



## E-Band Low Noise Amplifier, 60 to 90 GHz, 25 dB Gain, 6 dB NF

### Description:

Model **SBL-6039032560-1F12-E1-WC** is an E band low noise amplifier with a typical small signal gain of 25 dB and a nominal noise figure of 6 dB across the frequency range of 60 to 90 GHz. The DC power requirement for the amplifier is +8 V<sub>DC</sub>/30 mA. The input port configuration is a female 1 mm connector and the output is a WR-12 Waveguide with UG-387/U Flange. Other port configurations are 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		6 dB	
P <sub>1DB</sub>		+3 dBm	
P <sub>in</sub>			-24 dBm
Input Return Loss		8 dB	
Output Return Loss		8 dB	
DC Voltage	+6 V <sub>DC</sub>	+8 V <sub>DC</sub>	+15 V <sub>DC</sub>
DC Supply Current		30 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

### Mechanical Specifications:

Item	Specification
Input Port	1 mm (F) Connector
Output Port	WR-12 Waveguide with UG-387/U Flange
Bias	Solder Pin
Case Material	Aluminum
Finishing	Gold Plated
Weight	1.9 Oz
Size	1.89" (L) X 1.10" (W) X 0.75" (H)
Outline	BG-SE-CW

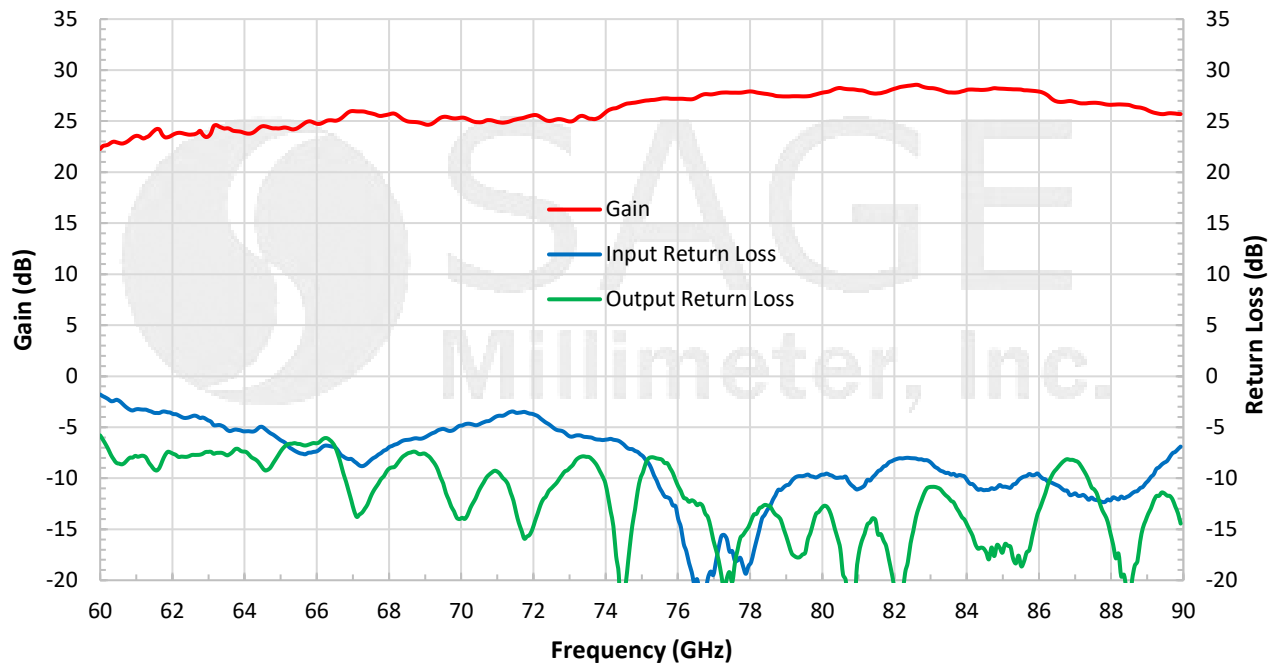




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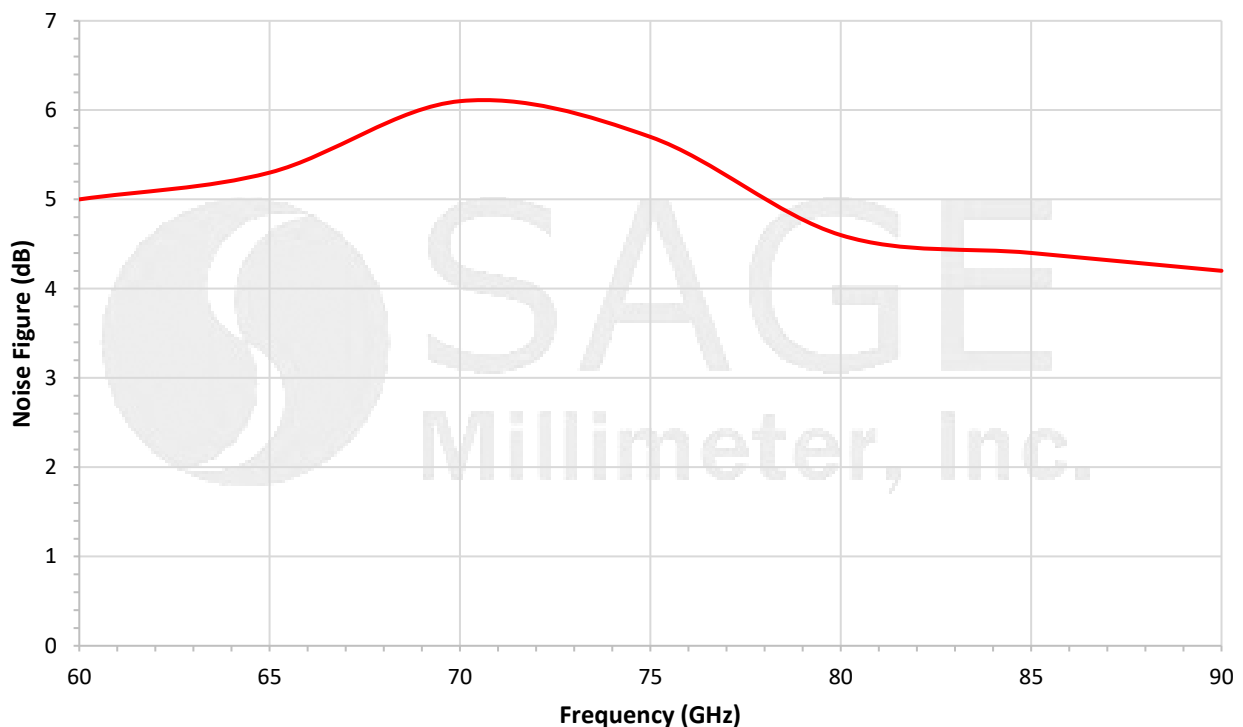
### Typical Gain and Return Loss vs. Frequency

Bias: +8 V<sub>DC</sub>/30 mA



### Typical Noise Figure vs. Frequency

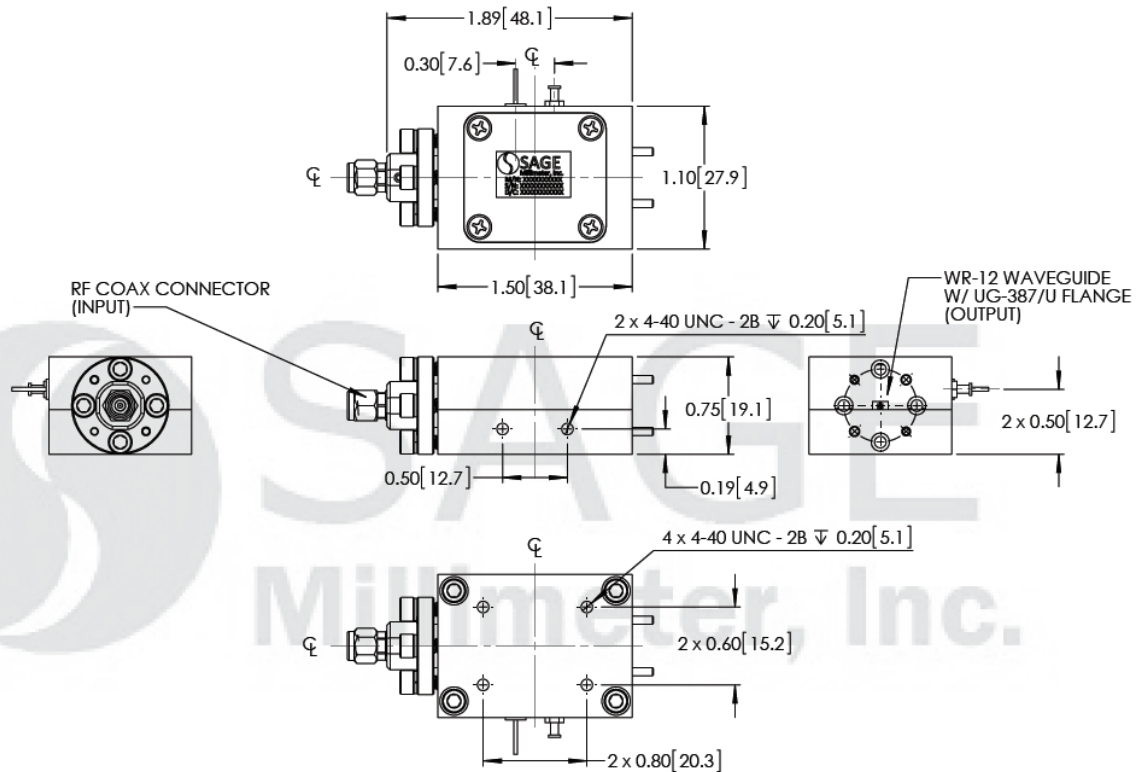
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**Mechanical Outline:** (Unless otherwise specified, all dimensions are in inches [millimeters])



**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.
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.
- Proper torque, 4.0 ± 0.15 inch-pounds (0.45 ± 0.02 Nm), should be used. **SAGE Millimeter torque wrench, model SCH-06004-S1, is highly recommended.**

