SBL-4036033080-1919-S1

Rev. 1.2

U-Band Low Noise Amplifier, 40 to 60 GHz, 30 dB Gain, 6.0 dB NF

Description:

Model SBL-4036033080-1919-S1 is a low noise amplifier with a typical small signal gain of 30 dB and a nominal noise figure of 6 dB across the frequency range of 40 to 60 GHz. The DC power requirement for the amplifier is +8 V_{DC}/400 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:

- Full Waveguide Band Operations
- Good Gain Flatness
- State-of-the-Art Noise Figure

Applications:

- New 5G Bands
- Low Noise Receivers
- Communication Systems
- Radar Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	40 GHz		60 GHz
Gain	25 dB	30 dB	
Noise Figure		6 dB	
P_{in}			+10 dBm
Output P_{-1dB}		+16 dBm	
Port Return Loss		6 dB	
DC Voltage	+6 V_{DC}	+8 V_{DC}	+15 V_{DC}
DC Supply Current		400 mA	
Specification Temperature		+25 ˚C	
Operating Temperature	0 ˚C		+50 ˚C

Mechanical Specifications:

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

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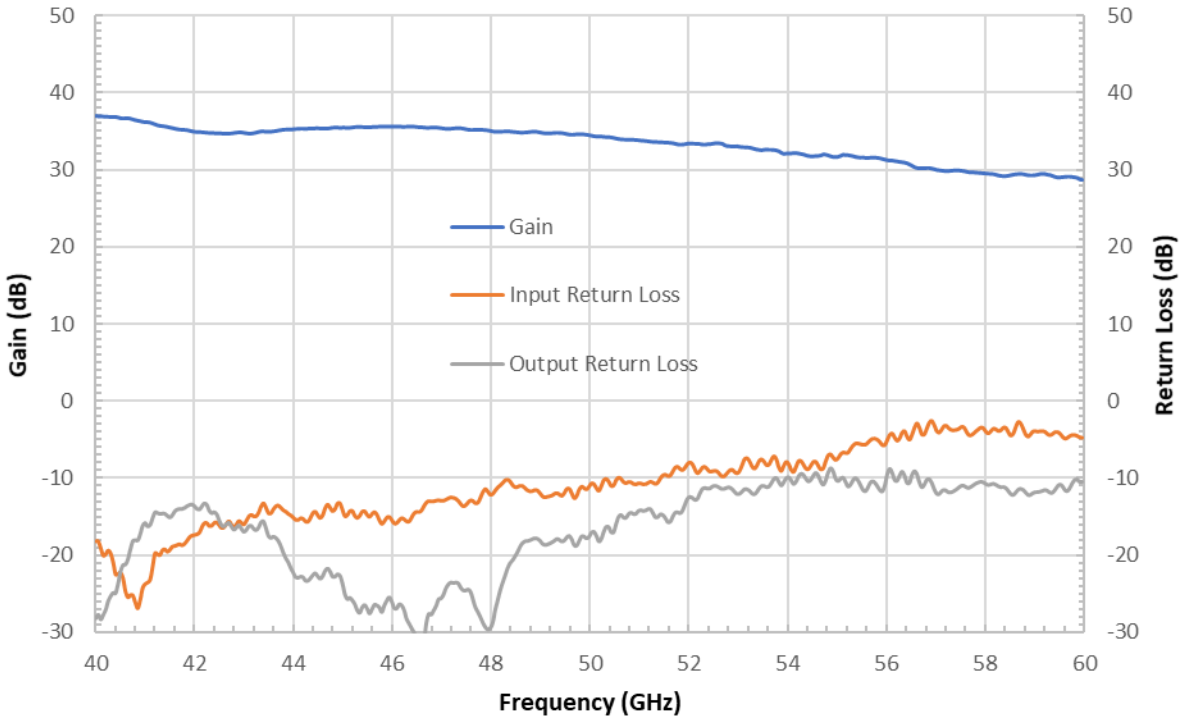
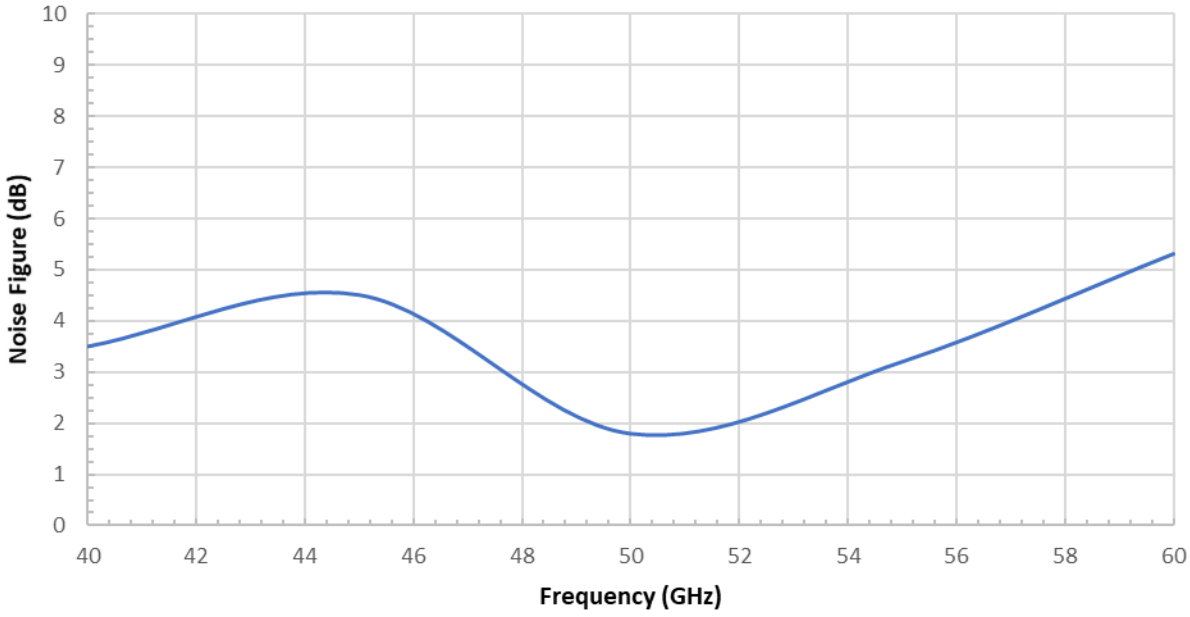
Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/ 420 mA



Noise Figure vs. Frequency

Bias: +8V_{DC}/420 mA



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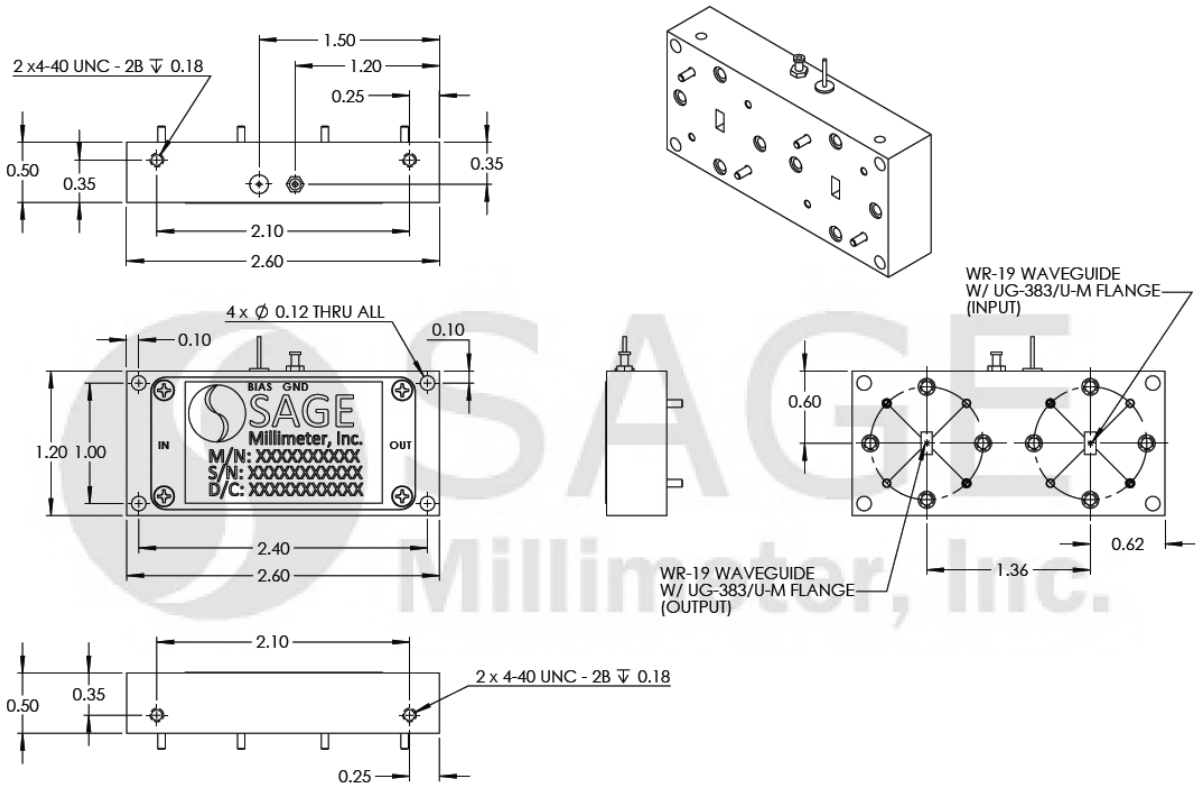
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches)



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.