

W-Band Third Harmonic Mixer, 85 to 100 GHz

Description:

Model SFH-8531040313-10KFSF-N3 is a W-Band third harmonic mixer. The mixer is designed with high performance GaAs Schottky diodes to provide mixing at 3X LO frequency to cover the RF frequency range from 85 to 100 GHz. The low LO frequency makes this mixer well suited for low-cost W band system solutions with an LO frequency range of 28.33 to 33.33 GHz. The mixer provides typical 13dB conversion loss.



Features:

- Low LO Power Requirement
- Third Harmonic Mixing
- Compact Package

Applications:

- Radar Systems
- Communication Systems
- Test Equipment

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Frequency	85 GHz		100 GHz
LO Frequency	28.33 GHz		33.33 GHz
IF Frequency	DC		1.5 GHz
LO Pumping Power	+8 dBm	+13 dBm	+16 dBm
Conversion Loss		13 dB	
Combined RF and LO Power			+18 dBm
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

Mechanical Specifications:

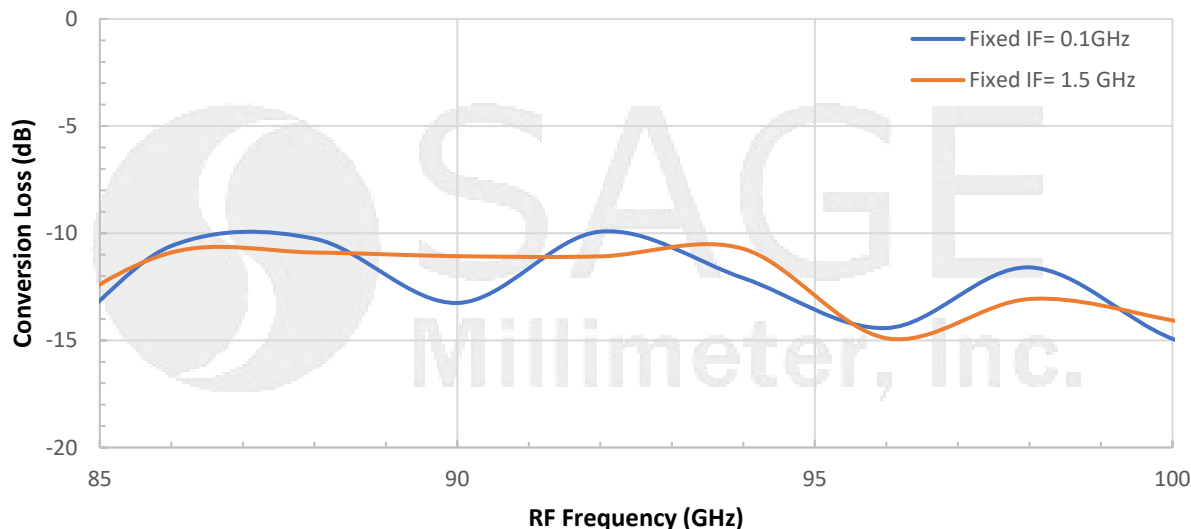
Item	Specification
RF Port	WR-10 Waveguide with UG-387/U-M Flange
LO Port	K(F)
IF Port	SMA(F)
Case Material	Aluminum
Finish	Gold Plated
Weight	1.0 Oz
Size	1.6"(L) x 0.8"(W) X 0.8"(H)
Outline	FH-W3



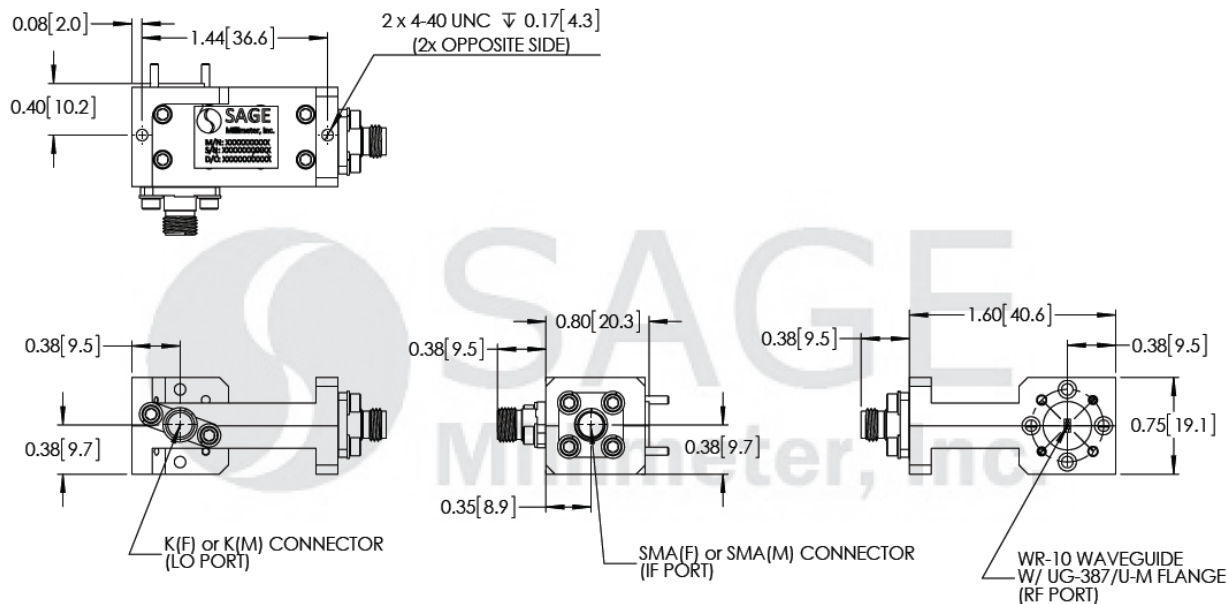
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Typical Conversion Loss vs. Frequency

RF: -20 dBm; LO: +13 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.
- Eravant reserves the right to change the information presented without notice.

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 IF port of the mixer is DC coupled. Use DC block when connecting to other devices. **Any external bias voltage applied to the IF port will damage the mixer.**
- Proper torque, 8.0 ± 0.15 inch-pounds (0.92 ± 0.05 Nm), should be applied. **Eravant torque wrench, model SCH-08008-S1, is highly recommended.**
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.

