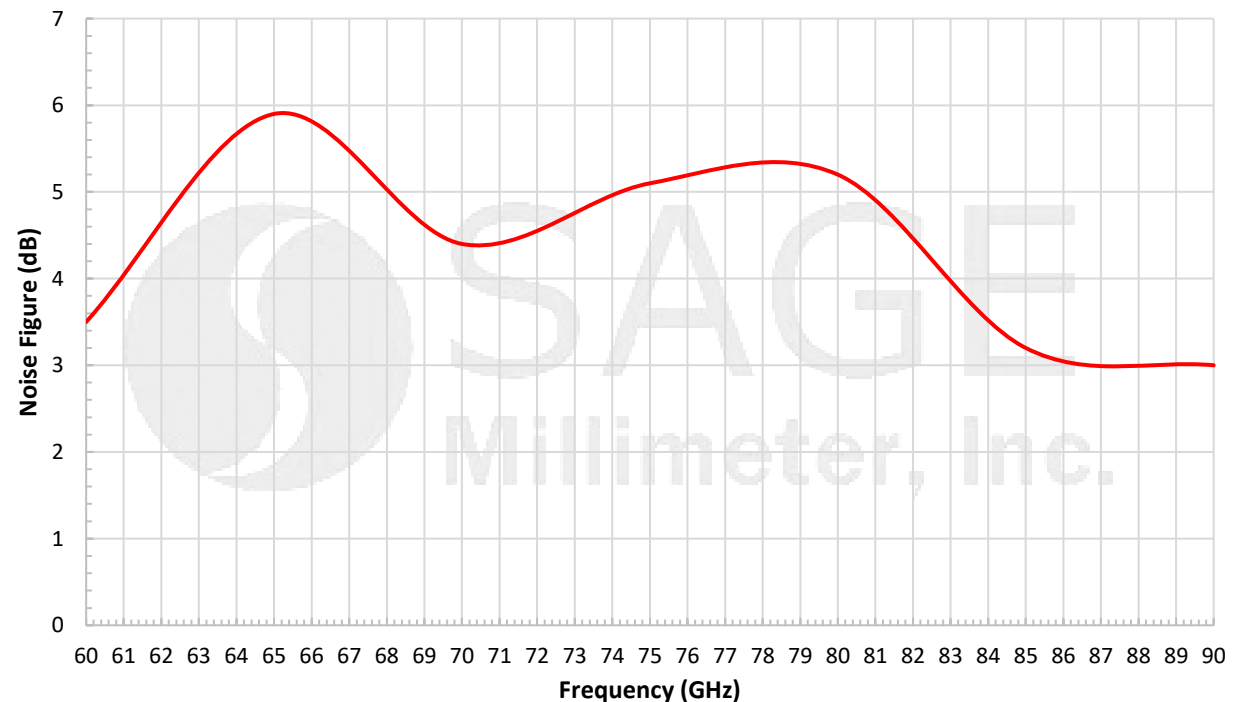
Typical Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/30 mA



Typical Noise Figure vs. Frequency

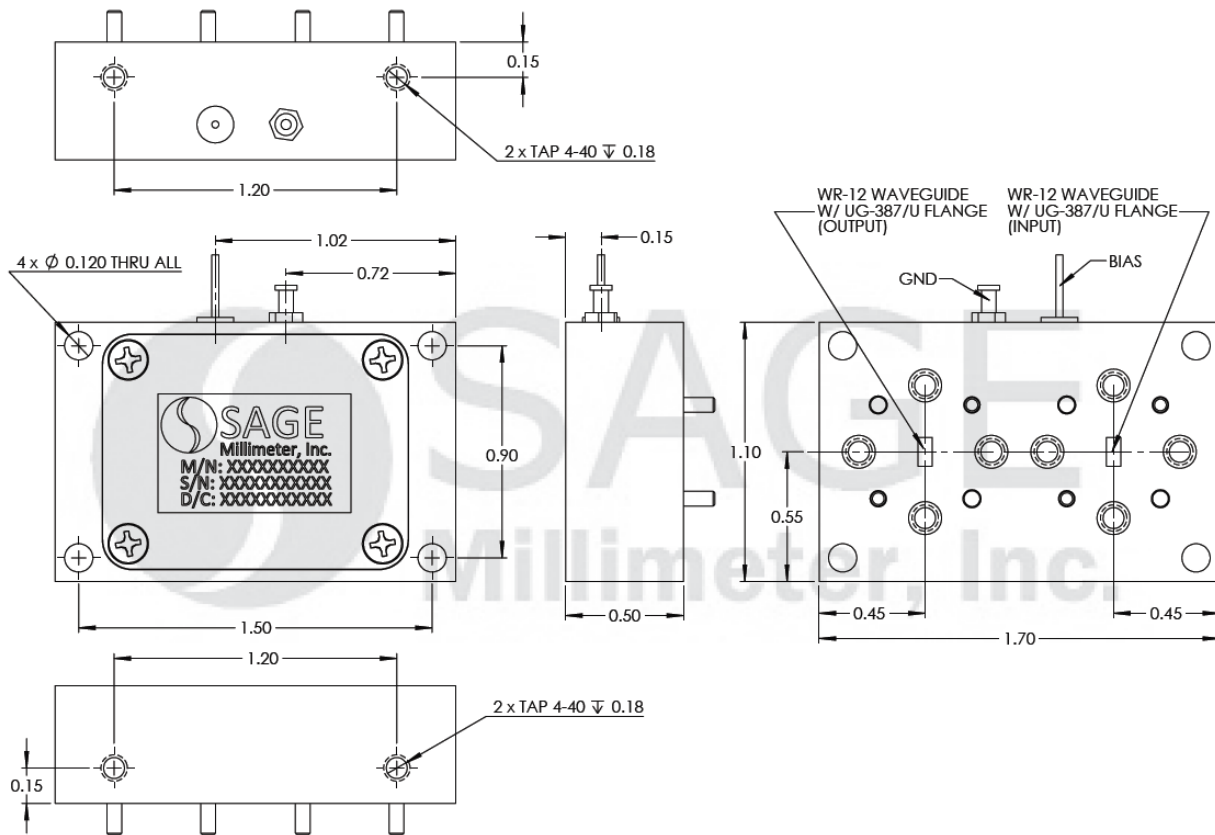
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Mechanical Outline: (Unless otherwise specified, all dimensions are in inches)



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.

