



## D-Band Low Noise Amplifier, 110 to 170 GHz, 18 dB Gain, 6 dB NF

### Description:

**Model SBL-1141741860-0606-V1** is a D band low noise amplifier with a typical small signal gain of 18 dB and a nominal noise figure of 6.0 dB across the frequency range of 110 to 170 GHz. The DC power requirement for the amplifier is +3 V<sub>DC</sub>/60 mA. The input and output port configuration offers an inline structure with WR-06 waveguides and UG-387/U-M flanges. Other port configurations are available under different model numbers.



### Features:

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

### Applications:

- D-Band Passive Imaging
- Communication Systems
- Radar Systems

### Electrical Specifications:

| Parameter                 | Minimum | Typical            | Maximum            |
|---------------------------|---------|--------------------|--------------------|
| Frequency                 | 110 GHz |                    | 170 GHz            |
| Gain                      |         | 18 dB              |                    |
| Noise Figure              |         | 6 dB               |                    |
| P <sub>in</sub>           |         |                    | -25 dBm            |
| Input Return Loss         |         | 6 dB               |                    |
| Output Return Loss        |         | 6 dB               |                    |
| DC Voltage                |         | +3 V <sub>DC</sub> | +5 V <sub>DC</sub> |
| DC Supply Current         |         | 60 mA              |                    |
| Specification Temperature |         | +25 °C             |                    |
| Operating Temperature     | 0 °C    |                    | +50 °C             |

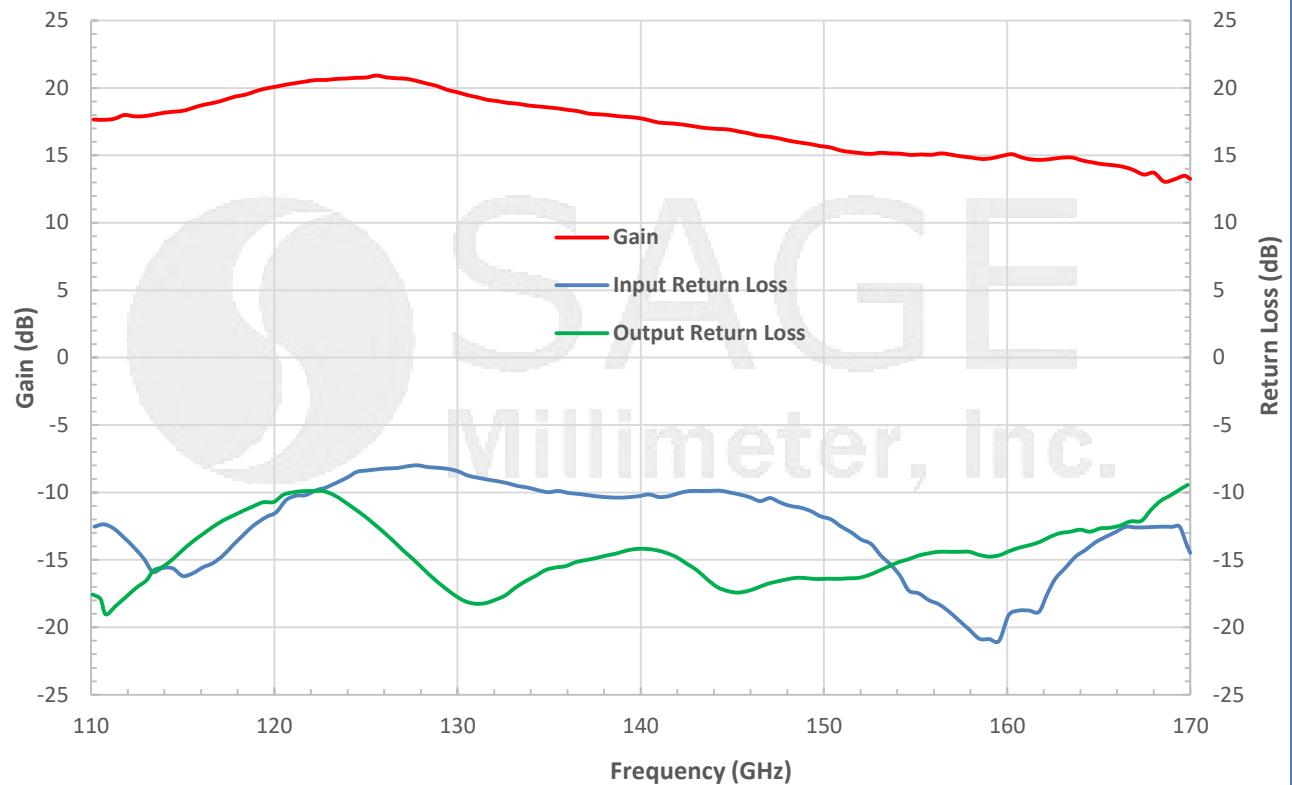
### Mechanical Specifications:

| Item          | Specification                                       |
|---------------|-----------------------------------------------------|
| Input         | WR-06 Waveguide with UG-387/U-M Anti-Cocking Flange |
| Output        | WR-06 Waveguide with UG-387/U-M Anti-Cocking Flange |
| Bias          | Solder Pin                                          |
| Case Material | Brass                                               |
| Finish        | Gold Plated                                         |
| Weight        | 0.8 Oz                                              |
| Size          | 1.34" (L) X 0.75" (W) X 0.75" (H)                   |
| Outline       | BL-VD-1                                             |

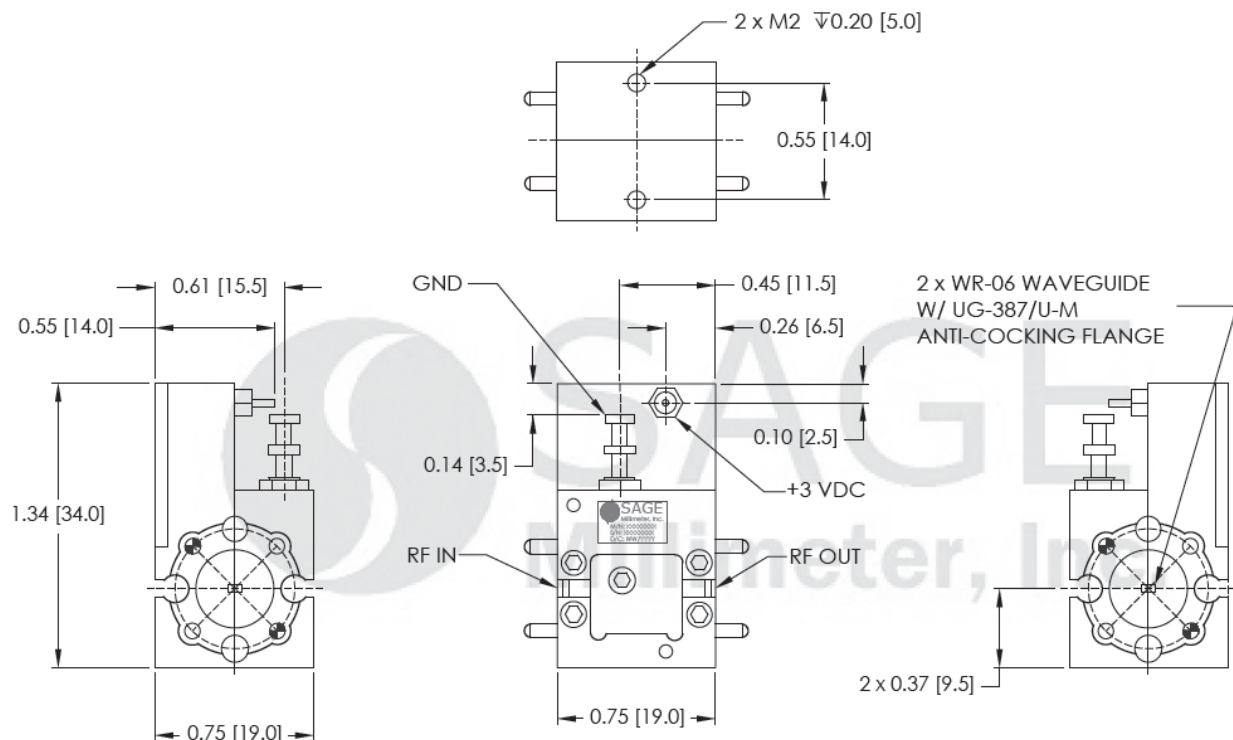


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### Typical Performance vs. Frequency



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





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### 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.

