



Ka-Band Low Noise Amplifier, 27 to 35 GHz, 35 dB Gain, 3.0 NF

Description:

Model SBL-2733533530-KF28-E1 is Ka band low noise amplifier with a typical small signal gain of 35 dB and a nominal noise figure of 3.0 dB across the frequency range of 27 to 35 GHz. The DC power requirement for the amplifier is +8 V_{DC}/150 mA. The mechanical configuration is an in-line structure with a K(F) connector as its input port and a WR-28 Uni-Guide™ waveguide as its output port. Other port configurations, such as K connectors and 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
- High Gain

Applications:

- 5G Systems
- Radar Systems
- Communication Systems
- Test Equipment

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	27 GHz		35 GHz
Gain		35 dB	
Noise Figure		3.0 dB	
P _{1dB}		+10 dBm	
P _{in}			-15 dBm
Input Return Loss		10 dB	
Output Return Loss		10 dB	
DC Voltage		+8 V _{DC}	+15 V _{DC}
DC Supply Current		150 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

Mechanical Specifications:

Item	Specification
Input Port	K(F) Connector
Output Port	WR-28 Uni-Guide™ Waveguide with UG-599/U Compatible Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.6 Oz
Size	1.63" (L) X 1.20" (W) X 0.75" (H)
Outline	FA-SA-2CW

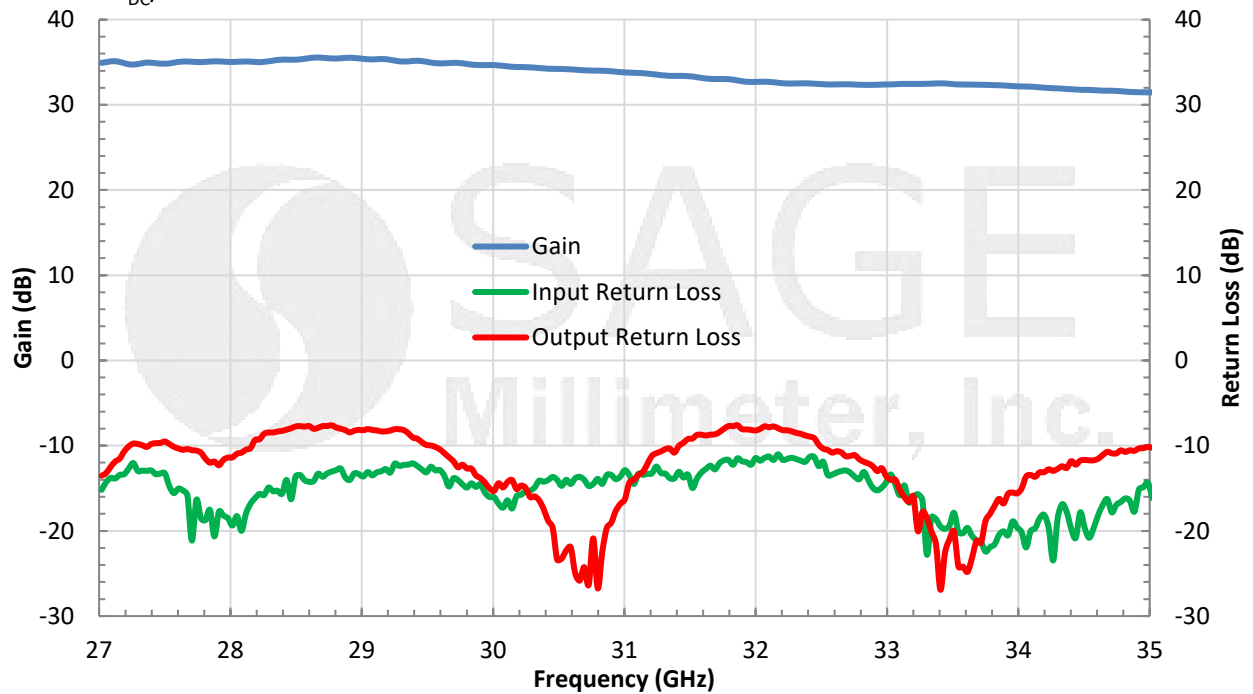




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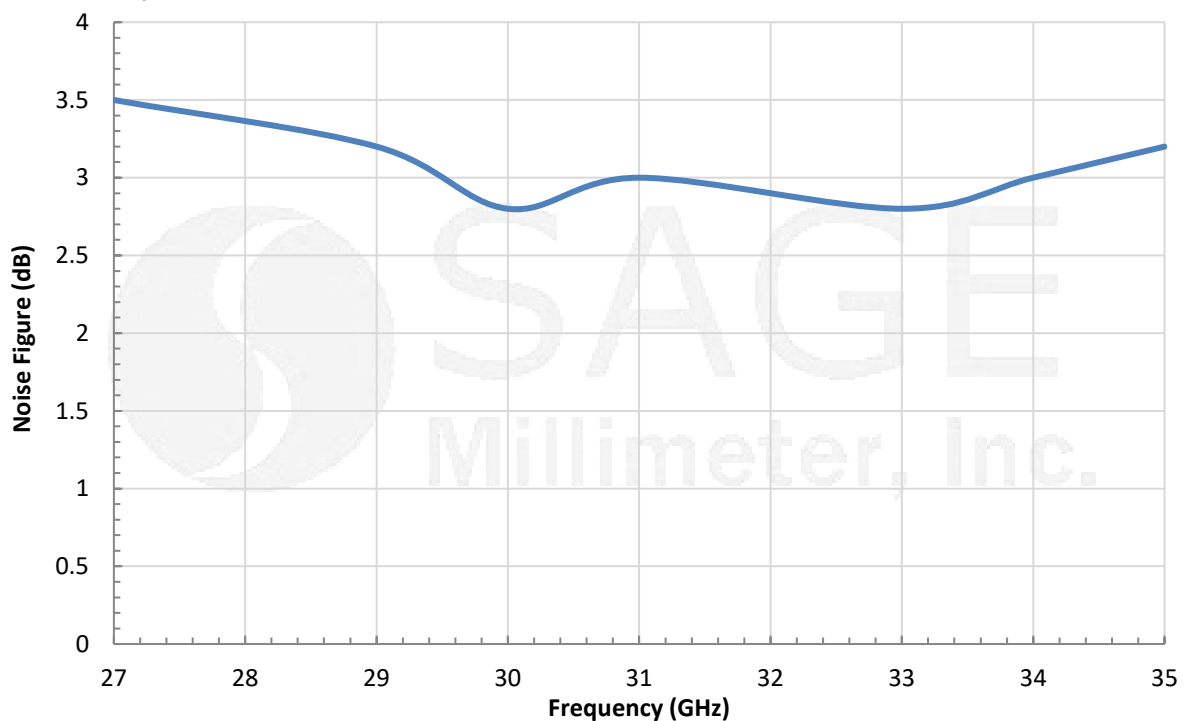
Typical Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/150 mA



Typical Noise Figure vs. Frequency

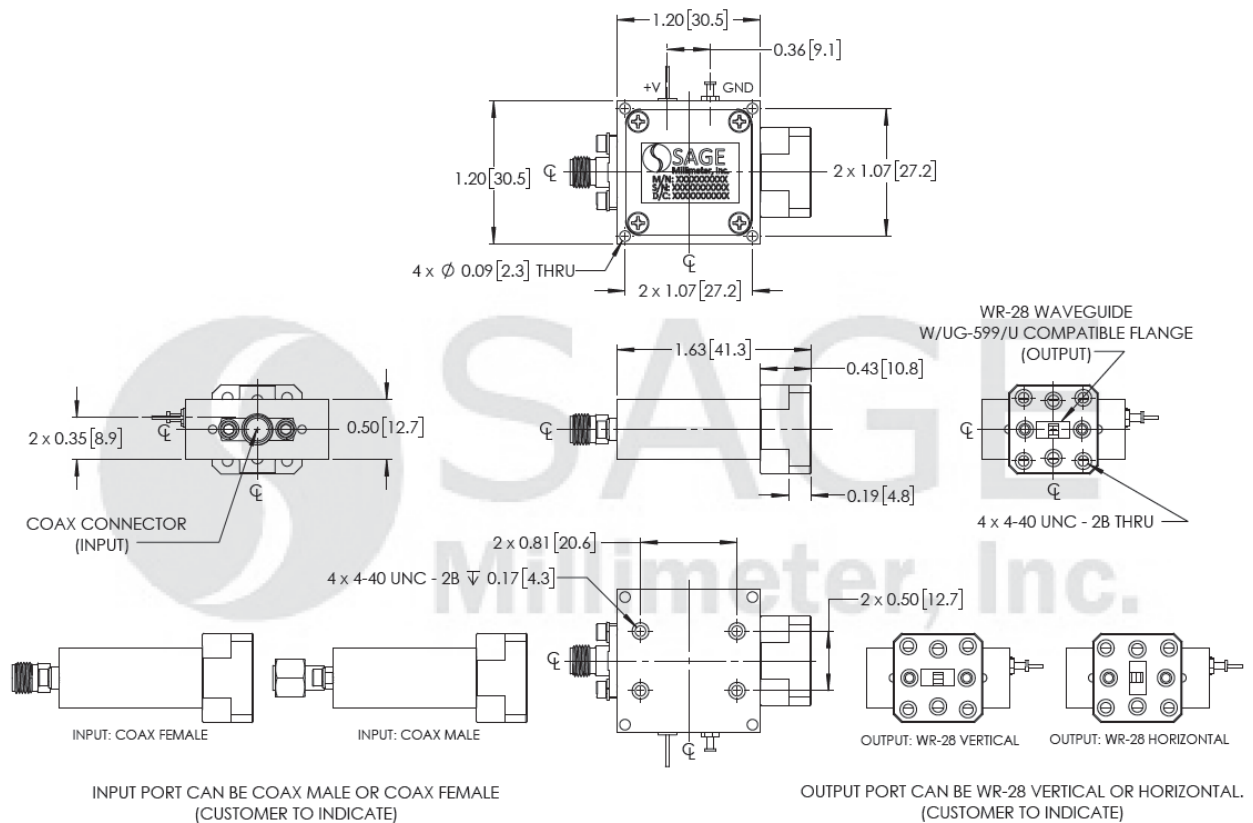
Bias: +8 V_{DC}/150 mA





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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.
- The amplifier employs SAGE Millimeter’s trademarked and patent pending technology, **Uni-Guide™**, as its waveguide interfaces. The orientation of the input and the output waveguides can be specified through corresponding model numbers. For example, the model number for a horizontal output waveguide configuration would be **SBL-2733533530-KF28H-E1** instead of the default **SBL-2733533530-KF28-E1** which indicates vertical orientation output.
- Other mechanical configurations are available under different model numbers.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

- Exceeding absolute maximum ratings shown will damage the device.
- Exceeding the maximum bias voltage of **+15 V_{DC}** will cause the amplifier to overheat and result in instability.
- 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.

