



E-Band Power Amplifier, 81 to 86 GHz, 30 dB Gain, +25 dBm P_{1dB}

Description:

Model SBP-8138633025-1212-E1 is a power amplifier with a typical small signal gain of 30 dB and a typical P_{1dB} and P_{sat} of +25 and +26 dBm across the frequency range of 81 to 86 GHz, respectively. The DC power requirement for the amplifier is +8 V_{DC}/1,200 mA. The mechanical configuration offers an in line structure with WR-12 waveguides and UG-387/U anti-cocking flanges. Other port configurations, such as with 1 mm connectors or right angle structure with WR-12 waveguides, are also available under different model numbers.



Features:

- High Output Power
- High Gain
- Good Gain Flatness

Applications:

- Radar Systems
- Communication Systems
- Test Equipment

Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---------------------------|--------------------|--------------------|---------------------|
| Frequency | 81 GHz | | 86 GHz |
| Gain | | 30 dB | |
| P _{1dB} | | +25 dBm | |
| P _{sat} | | +26 dBm | |
| P _{in} | | | +16 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 | | 1,200 mA | |
| Specification Temperature | | +25 °C | |
| Operating Temperature | 0 °C | | +50 °C |

Mechanical Specifications:

| Item | Specification |
|---------------|---|
| Input Port | WR-12 Waveguide with UG-387/U Anti-Cocking Flange |
| Output Port | WR-12 Waveguide with UG-387/U 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-SE-2-A |

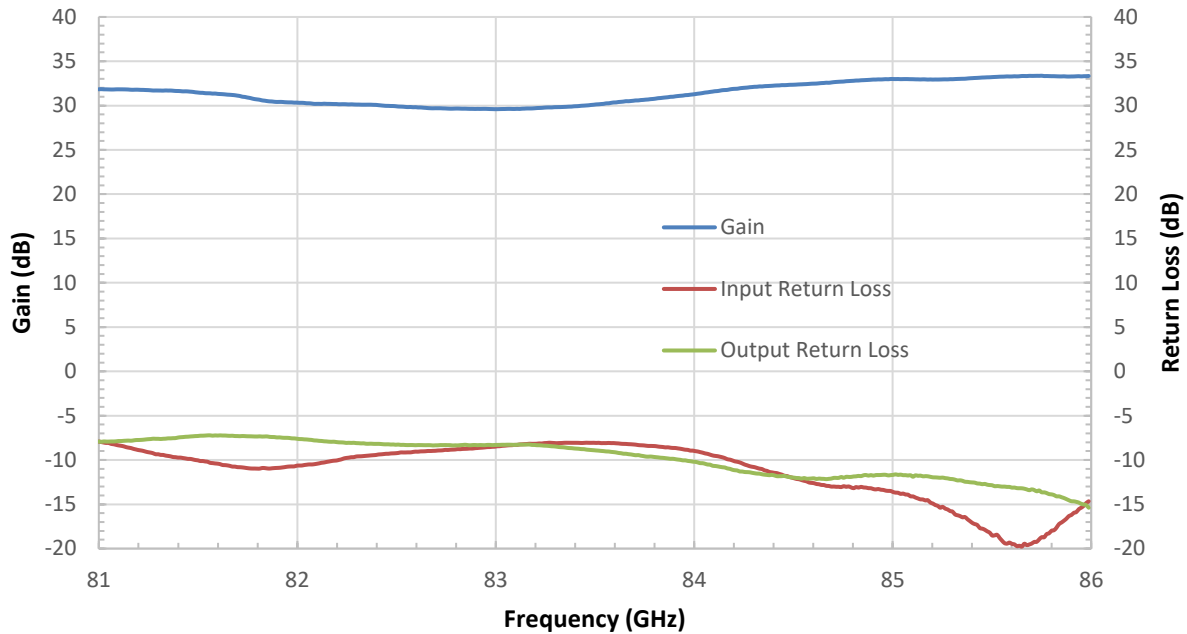




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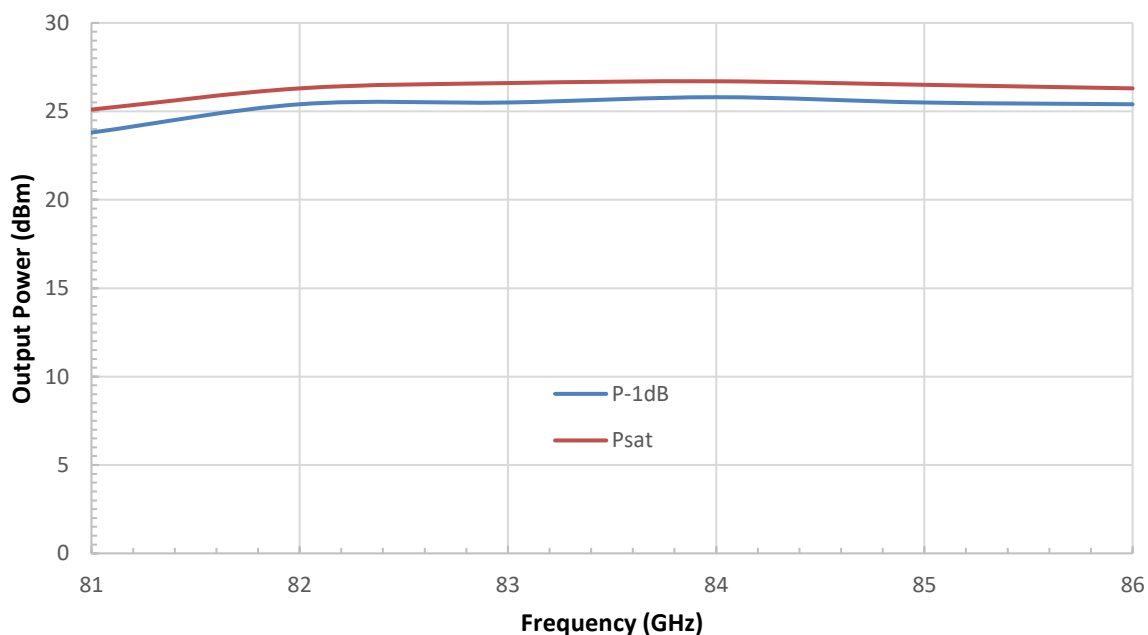
Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/1,199 mA



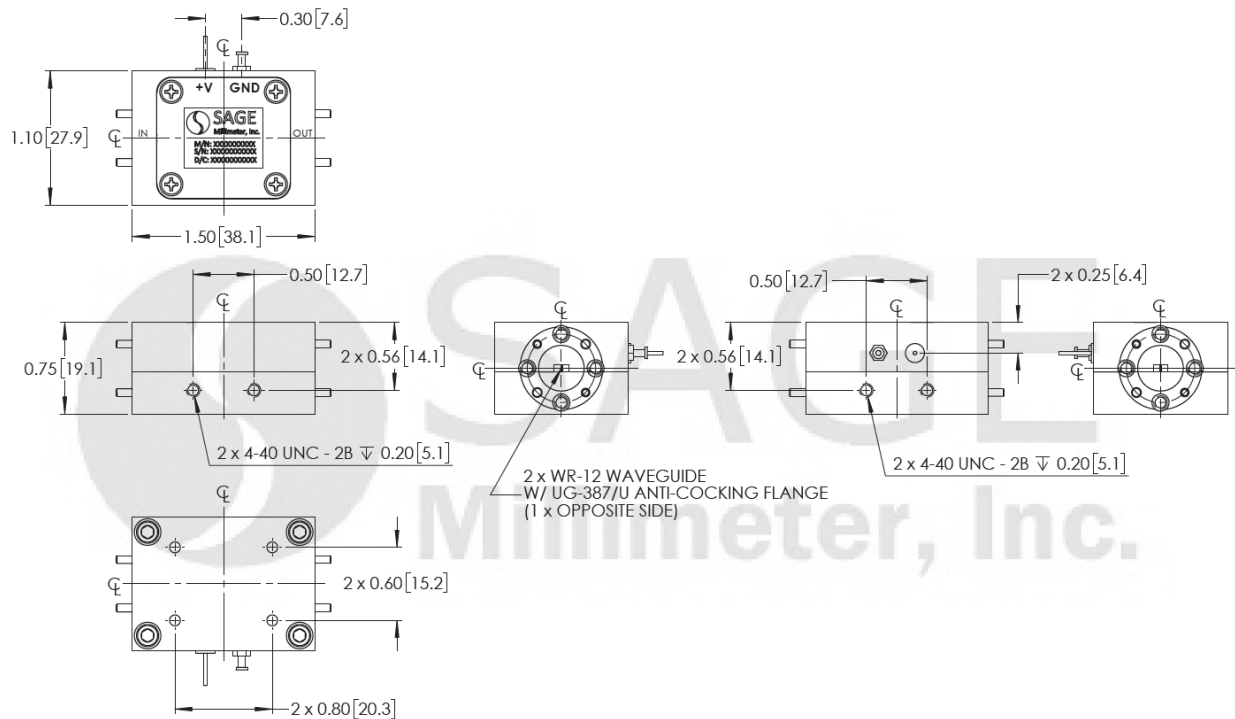
Output Power vs. Frequency

Bias: +8 V_{DC}/1,199 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.
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.

