

## SFP-04312-SB

### WR-04 X3, Passive Frequency Multiplier, 170 to 260 GHz

**SFP-04312-SB** is a WR-04 X3 passive multiplier that utilizes GaAs Schottky diodes to generate third order harmonics with good harmonic and fundamental suppression. This multiplier requires an input frequency range of 56.67 to 86.67 GHz at +20 dBm RF power to yield typical 0 dBm output power at 170 to 260 GHz. The multiplier is equipped with a WR-12 waveguide and UG-387/U-M flange as its input port and a WR-04 waveguide and UG-387/U-M flange as its output port.



#### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Input Frequency	56.67 GHz		86.67 GHz
Output Frequency	170 GHz		260 GHz
Input Power		+20 dBm	
Damage Input Power			+22 dBm
Output Power		0 dBm	
Conversion Efficiency		1%	
Harmonic Suppression		20 dB	
Specification Temperature		+25°C	
Operating Temperature	0°C		+50°C

#### Mechanical Specifications:

Item	Specification
RF Input Port	WR-12 Waveguide with UG-387/U-M Anti-Cocking Flange
RF Output Port	WR-04 Waveguide with UG-387/U-M Anti-Cocking Flange
Material	Aluminum
Finish	Gold Plated
Weight	0.4 Oz
Size	0.75" (L) X 0.75" (W) X 0.75" (H)
Outline	FP-04E3-A

#### ECCN

3A001.b.7

#### FEATURES

- Low Conversion Loss
- Compact Package

#### APPLICATIONS

- THz
- Source Modules
- Frequency Extenders

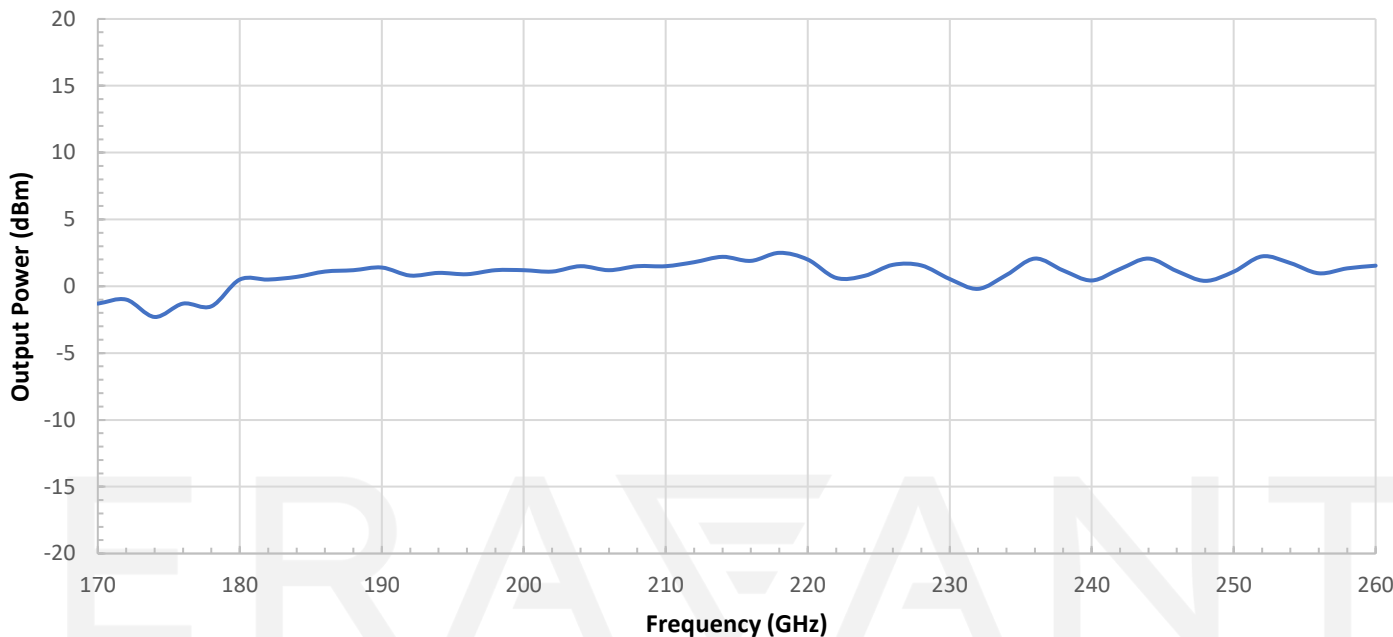
#### SUPPLEMENTAL DETAILS



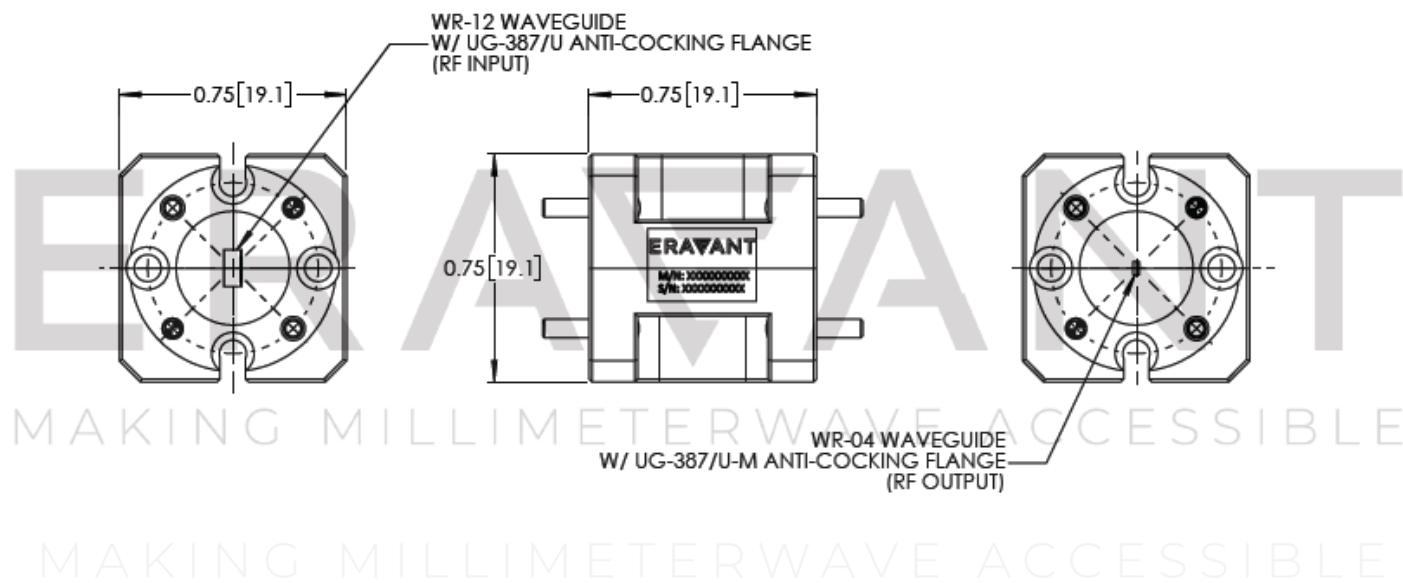
SFP-04312-SB

Typical Output Power vs Frequency

LO: +20 dBm



**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 slightly from unit to unit. All testing is performed under +25 °C room temperature.
- Eravant 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 may damage or destroy the unit.
- The multiplier is a static sensitive device. Always follow ESD rules when working with the multiplier.
- Eravant recommends the use of ESD wrist and ankle straps, grounded ESD dissipative surfaces, and air ionizers when handling the device.
- For 1 mm connectors proper torque should be applied:  $4.0 \pm 0.15$  inch-pounds ( $0.45 \pm 0.02$  Nm). Torque wrench model SCH-06004-S1 is highly recommended.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied:  $8.0 \pm 0.15$  inch-pounds ( $0.90 \pm 0.02$  Nm). Torque wrench model SCH-08008-S1 is highly recommended

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