

## W-Band Low Noise Amplifier, 75 to 90 GHz, 25 dB Gain, 4 dB NF

### Description:

**Model SBL-7539032540-1010-E1** is a W band low noise amplifier with a typical small signal gain of 25 dB and a nominal noise figure of 4 dB across the frequency range of 75 to 90 GHz. The DC power requirement for the amplifier is +8 V<sub>DC</sub>/30 mA. The mechanical configuration offers an in line structure with WR-10 waveguides and UG-387/U-M anti-cocking flanges. Other port configurations, such as with 1 mm connectors or a right angle structure with WR-10 waveguides, are also available under different model numbers.



### Features:

- State-of-the-Art Noise Figure
- Broadband Performance
- Low Power Consumption

### Applications:

- Low Noise Receivers
- Radar Systems
- Communication Systems

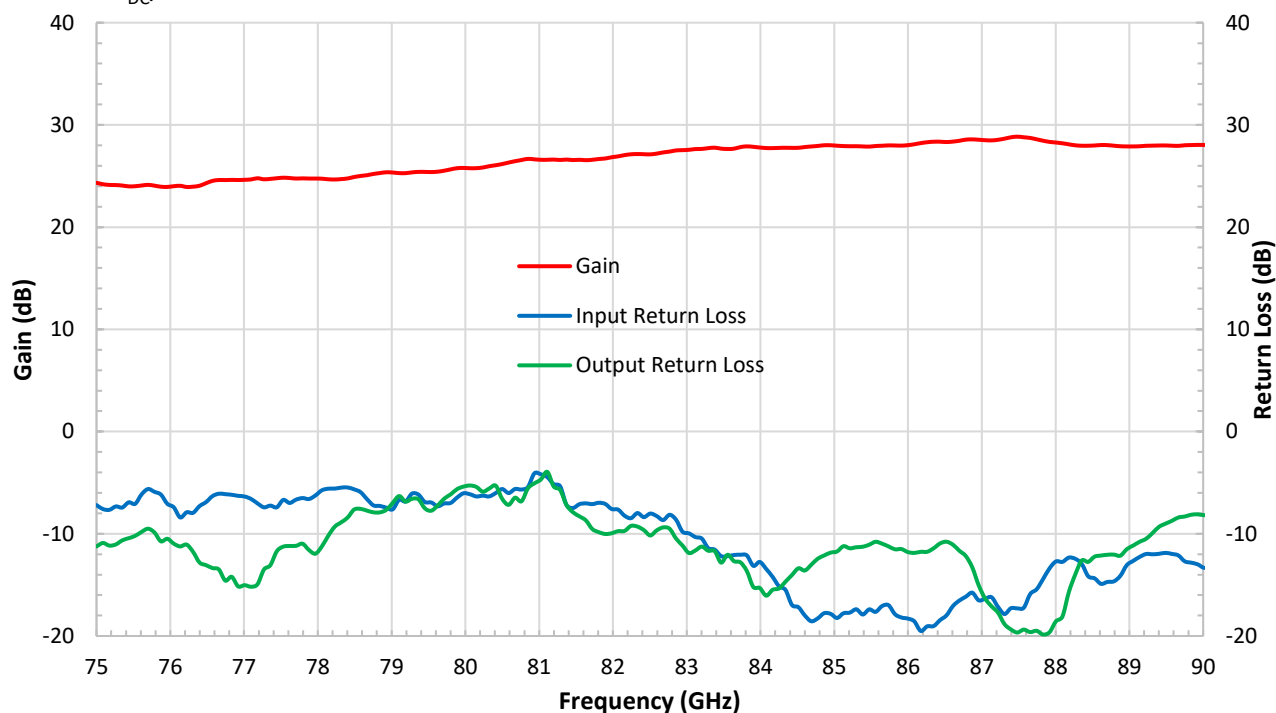
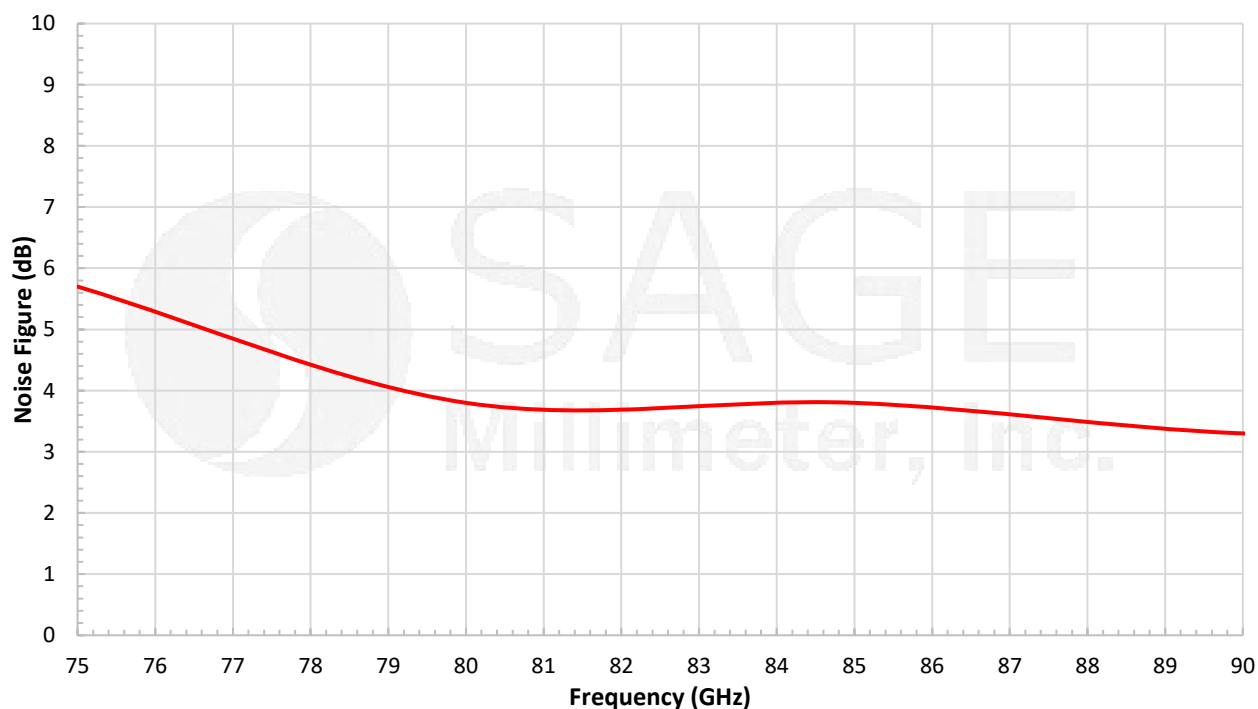
### Electrical Specifications:

| Parameter                 | Minimum            | Typical            | Maximum             |
|---------------------------|--------------------|--------------------|---------------------|
| Frequency                 | 75 GHz             |                    | 90 GHz              |
| Gain                      |                    | 25 dB              |                     |
| Noise Figure              |                    | 4 dB               |                     |
| P <sub>in</sub>           |                    |                    | -23 dBm             |
| OP <sub>-1dB</sub>        |                    | +2 dBm             |                     |
| Input Return Loss         |                    | 8 dB               |                     |
| Output Return Loss        |                    | 8 dB               |                     |
| DC Voltage                | +6 V <sub>DC</sub> | +8 V <sub>DC</sub> | +12 V <sub>DC</sub> |
| DC Supply Current         |                    | 30 mA              |                     |
| Specification Temperature |                    | +25 °C             |                     |
| Operating Temperature     | 0 °C               |                    | +50 °C              |

### Mechanical Specifications:

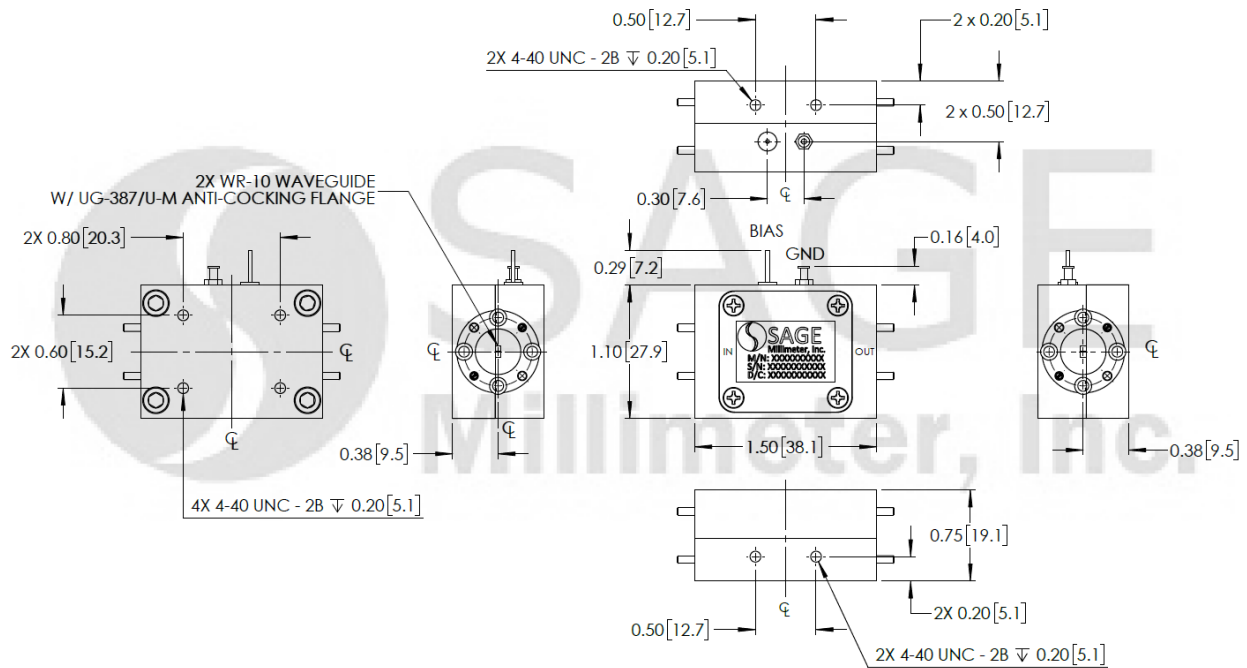
| Item          | Specification                                       |
|---------------|-----------------------------------------------------|
| Input         | WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange |
| Output        | WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange |
| Bias          | Solder Pin                                          |
| Case Material | Aluminum                                            |
| Finishing     | Gold Plated                                         |
| Weight        | 1.6 Oz                                              |
| Size          | 1.10" (W) 1.50" (L) X 0.75" (H)                     |
| Outline       | BG-SW-2-A                                           |



**W-Band Low Noise Amplifier, 75 to 90 GHz, 25 dB Gain, 4 dB NF****Typical Gain and Return Loss vs. Frequency**Bias: +8 V<sub>DC</sub>/30 mA**Typical Noise Figure vs. Frequency**Bias: +8 V<sub>DC</sub>/30 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.