



## Power Amplifier, 20 to 40 GHz, 17 dB Gain, +22 dBm P<sub>1dB</sub>, Hermetically Sealed

### Description:

**Model SBP-2034031723-KFKF-E3-ML** is a broadband power amplifier with a typical small signal gain of 17 dB, a nominal P<sub>1dB</sub> of +22 dBm, and nominal P<sub>sat</sub> of +23 dBm across the frequency range of 20 to 40 GHz. The DC power requirement for the amplifier is +12 V<sub>DC</sub>/500 mA. The use of a heat sink is advised to assist in cooling the device. The RF connectors are female 2.92 mm (K) connectors. Other port configurations are available under different model numbers.



### Features:

- Broadband Coverage
- Good Gain Flatness
- Hermetically Sealed
- Mil- Standard

### Applications:

- 5G Systems
- Radar Systems
- Military Systems
- Test Equipment

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	20 GHz		40 GHz
Gain		17 dB	
P <sub>1dB</sub>		+22 dBm	
P <sub>sat</sub>		+23 dBm	
P <sub>in</sub>			+15 dBm
Input Return Loss		10 dB	
Output Return Loss		10 dB	
DC Voltage	+9 V <sub>DC</sub>	+12 V <sub>DC</sub>	+15 V <sub>DC</sub>
DC Supply Current		500 mA	
Specification Temperature		+25 °C	
Case Temperature	-45 °C		+85 °C

### Mechanical Specifications:

Item	Specification
Input	K (F)
Output	K (F)
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	7.1 Oz
Size Without Heatsink	1.58" (L) x 1.38" (W) x 0.47" (H)
Outline	BL-ZC-6

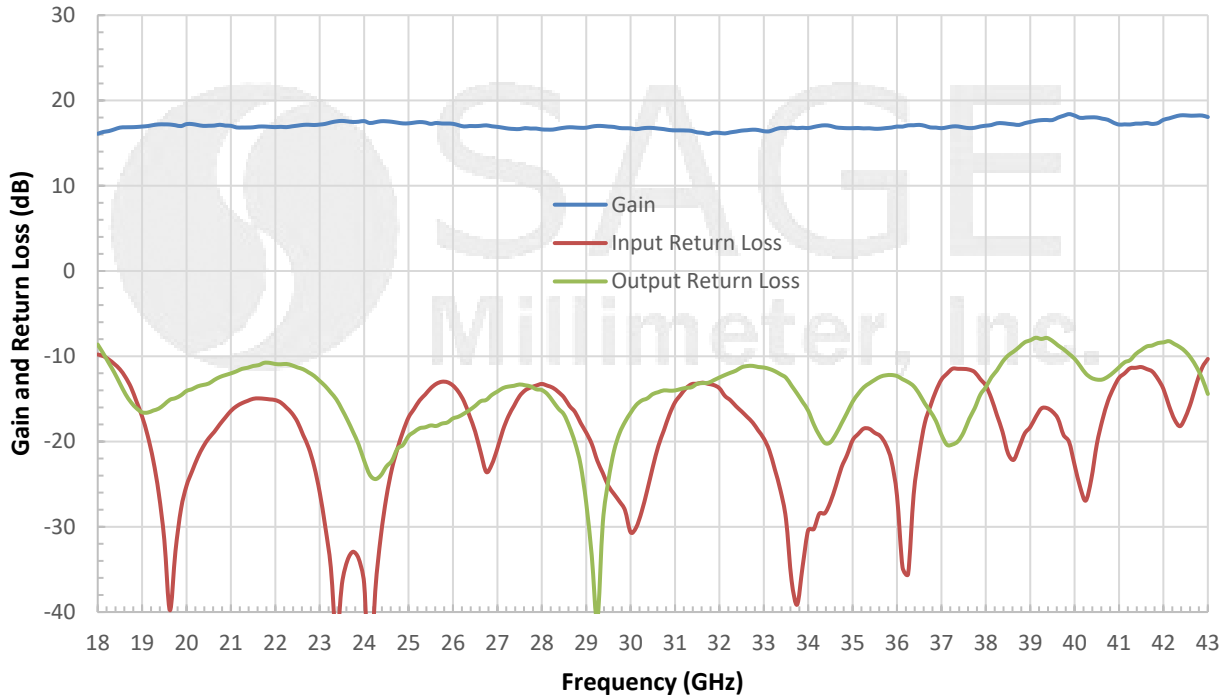




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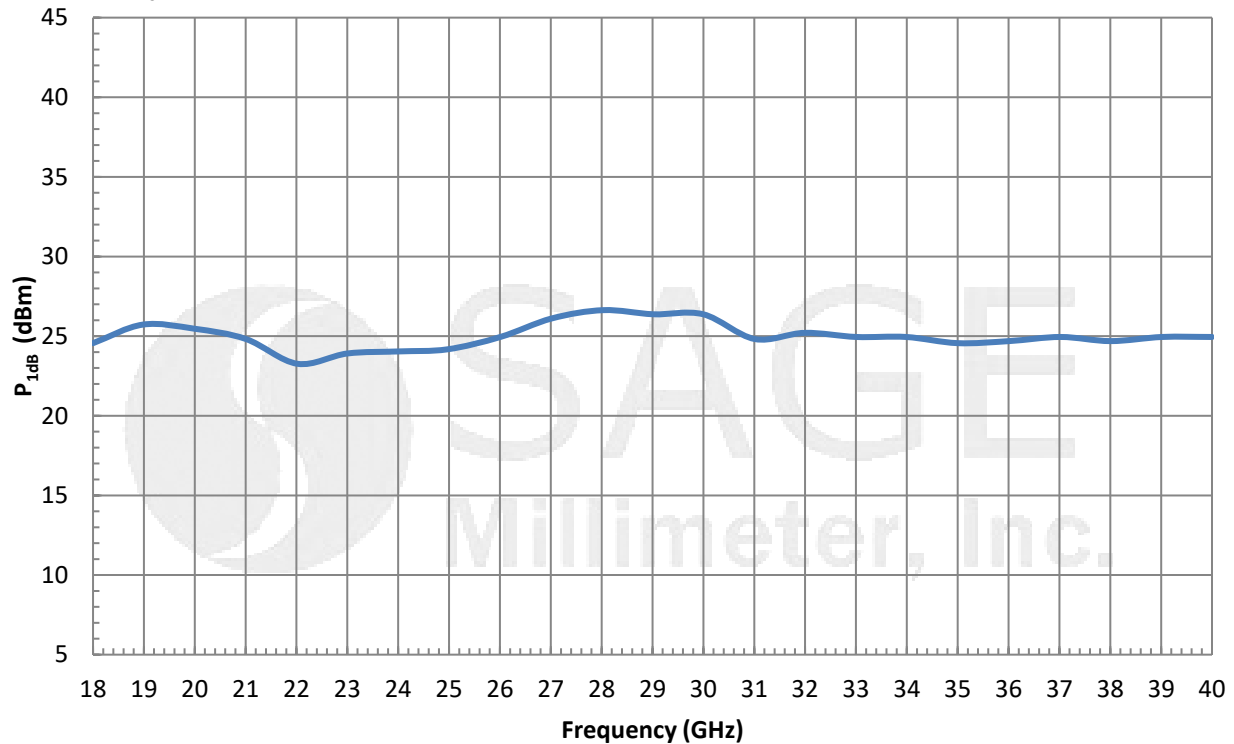
### Typical Gain and Return Loss vs. Frequency

Bias: +12 Vdc/500 mA



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

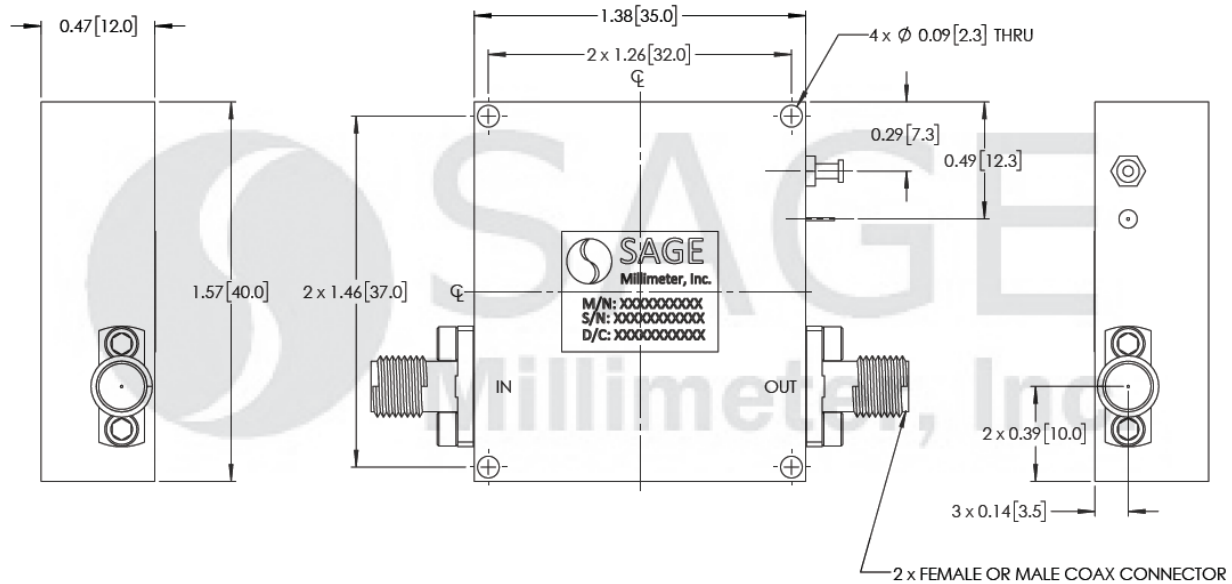
Bias: +12 V<sub>DC</sub>/900 mA





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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 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 +85 °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.**

