SBL-2733533530-2828-S1

Rev 1.1

Ka-Band Low Noise Amplifier, 27 to 35 GHz, 35 dB Gain, 3 dB NF

Description:

Model SBL-2733533530-2828-S1 is a low noise amplifier with a typical small signal gain of 35 dB and a nominal noise figure of 3 dB across the frequency range of 27 to 35 GHz. The DC power requirement for the amplifier is +8 V_{DC}/135 mA. The input and output port configurations are both WR-28 waveguides. Other port configurations, such as K connectors or WR-28 waveguides for either the input or output port, are also available under different model numbers.

Features:

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

Applications:

- 5G Systems
- Radar Systems
- Low Noise Receivers

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	27 GHz		35 GHz
Gain		35 dB	
Noise Figure		3 dB	
P_{1dB}		+10 dBm	
P_{in}			-15 dBm
Input Return Loss		10 dB	
Output Return Loss		10 dB	
DC Voltage	+6 V_{DC}	+8 V_{DC}	+16 V_{DC}
DC Supply Current		135 mA	
Specification Temperature		+25 ˚C	
Operating Temperature	0 ˚C		+50 ˚C

Mechanical Specifications:

Item	Specification
Input Port	WR-28 Waveguide with UG-599/U Flange
Output Port	WR-28 Waveguide with UG-599/U Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.9 Oz
Size	1.20” (W) X 2.20” (L) X 0.50” (H)
Outline	BG-SA-1

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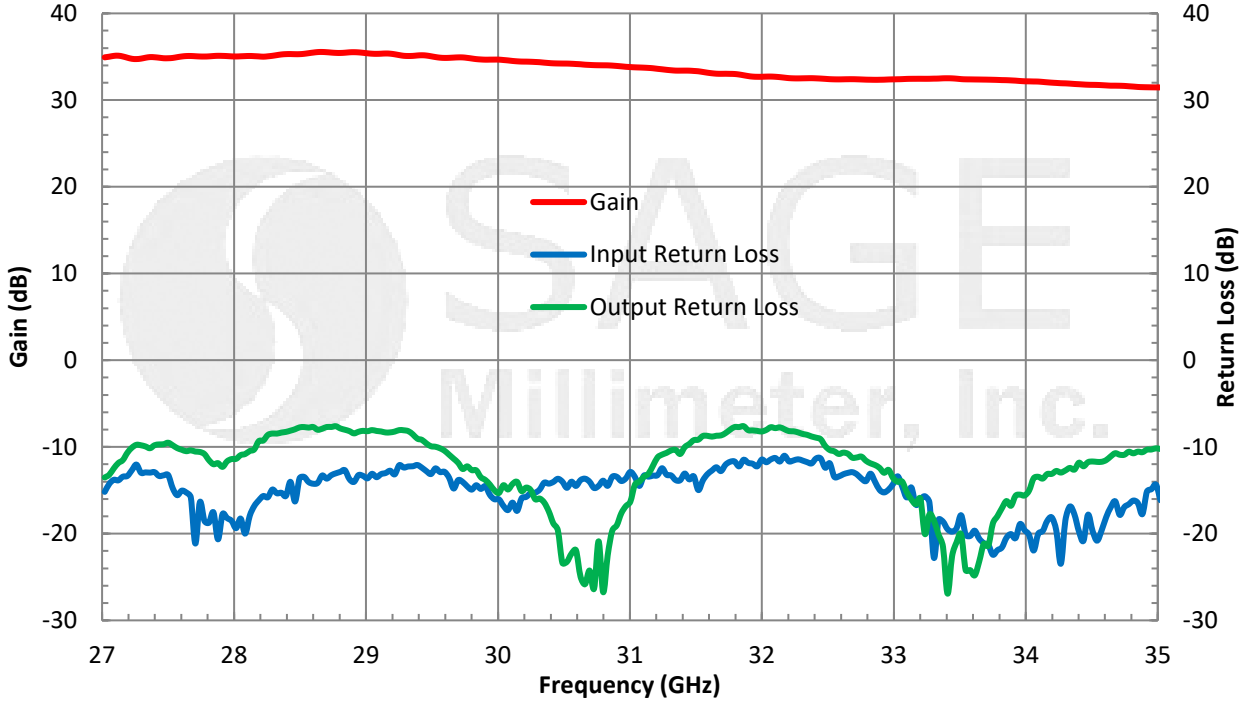
Ka-Band Low Noise Amplifier, 27 to 35 GHz, 35 dB Gain, 3 dB NF

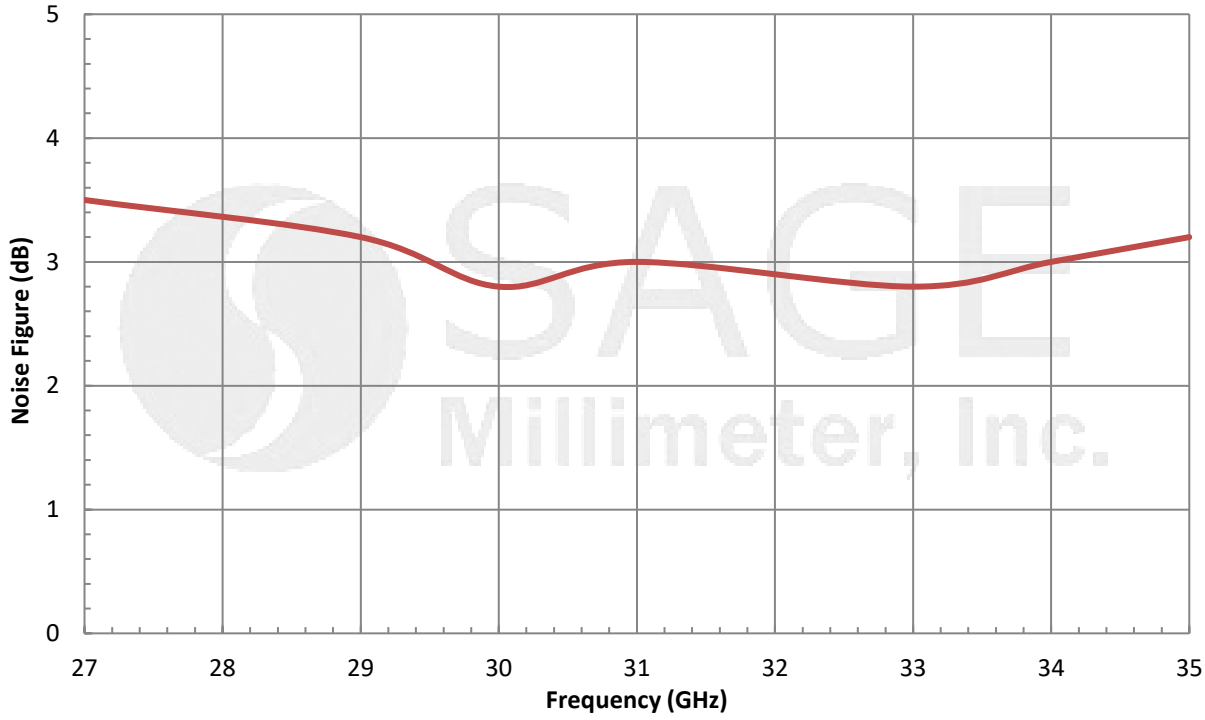
Typical Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/135 mA



Typical Noise Figure vs. Frequency

Bias: +8 V_{DC}/135 mA



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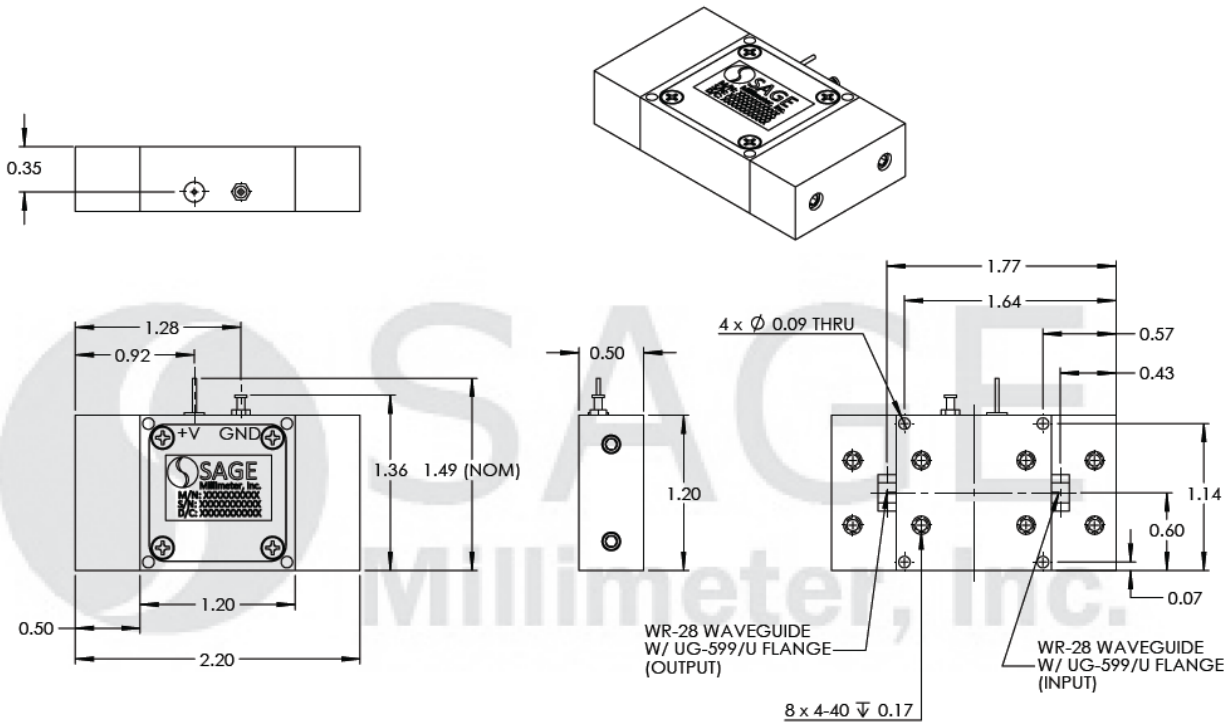
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches)



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.
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.