



## K-Band Power Amplifier, 18 to 23 GHz, 20 dB Gain, +30 dBm P<sub>1dB</sub>

### Description:

**Model SBP-1832332030-KFKF-E3** is a power amplifier with a typical small signal gain of 20 dB and a nominal P<sub>1dB</sub> of +30 dBm across the frequency range of 18 to 23 GHz. The amplifier exhibits high output power and 10 dB typical input and output return loss. The DC power requirement for the amplifier is +8 V<sub>DC</sub>/900 mA. The RF connectors are female K connectors for both input and output. Other port configurations, such as WR-42 waveguides for either the input or output port, are also available under different model numbers.



### Features:

- Broadband Coverage
- High Output Power
- Moderate Gain

### Applications:

- Radar Systems
- Communication Systems
- Test Equipment

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	18.0 GHz		23.0 GHz
Gain		20 dB	
P <sub>1dB</sub>		+30 dBm	
P <sub>sat</sub>		+31 dBm	
IP3		+41.5 dBm	
P <sub>in</sub>			+20 dBm
Port Return Loss		10 dB	
DC Voltage	+7.5 V <sub>DC</sub>	+8.0 V <sub>DC</sub>	+15.0 V <sub>DC</sub>
DC Supply Current		900 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

### Mechanical Specifications:

Item	Specification
Input	K(F)
Output	K(F)
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.8 Oz
Size	1.38" (L) x 1.57" (W) x 0.47" (H)
Outline	BG-ZC-1

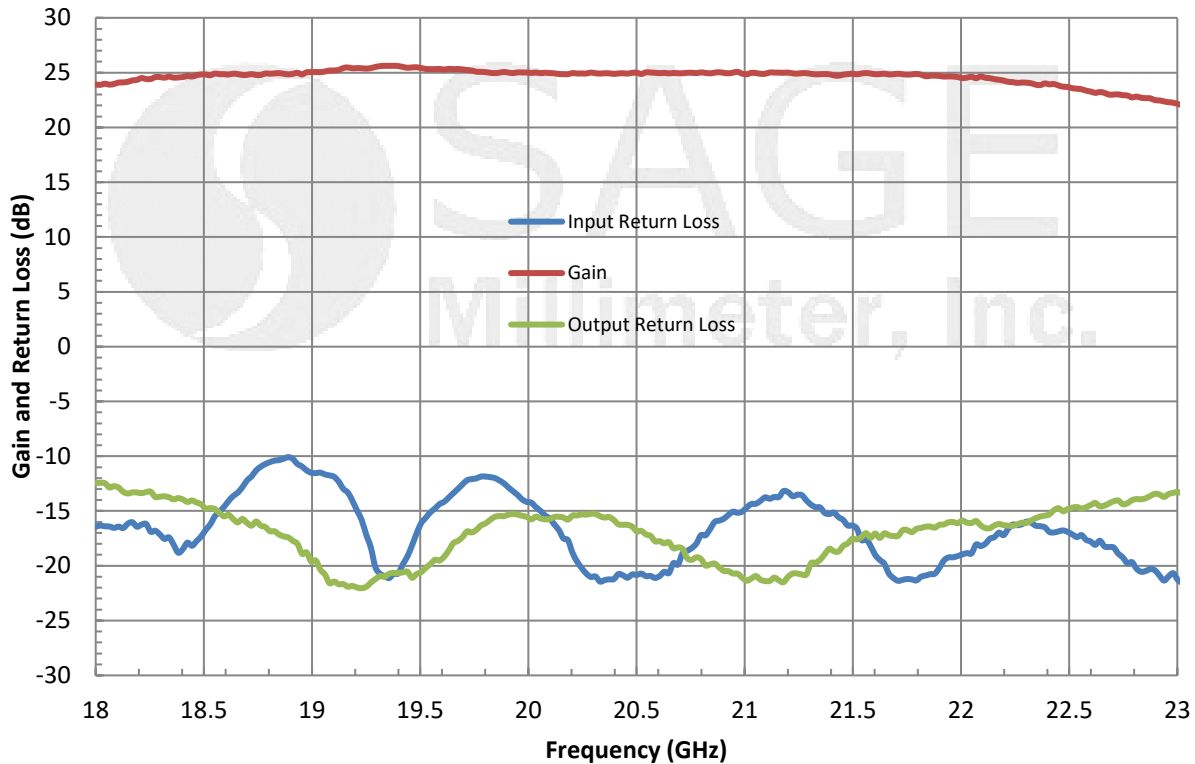




## K-Band Power Amplifier, 18 to 23 GHz, 20 dB Gain, +30 dBm P<sub>1dB</sub>

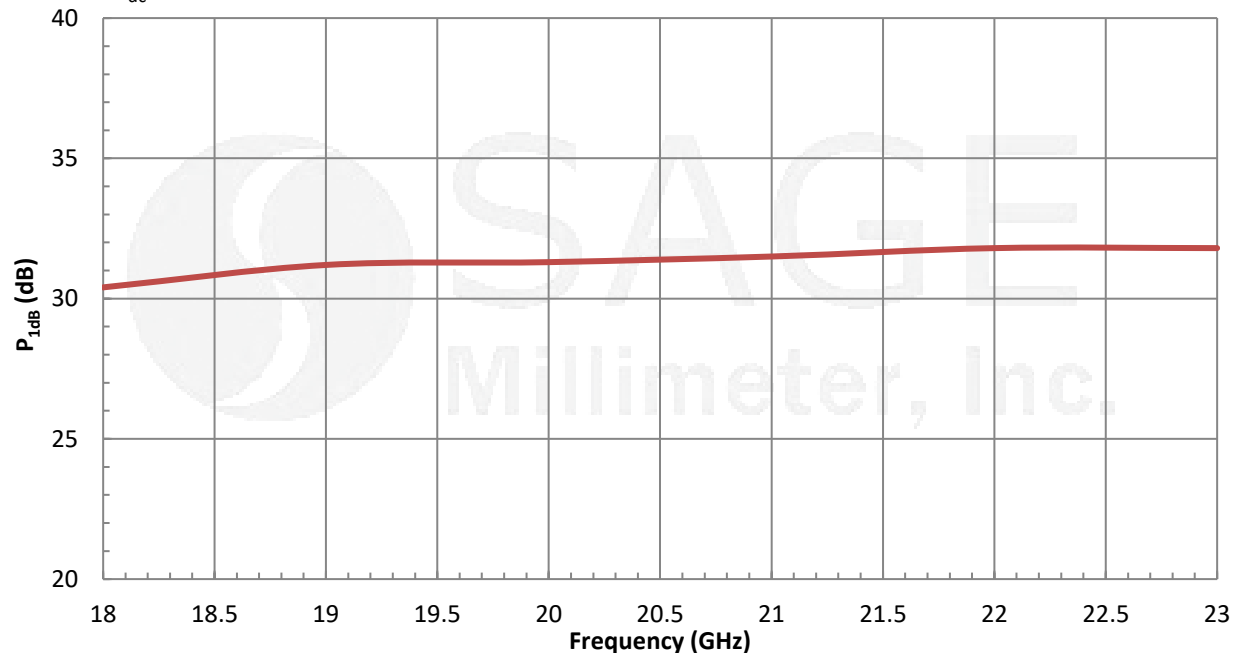
### Typical Gain and Return Loss vs. Frequency

Bias: +8 V<sub>dc</sub>/890 mA



### Typical P<sub>1dB</sub> vs. Frequency

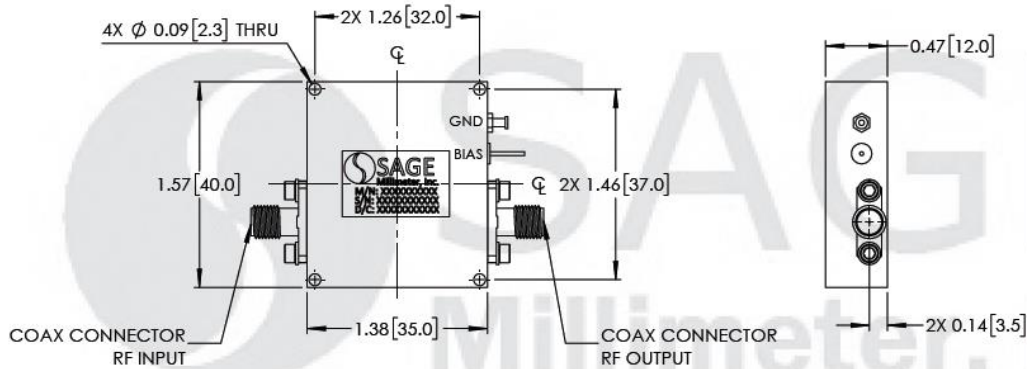
Bias: +8 V<sub>dc</sub>/1,060 mA





## K-Band Power Amplifier, 18 to 23 GHz, 20 dB Gain, +30 dBm P<sub>1dB</sub>

**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, slightly.
- 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.
- 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.**

