

## X6 Active Frequency Multiplier, 90 to 98 GHz

### Description:

**Model SFA-106SF-S1** is an active X6 frequency multiplier. The multiplier has an input frequency of 15 to 16.33 GHz with a typical input power of +5 dBm and an output frequency of 90 to 98 GHz with a typical output power of +18 dBm. The multiplier also has a typical harmonic suppression of -20 dBc. The DC power requirement for the multiplier is +8 V<sub>DC</sub>/750 mA. The input port configuration is a female SMA connector and the output is a WR-10 waveguide with a UG-387/U-M flange. Other port configurations are available under different model numbers.



### Features:

- Low Harmonic Components
- High Output Power

### Applications:

- Frequency Extenders
- Communication Systems
- Radar Systems

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Input Frequency	15.00 GHz		16.33 GHz
Input Power		+5 dBm	
Output Frequency	90.00 GHz		98.00 GHz
Output Power	+15 dBm	+18 dBm	
Harmonic Suppression		-20 dBc	
Spurious		-60 dBc	
DC Voltage	+6 V <sub>DC</sub>	+8 V <sub>DC</sub>	+15 V <sub>DC</sub>
DC Supply Current		750 mA	
Specification Temperature		+25°C	
Case Temperature	0°C		+50°C

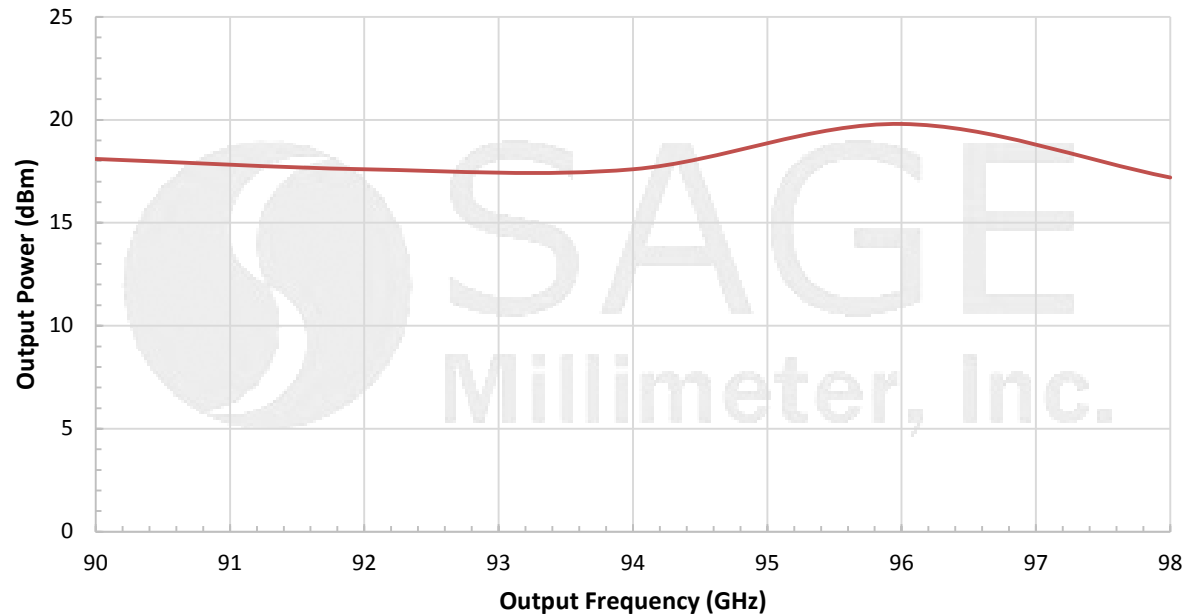
### Mechanical Specifications:

Item	Specification
Input	SMA (F)
Output	WR-10 Waveguide with UG-387/U-M Flange
Bias	Solder Pin
Size	1.10" (W) X 1.80" (L) X 0.50" (H)
Case Material	Aluminum
Finish	Gold Plated
Weight	1.3 Oz
Outline	FA-SW-1-1.8

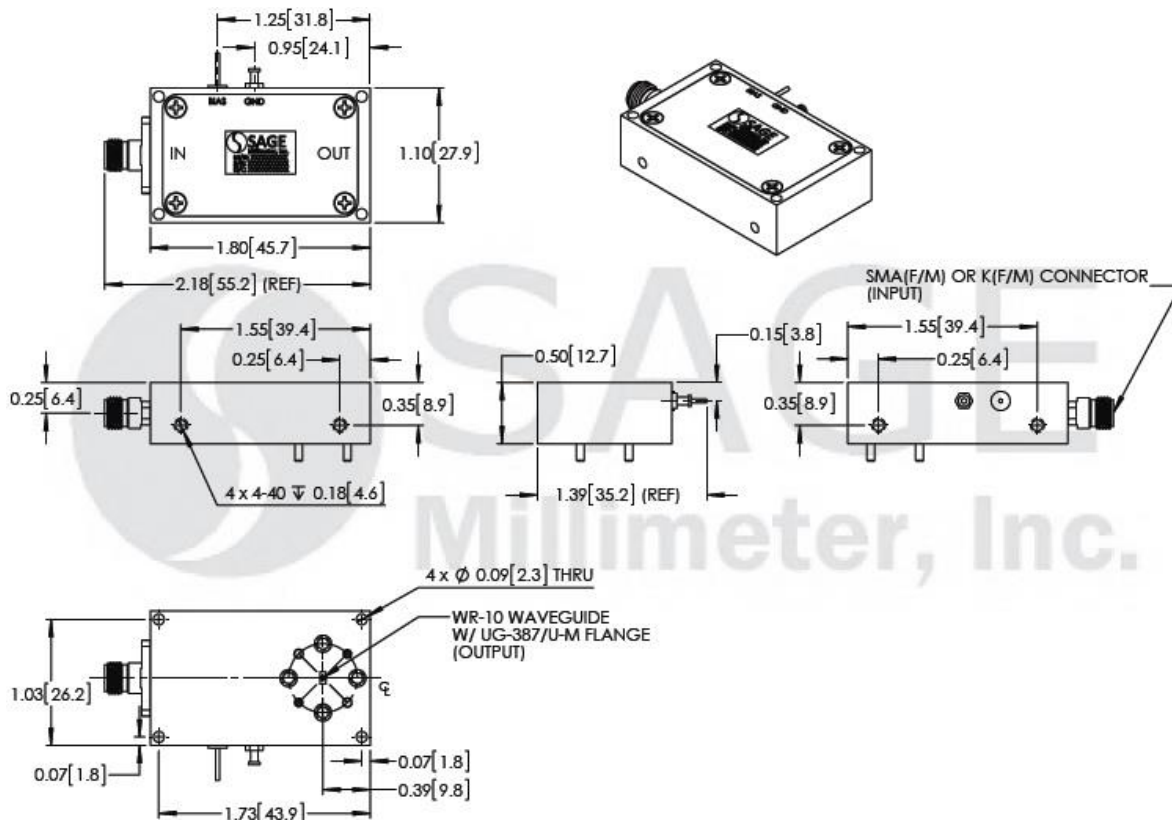
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### Typical Output Power vs. Output Frequency

Bias: +8 V<sub>DC</sub>/750 mA



**Mechanical Outline:** (Unless otherwise specified, all dimensions are in inches)



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### Note:

- All data are presented using a limited 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 number.

### Caution:

- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.
- The case temperature of the device shall never exceed +50°C. Use proper Heatsink or fan if necessary.



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