



U-Band Low Noise Amplifier, 47.0 to 51.5 GHz, 24 dB Gain, 4.5 dB NF

Description:

Model SBL-4735232445-1919-S1 is a U band low noise amplifier with a typical small signal gain of 24 dB and a nominal noise figure of 4.5 dB in the frequency range of 47.0 to 51.5 GHz. The DC power requirement for the amplifier is +6 V_{DC}/130 mA. The mechanical configuration offers a right angle structure with WR-19 waveguides and UG-383/U-M flange. Other port configurations, such as an in line structure with WR-19 waveguides or 1.85 mm connectors, are also available under different model numbers.



Features:

- Broadband Performance
- State of the Art Noise Figure
- High Gain

Applications:

- Radar Systems
- 47.5 – 51.2 GHz Satcom
- Test Equipment

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	47 GHz		51.5 GHz
Gain		24 dB	
Noise Figure		4.5 dB	
P _{1dB}		+12 dBm	
P _{in}			+0 dBm
Input Return Loss		8 dB	
Output Return Loss		8 dB	
DC Voltage		+6 V _{DC}	+15 V _{DC}
DC Supply Current		130 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

Mechanical Specifications:

Item	Specification
Input Port	WR-19 Waveguide with a UG-383/U-M Flange
Output Port	WR-19 Waveguide with a UG-383/U-M Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	2.0 Oz
Size	2.60" (L) X 1.20" (W) X 0.50" (H)
Outline	BG-SU-1

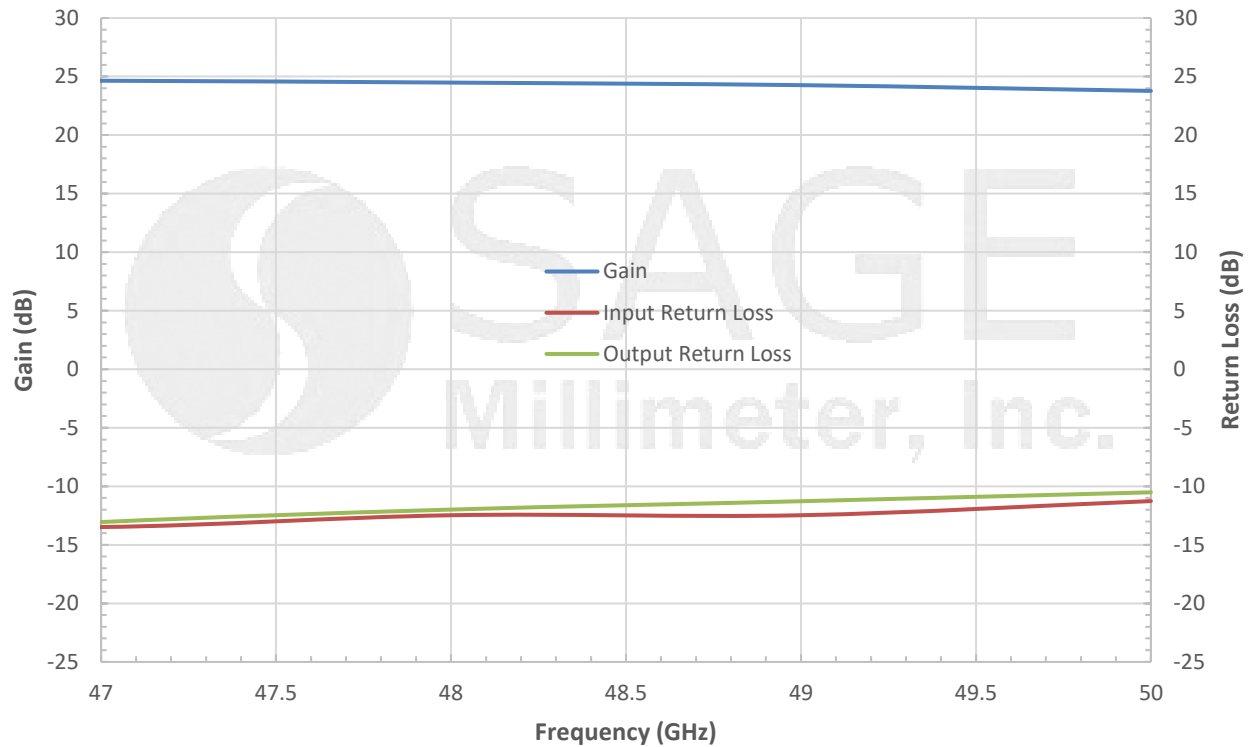




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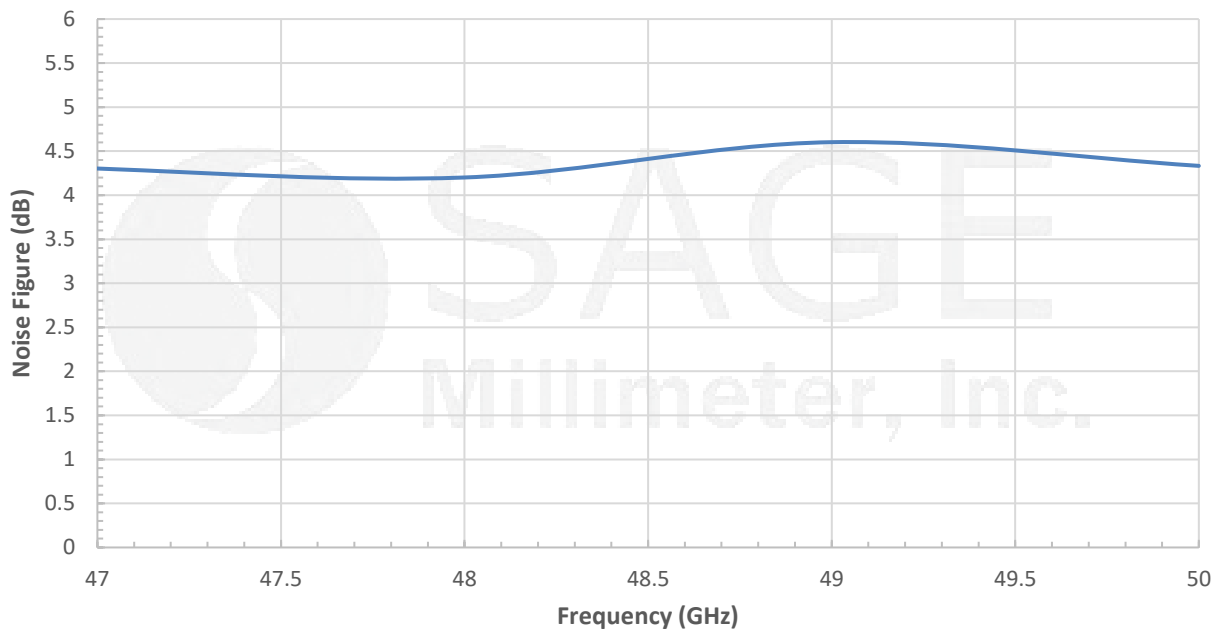
Typical Gain and Return Loss vs Frequency

Bias= +6 V_{DC} / 130mA



Typical Noise Figure vs Frequency

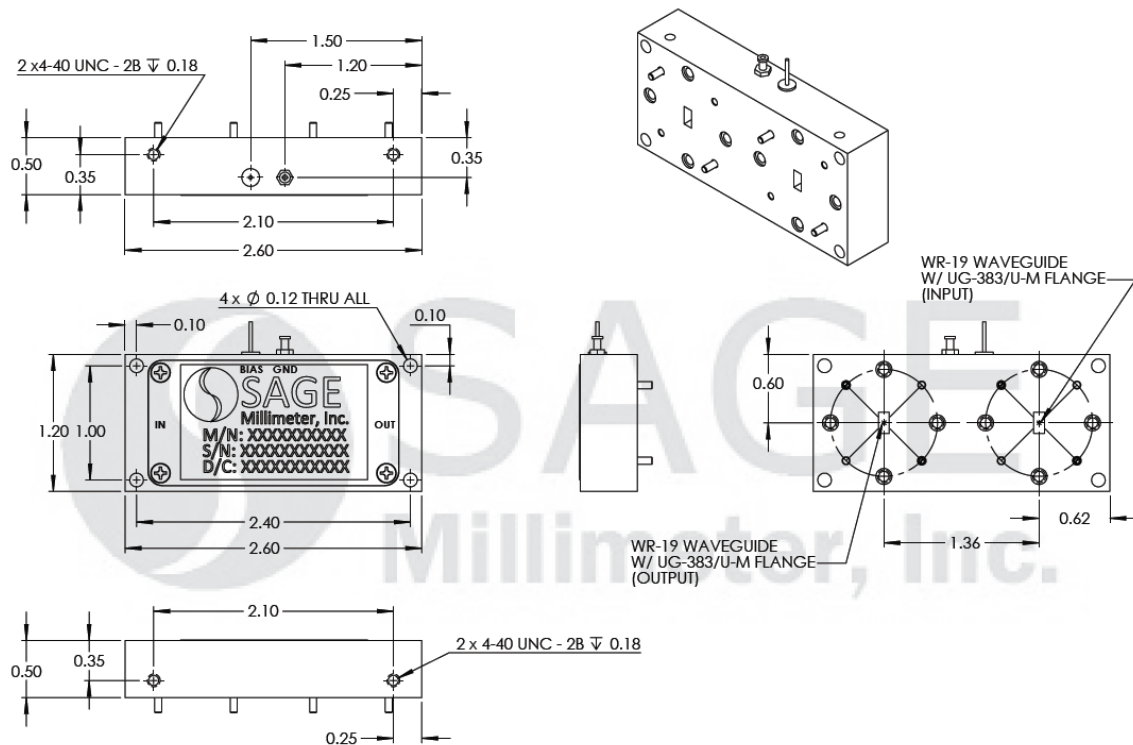
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Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Note:

- All data presented is collected from a sample lot. Actual data may vary unit to unit, slightly.
- 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.**

