

W-Band, X6 Active Frequency Multiplier, 78 to 98 GHz, +16 dBm P_{out}

Description:

Model SFA-783983616-10SF-S1 is an active X6 frequency multiplier. The multiplier has an input frequency of 13.00 to 16.33 GHz with a typical input power of 0 to +5 dBm and an output frequency of 78 to 98 GHz with a typical output power of +16 dBm. The multiplier also has a typical harmonic suppression of -20 dBc. The DC power requirement for the multiplier is +8 V_{DC}/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 anti-cocking flange. Other port configurations are available under different model numbers.



Features:

- Low Harmonic Components
- Moderate Output Power

Applications:

- Frequency Extenders
- Communication Systems
- Radar Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Input Frequency	13.00 GHz		16.33 GHz
Input Power		+5 dBm	+20 dBm
Output Frequency	78.00 GHz		98.00 GHz
Output Power		+16 dBm	
Harmonic Suppression		-20 dBc	
Spurious		-60 dBc	
Port Return Loss		10 dB	
DC Voltage	+6 V _{DC}	+8 V _{DC}	+15 V _{DC}
DC Supply Current		750 mA	
Specification Temperature		+25°C	
Operating Temperature	0°C		+50°C

Mechanical Specifications:

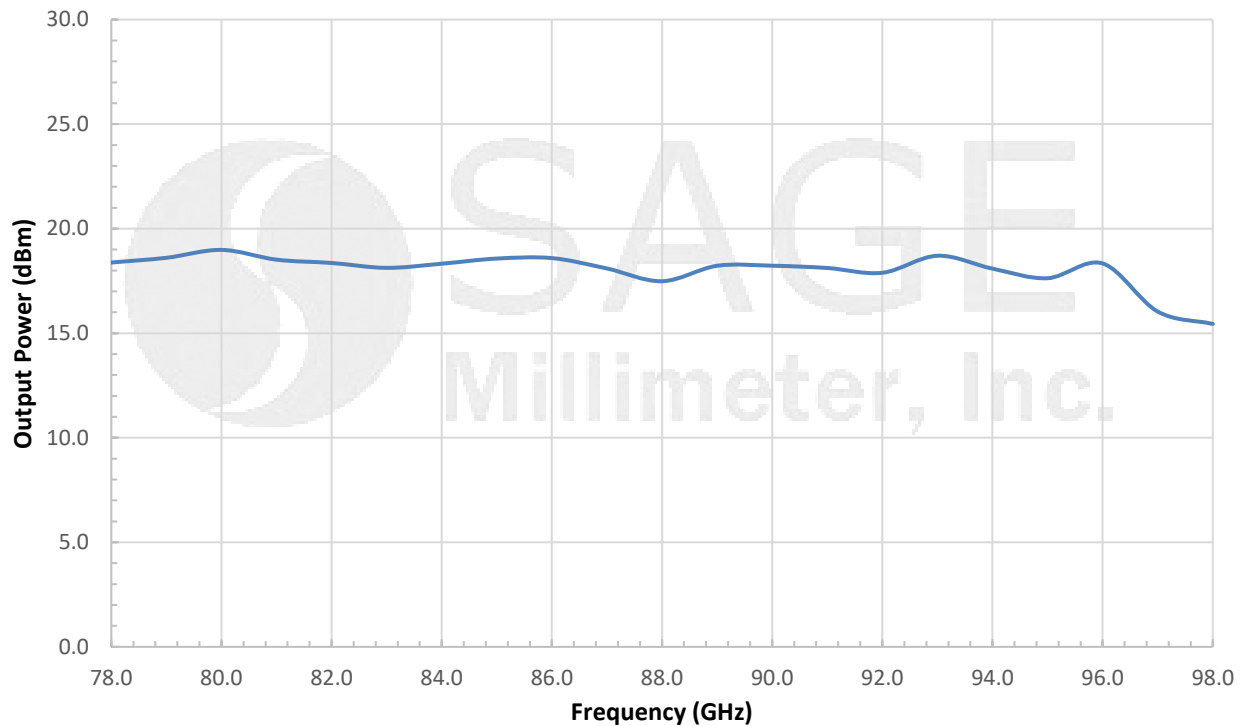
Item	Specification
Input Port	SMA (F)
Output Port	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
DC Bias Port	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	1.3 Oz
Size	1.10" (W) X 1.80" (L) X 0.50" (H)
Outline	FA-SW-1-A-1.8



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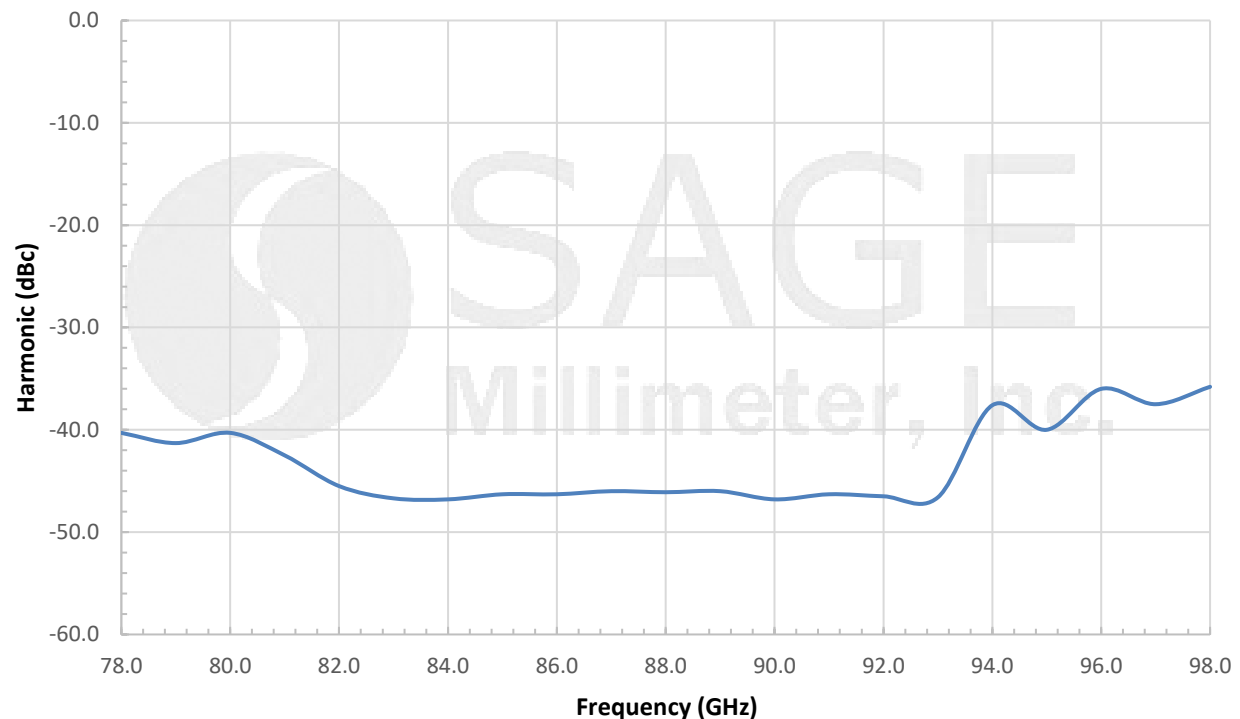
Typical Output Power vs Frequency

+5 dBm Pin, +8 Vdc/830 mA



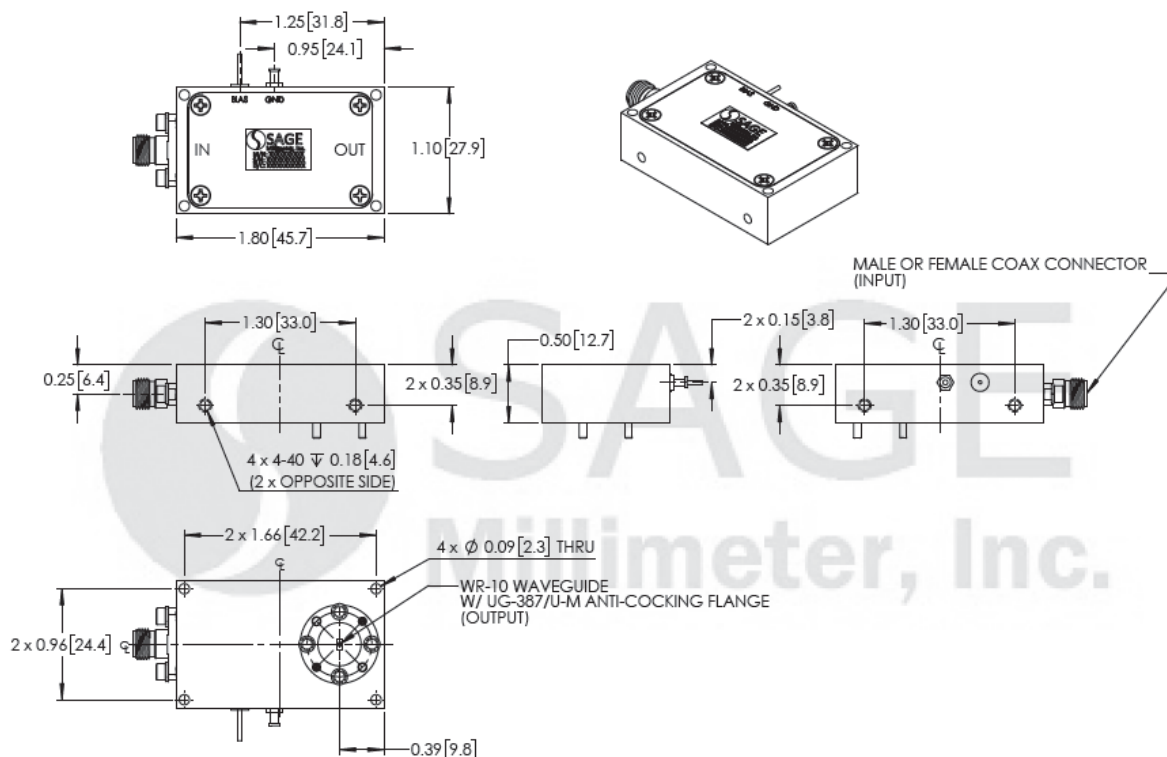
Typical Harmonic Suppression vs Frequency

+5 dBm Pin, +8 Vdc/830 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 +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.**

