

SFP-103KF-S2

WR-10 X3, Passive Frequency Multiplier, 75 to 110 GHz

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.



Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---------------------------|---------|---------|-----------|
| Input Frequency | 25 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 dBc | |
| Specification Temperature | | +25°C | |
| Operating Temperature | 0°C | | +50°C |

Mechanical Specifications:

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

ECCN

3A001.b.7

FEATURES

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

APPLICATIONS

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

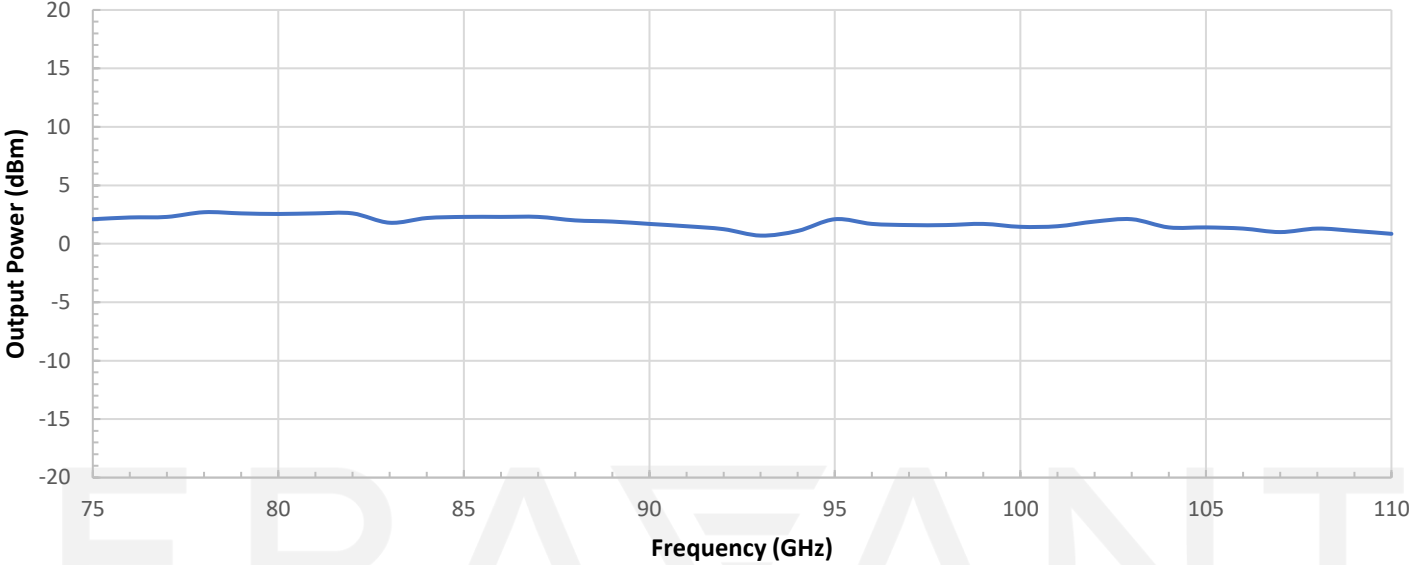
SUPPLEMENTAL DETAILS



SFP-103KF-S2

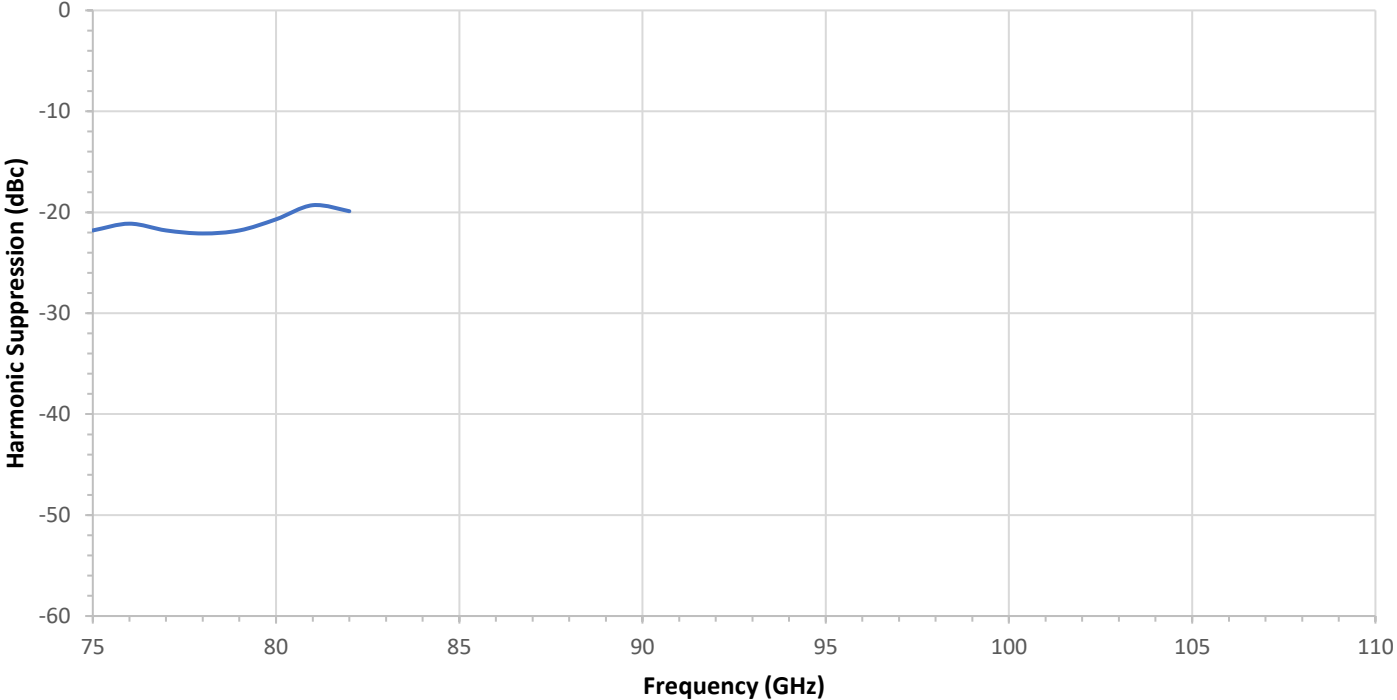
Typical Output Power vs Frequency

Input Power: +17 dBm



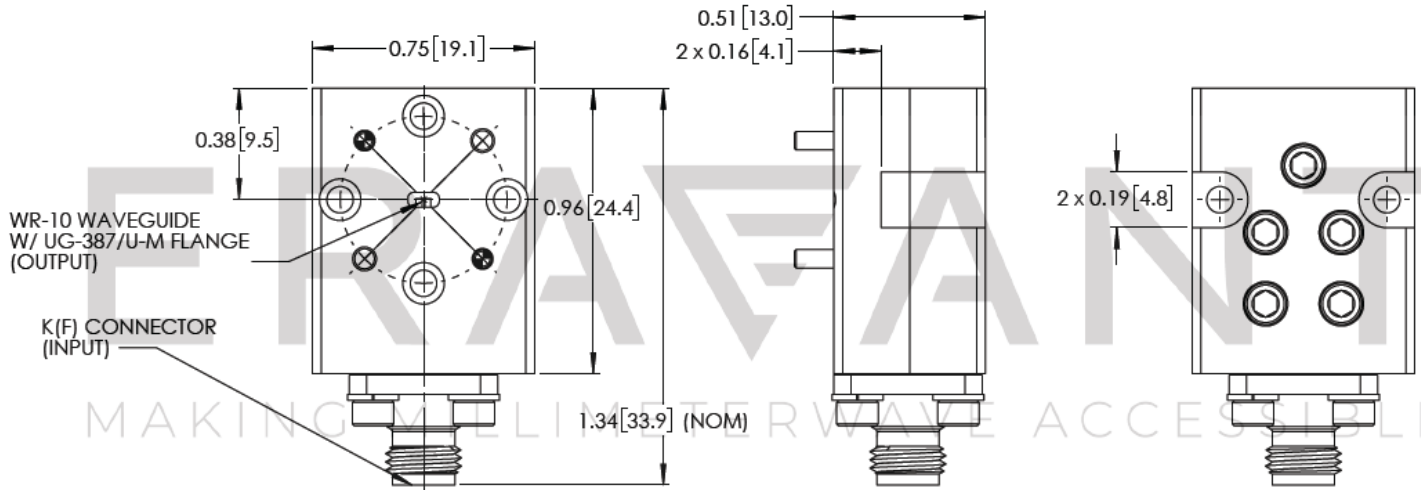
Typical Harmonic Suppression vs. Frequency

Input Power = +17 dBm



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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 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 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model [SCH-08008-S1](#) is highly recommended.