SBL-7531142050-1010-S1

Rev. 1.4

W-Band Low Noise Amplifier, 75 to 110 GHz, 20 dB Gain, 5.0 dB NF

Description:

Model SBL-7531142050-1010-S1 is a low noise amplifier with a typical small signal gain of 20 dB and a nominal noise figure of 5.0 dB across the frequency range of 75 to 110 GHz. The DC power requirement for the amplifier is +8 V_{DC}/30 mA. The mechanical configuration offers a right angle structure with WR-10 waveguides and UG-387/U-M flanges. Other port configurations, such as an in line structure with WR-10 waveguides or 1 mm connectors, are also available under different model numbers.

Features:

- Full Waveguide Band Coverage
- State-of-the-Art Noise Figure
- Low Power Consumption

Applications:

- W-Band Imaging
- Communication Systems
- Radar Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	75 GHz		110 GHz
Gain		20 dB	
Noise Figure		5.0 dB	
P_{in}			-20 dBm
P_{1dB}		-3 dBm	
Input Return Loss		6 dB	
Output Return Loss		6 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 Port	WR-10 Waveguide with UG-387/U-M Flange
Output Port	WR-10 Waveguide with UG-387/U-M 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-SW-1

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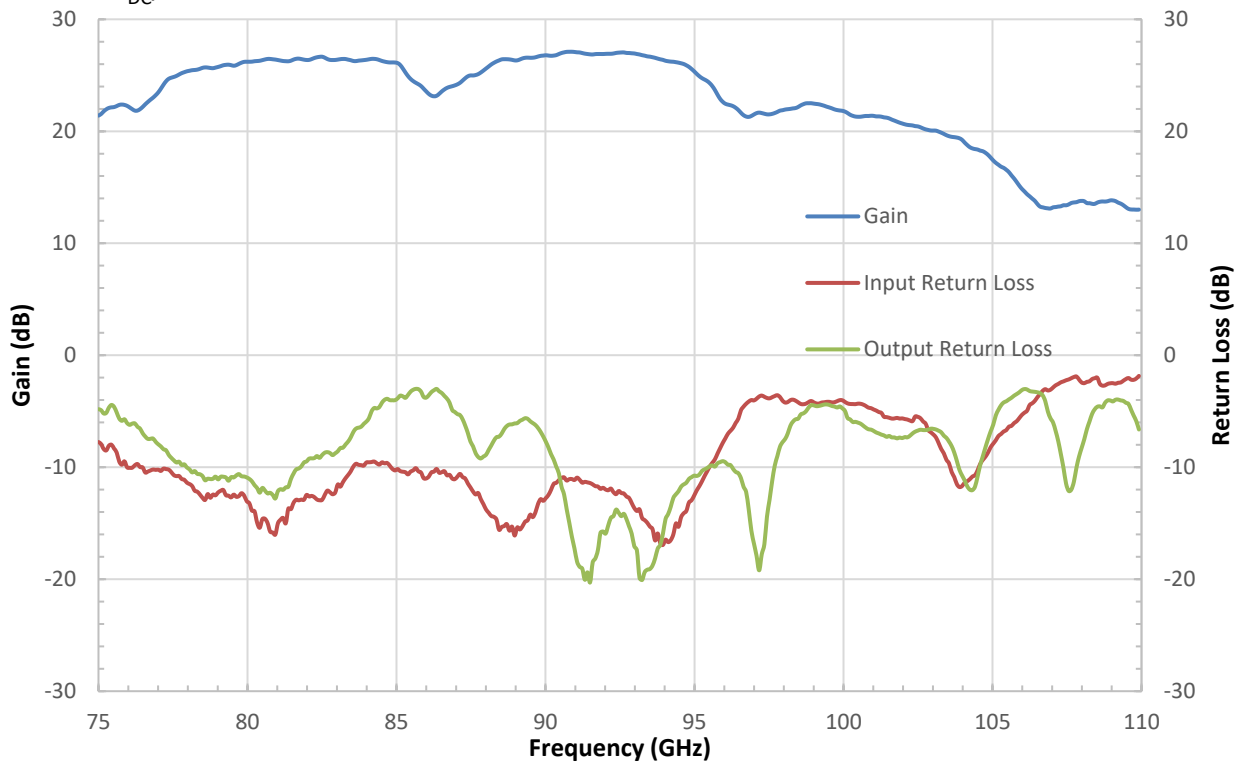
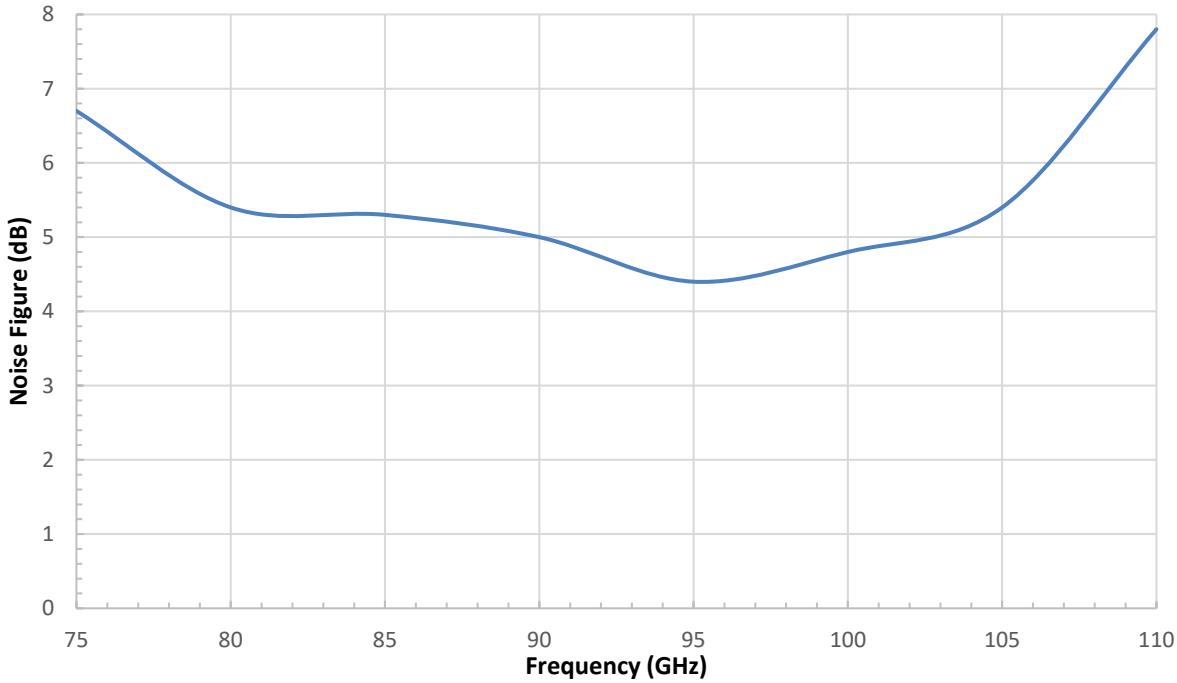
Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/30 mA



Noise Figure vs. Frequency

Bias: +8V_{DC}/30 mA



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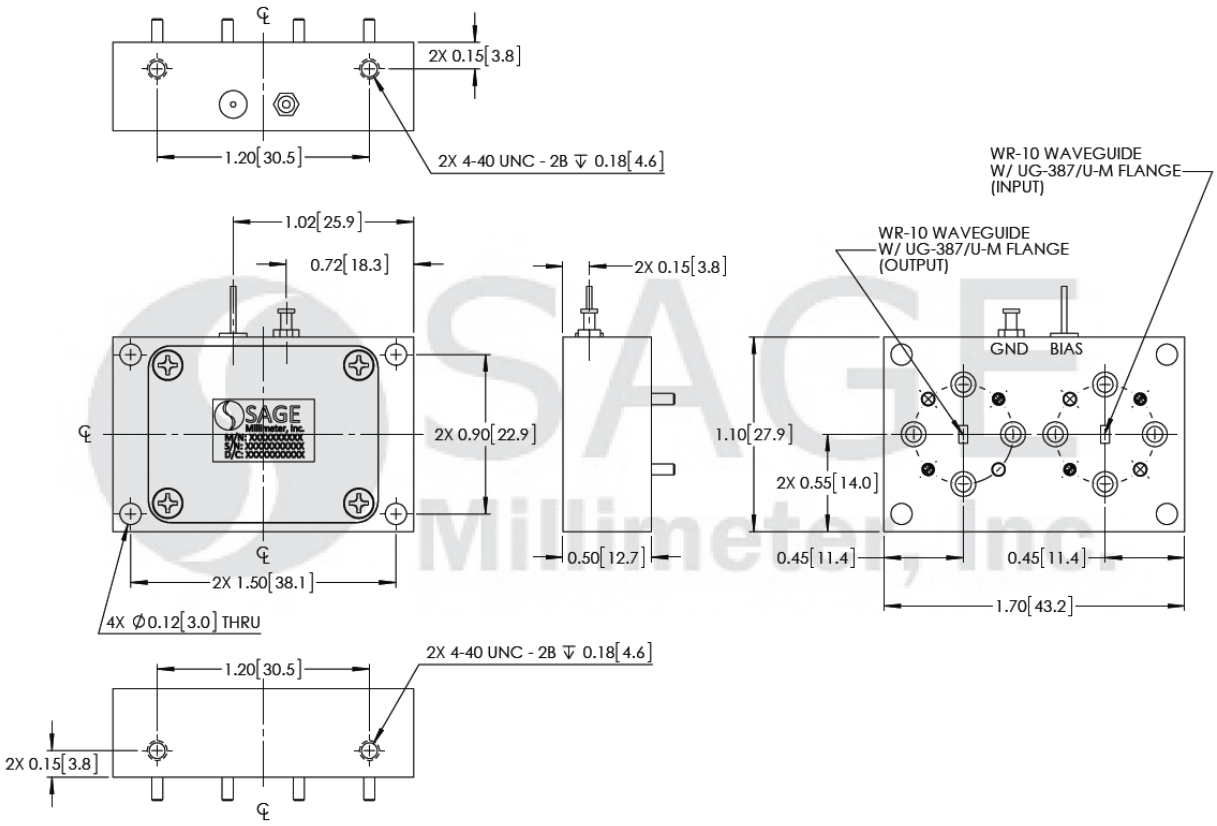
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



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.
- Eravant 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.

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