



Q-Band Power Amplifier, 33 to 40 GHz, 35 dB Gain, +25 dBm P_{1dB}

Description:

Model **SBP-3334033525-KF22-S1** is a power amplifier with a minimum small signal gain of 35 dB and a nominal P_{1dB} of +25 dBm across the frequency range of 33 to 40 GHz. The DC power supply required for the amplifier is +8 V_{DC}/650 mA. The RF input port is a female K connector and the output port is a WR-22 waveguide with UG-383/U flange. Other port configurations are available under different model numbers.



Features:

- Broadband Performance
- High Output Power
- High Gain

Applications:

- Radar Systems
- Communication Systems
- Test Equipment

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	33 GHz		40 GHz
Gain		35 dB	
P _{1dB}		+25 dBm	
P _{sat}		+27 dBm	
P _{in}			+20 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		650 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

Mechanical Specifications:

Item	Specification
Input Port	K(F)
Output Port	WR-22 Waveguide with UG-383/U Flange
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.7 Oz
Size	1.20" (W) X 2.00" (L) X 0.50" (H)
Outline	FA-SQ-1

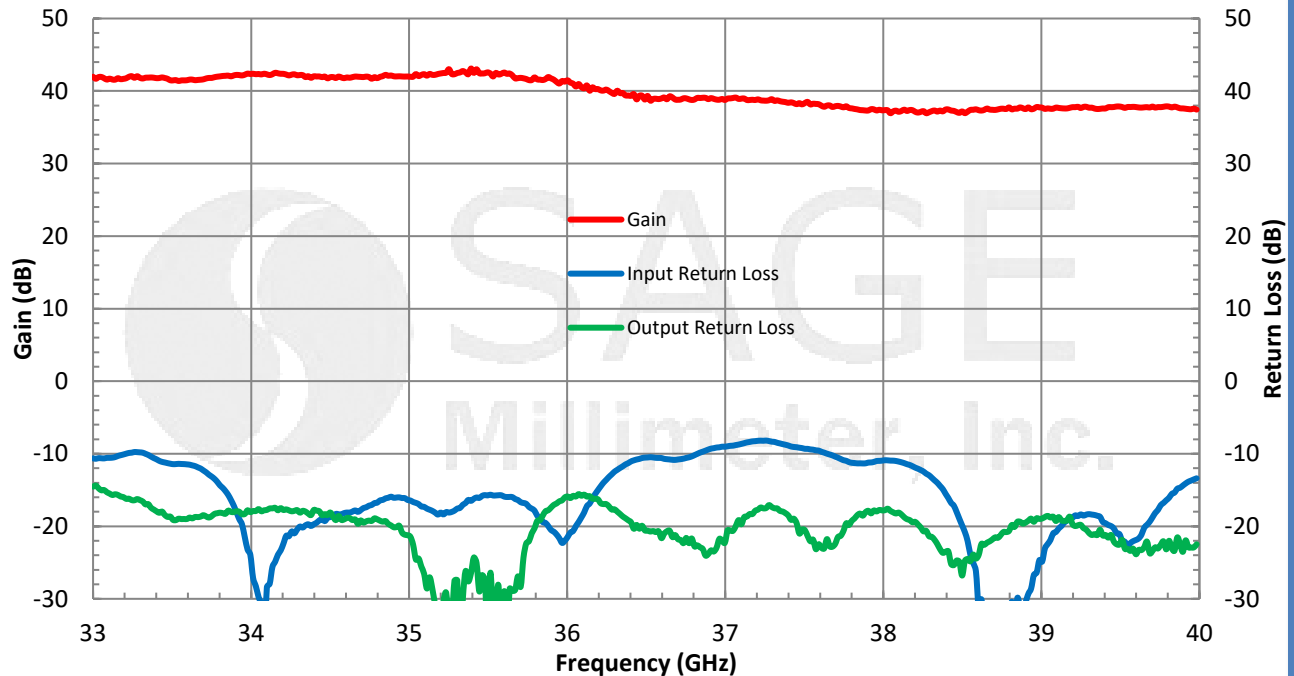




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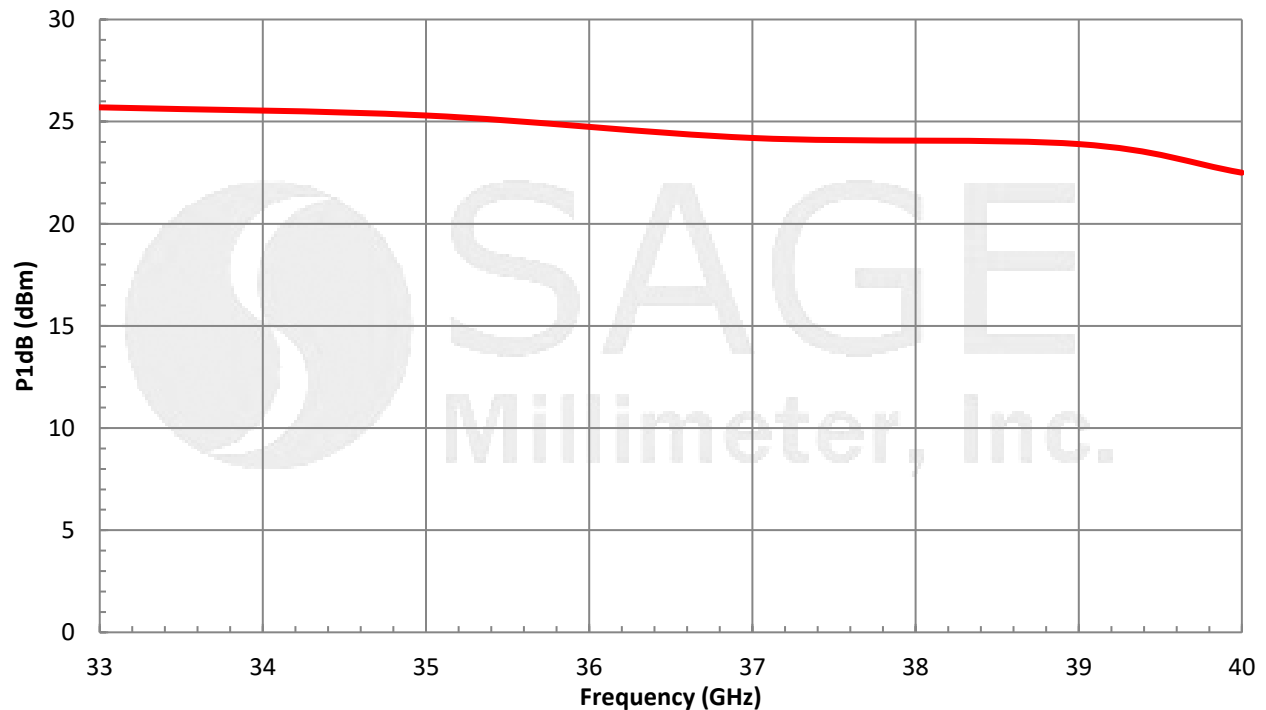
Typical Gain and Return Loss vs. Frequency

Bias: +8 V_{DC}/650 mA



Typical P_{1dB} vs. Frequency

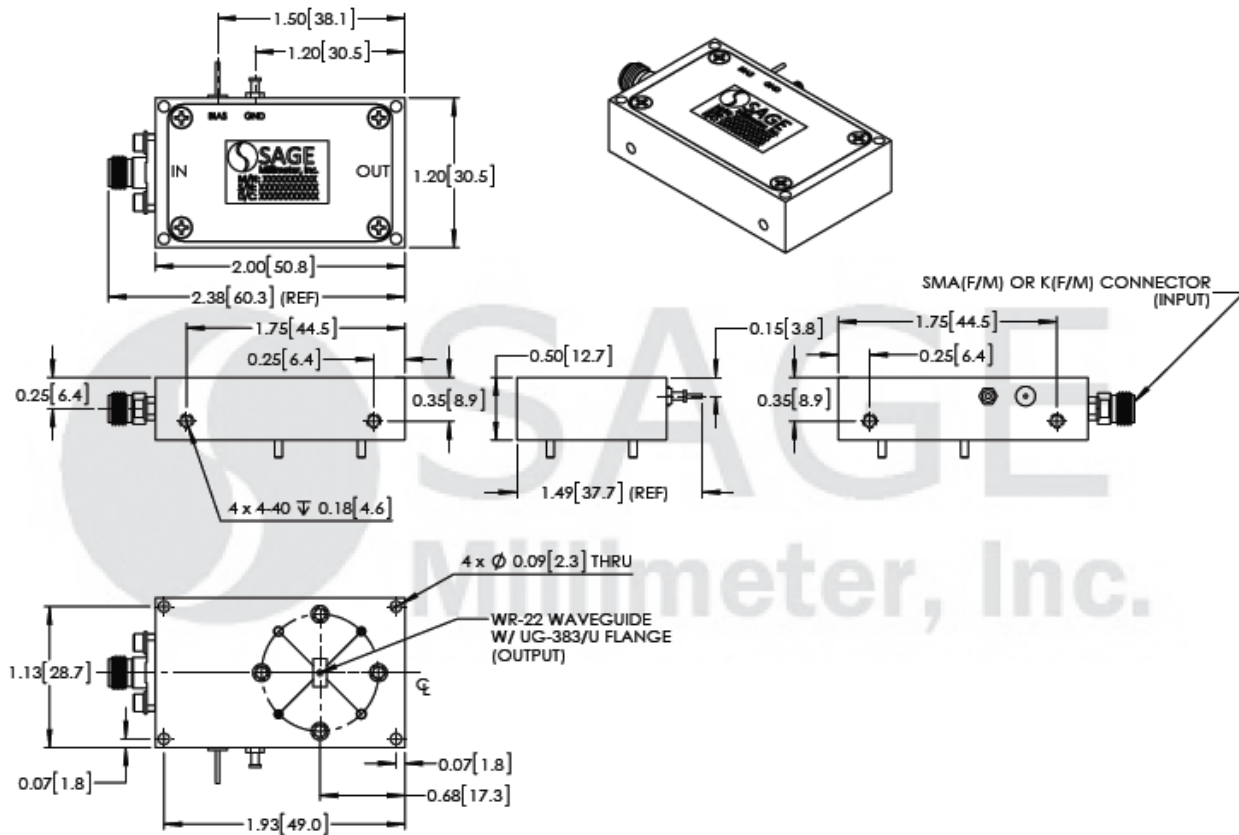
Bias: +8 V_{DC}/850 mA





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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.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

