



W-Band X3, Passive Frequency Multiplier

Description:

Model SFP-103KF-S2 is a W-Band, X3 passive multiplier that utilizes GaAs Schottky, beam-lead diodes and a balanced circuit configuration to generate third order harmonics with good harmonic and fundamental suppression. This multiplier requires an input frequency range of 25 to 36.67 GHz at +17 dBm RF power to yield 75 to 110 GHz with +0 dBm. The multiplier is equipped with a K (F) connector as its input port and a WR-10 waveguide with a UG-387/U-M flange as its output port. Other interface configurations are offered under different model numbers.



Features:

- Full Waveguide Operation
- No External Bias Required
- Low Harmonic Emissions

Applications:

- Source Modules
- Frequency Extenders
- Communication Systems
- Radar Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Input Frequency	25.00 GHz		36.67 GHz
Output Frequency	75 GHz		110 GHz
Input Power	+16 dBm	+17 dBm	+18 dBm
Output Power		+0 dBm	
Harmonic Suppression		20 dB	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

Mechanical Specifications:

Item	Specification
RF Input and Port	K (F) Connector
X3 Output Port	WR-10 Waveguide with UG-387/U-M Flange
Case Material	Aluminum
Finish	Gold Plated
Weight	0.9 Oz
Size	0.75" (W) X 0.96" (L) X 0.51" (D)
Outline	FP-WK3

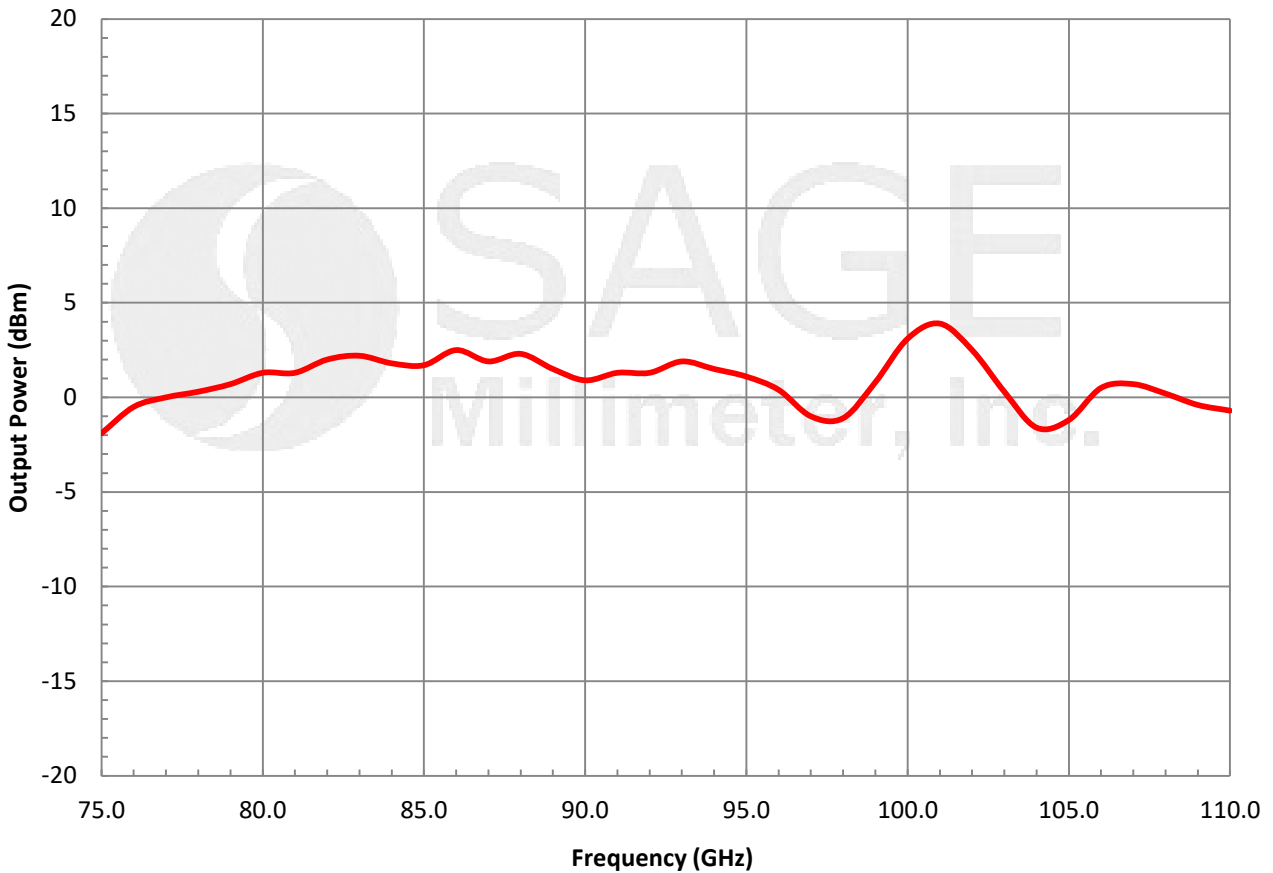




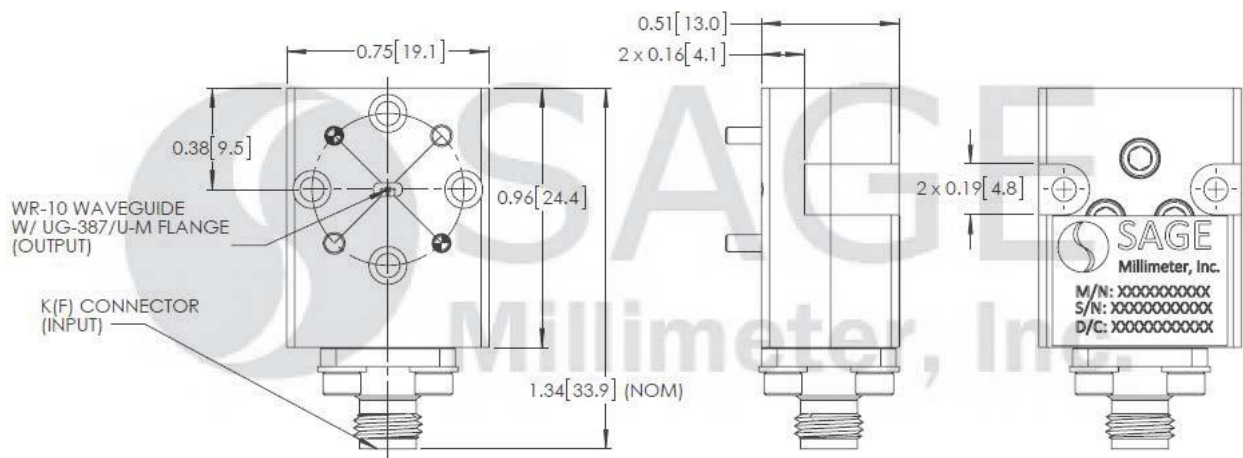
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Typical Output Power vs Output Frequency

Input Power +17 dBm



Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])





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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.

Caution:

- Exceeding absolute maximum ratings of the multiplier will damage the device.
- Input power never exceed **+18 dBm**, otherwise the multiplier will be damaged.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.
- The multiplier is a static sensitive device. Always follow ESD rules when working with the multiplier.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.92 ± 0.05 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

