SBL-7531141560-1010-E1

Rev. 1.0

W-Band Low Noise Amplifier, 75 to 110 GHz, 15 dB Gain, 6 dB NF

Description:

Model SBL-7531141560-1010-E1 is a W-band low noise amplifier with a typical small signal gain of 15 dB and a nominal noise figure of 6 dB across the frequency range of 75 to 110 GHz. The DC power requirement for the amplifier is +8 V_{DC}/40 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:

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

Applications:

- W-Band Imaging
- Communication Systems
- Radar Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	75 GHz		110 GHz
Gain		15 dB	
Noise Figure		6 dB	
P_{1dB}		-5 dBm	
P_{in}			+15 dBm
Input Return Loss		10 dB	
Output Return Loss		10 dB	
DC Voltage	+6 V_{DC}	+8 V_{DC}	+15 V_{DC}
DC Supply Current		40 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
Finish	Gold Plated
Weight	1.6 Oz
Size	1.10” (W) X 1.50” (L) X 0.75” (H)
Outline	BG-SW-2-A

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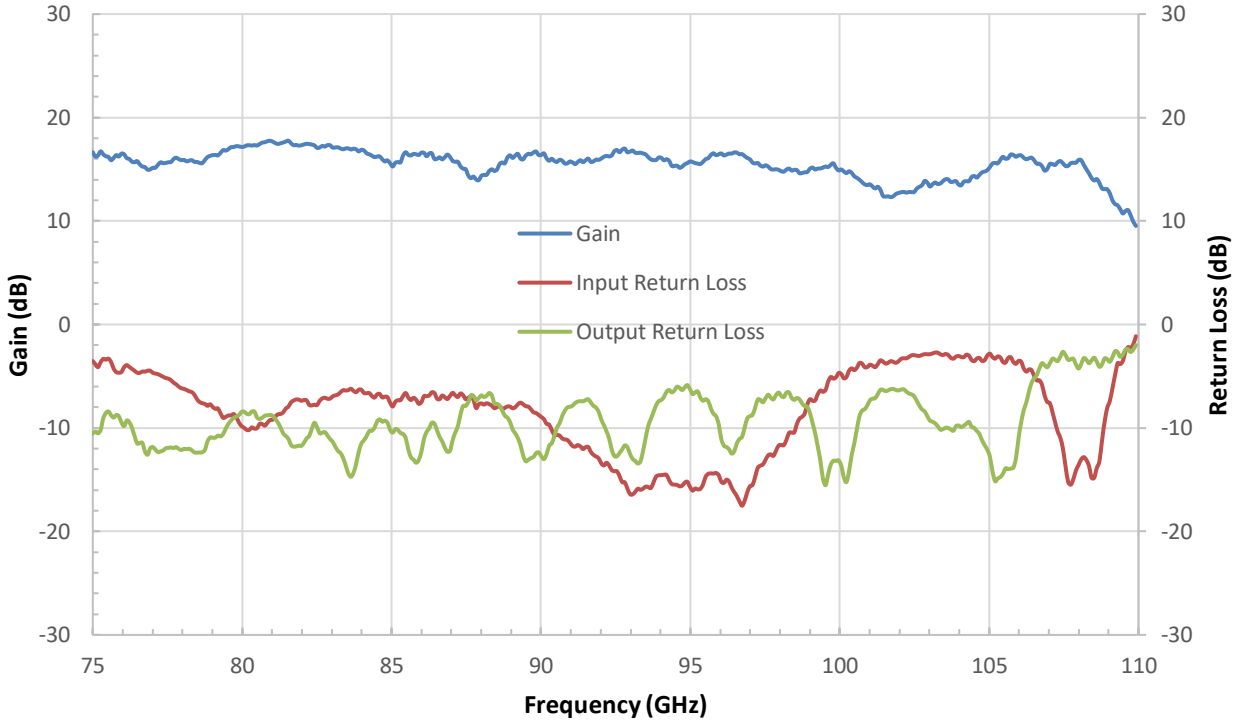
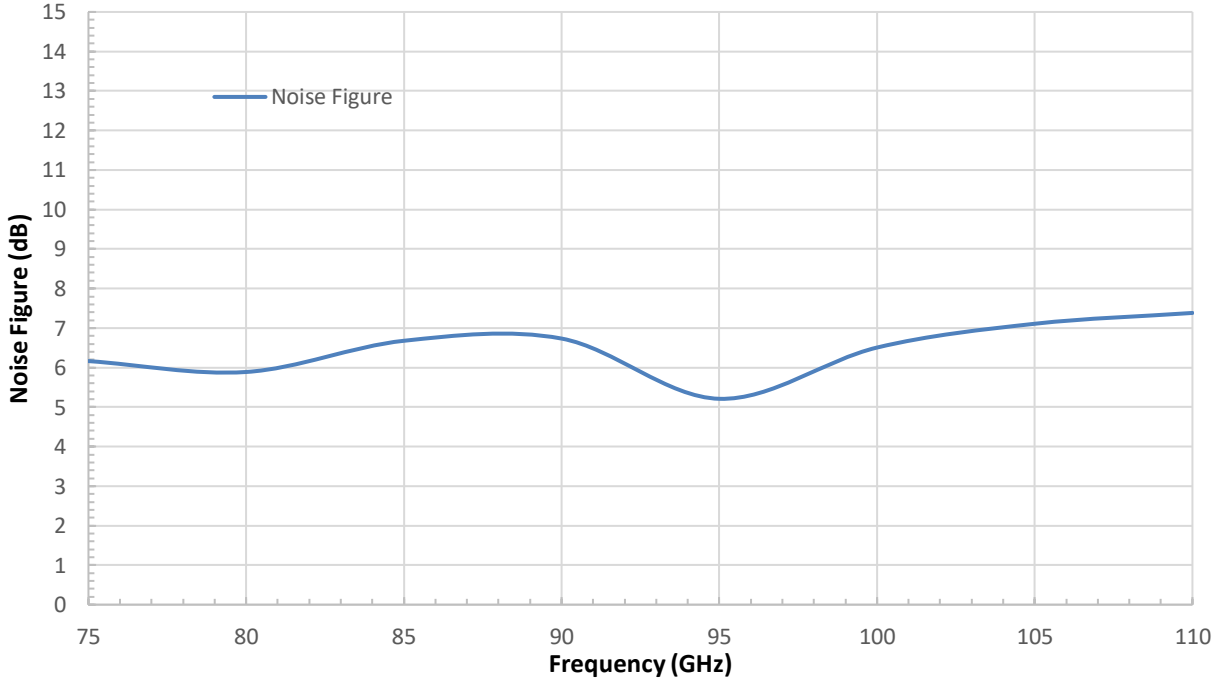
Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/40 mA



Noise Figure vs. Frequency

Bias: +8 V_{DC}/40 mA



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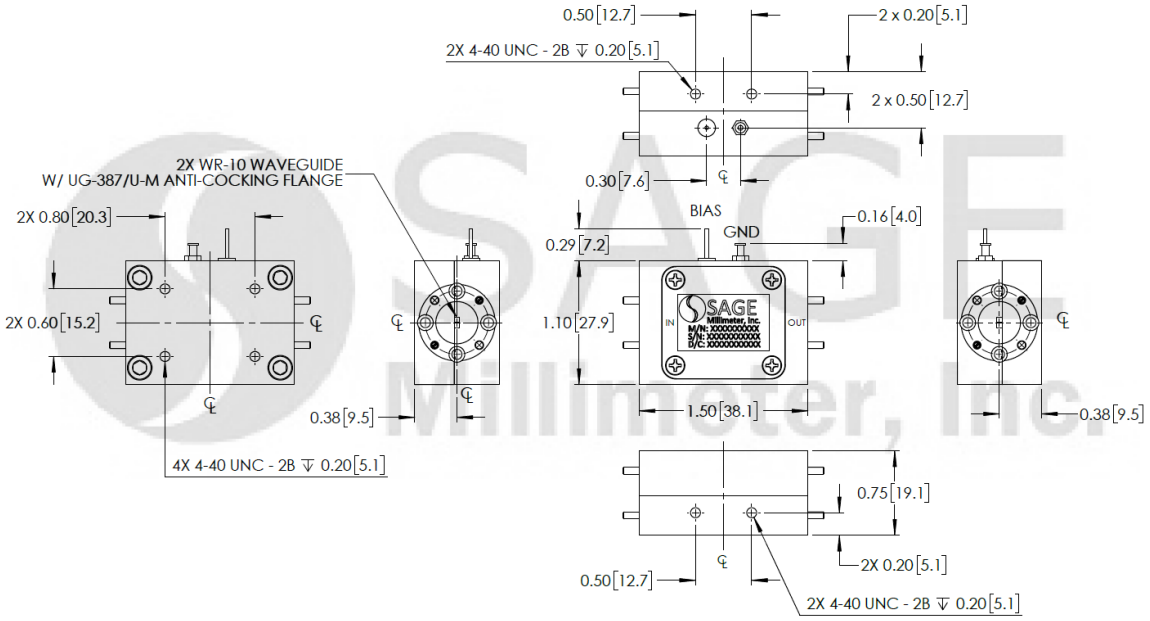
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



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.