SFP-104KF-S2

Rev. 1.0

W-Band X4, Passive Frequency Multiplier, +17 dBm Input Power

Description:

Model SFP-104KF-S2 is a W-Band, X4 passive multiplier that utilizes GaAs Schottky, beam-lead diodes, and a balanced circuit configuration to generate second order harmonics with good harmonic and fundamental suppression. This multiplier requires an input frequency range of 18.25 to 27.5 GHz at +17 dBm RF power to yield 75 to 110 GHz at -3 dBm. The multiplier is equipped with a female 2.92 mm connector as its input port and a WR-10 waveguide with UG-387/U-M flange as its output port. Other multiply factor, such as X2, X3, X6 and X8 are also available under various model numbers.

Features:

- Minimal Conversion Loss
- No External Bias
- Compact Package

Applications:

- Source Modules
- Communication Systems
- Radar Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Input Frequency	18.25 GHz		27.5 GHz
Output Frequency	75.0 GHz		110.0 GHz
Input Power		+17 dBm	+19 dBm
Output Power		-8 dBm	
Harmonic Suppression		20 dB	
Specification Temperature		+ 25 °C	
Operating Temperature	-10 °C		+65 °C

Mechanical Specifications:

Item	Specification
RF Input Port	2.92 mm (F)
RF Output Port	WR-10 Waveguide with UG-387/U-M Flange
Material	Aluminum
Finish	Gold Plated
Weight	0.4 Oz
Size	1.18” (L) x 0.75” (Ø)
Outline	FP-W22

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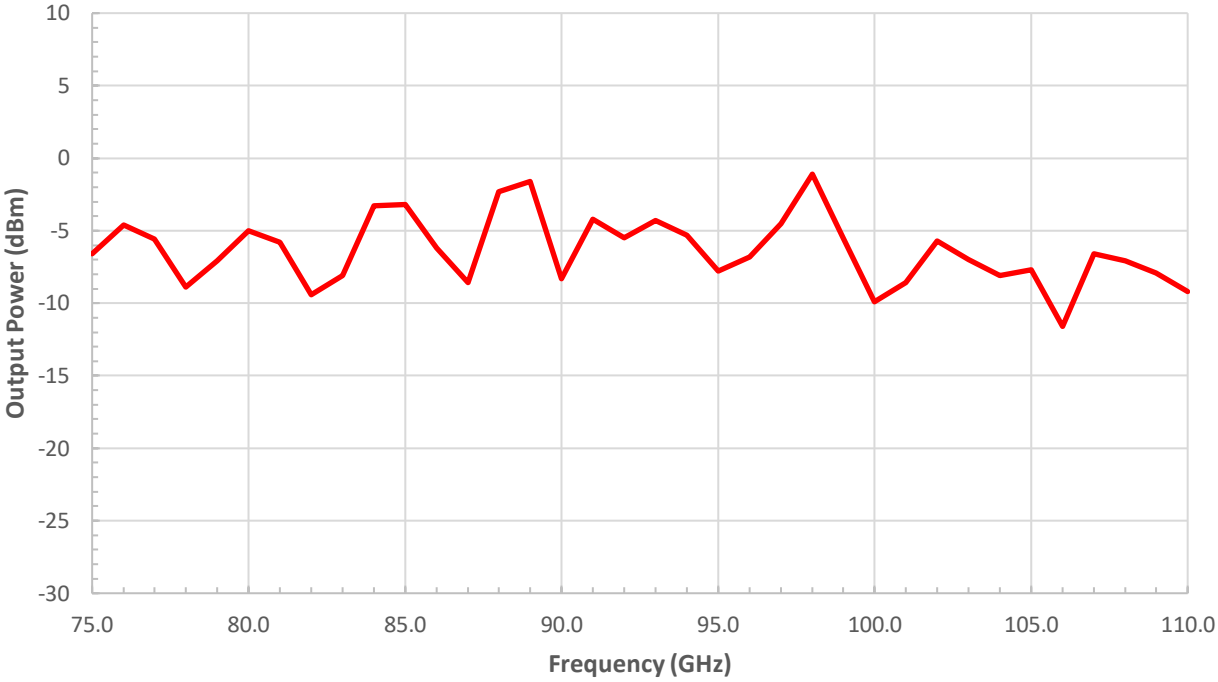
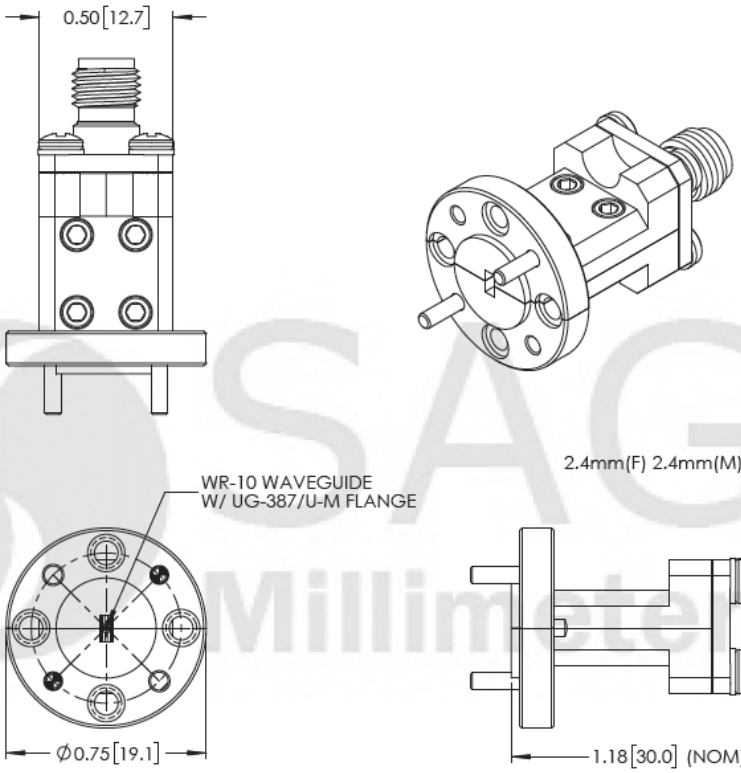
Typical Output Power vs Frequency

Input Power: +17 dBm (Typical)



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.
- The 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.
- 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.**