SFB-90314412-0808KF-N3

F-Band Balanced Mixer

SFB-90314412-0808KF-N3 is an F-Band balanced mixer that utilizes high performance GaAs Schottky beam-lead diodes and a balanced circuit configuration to offer superior RF performance. The mixer supports the operation for RF frequencies from 90 to 140 GHz with a broad IF output from DC to 35 GHz. The LO frequencies cover 90 to 126 GHz. The mixer offers a conversion loss of 12 dB Typical and a high LO to RF isolation of 30 dB nominally.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Frequency Range	90 GHz		140 GHz
LO Frequency Range	90 GHz		126 GHz
IF Frequency Range	DC		35 GHz
LO Pumping Power		+13 dBm	+15 dBm
Conversion Loss		12 dB	
RF Input P-1dB		-3 dBm	
LO to RF Isolation		30 dB	
LO to IF Isolation		25 dB	
Combined RF to LO Power			+18 dBm
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

*Note: The RF input P_{-1dB} is LO pumping power related. The value shown is at LO power +13 dBm. The higher the LO power, the higher the input P_{-1dB}.

Mechanical Specifications:

Item	Specification
RF Port	WR-08 Waveguide with UG-387/U-M Anti-Cocking Flange
LO Port	WR-08 Waveguide with UG-387/U-M Anti-Cocking Flange
IF Port	K (F)
Case Material	Aluminum
Finish	Gold Plated
Weight	0.8 Oz
Outline	FB-NF-A-3

ECCN

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FEATURES

- Full Waveguide Band Coverage
- Low Conversion Loss
- High IF Frequency up to 35 GHz

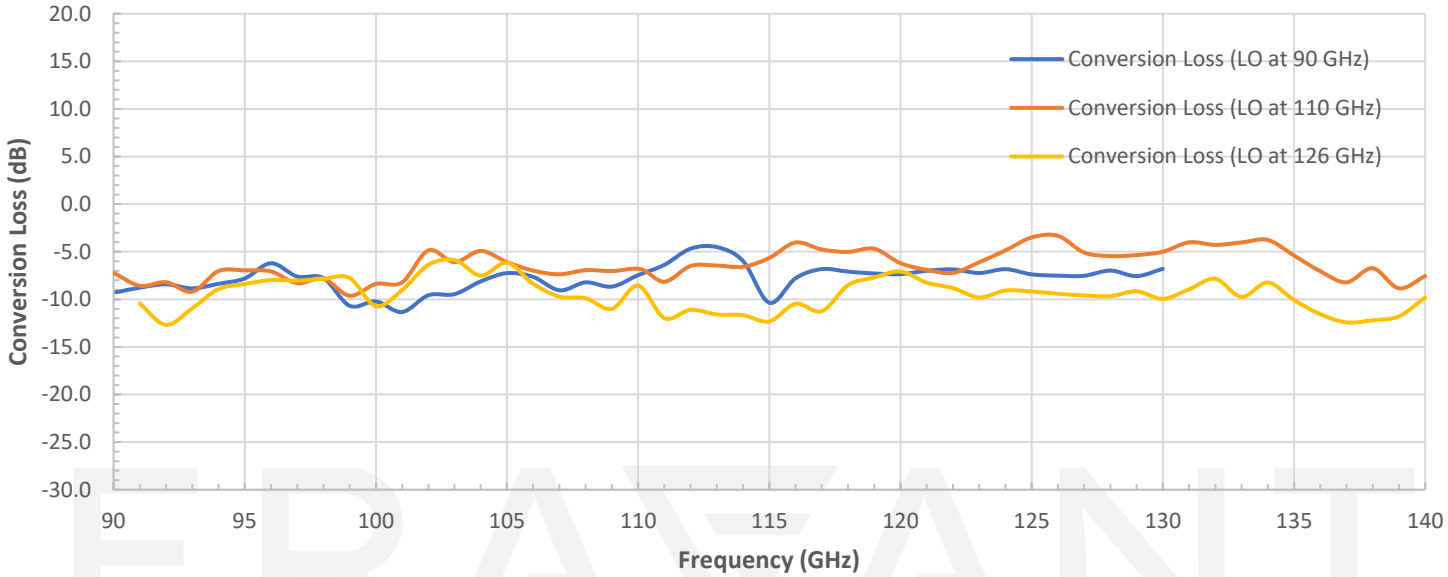
APPLICATIONS

- Radar Systems
- Communication Systems
- Test Equipment

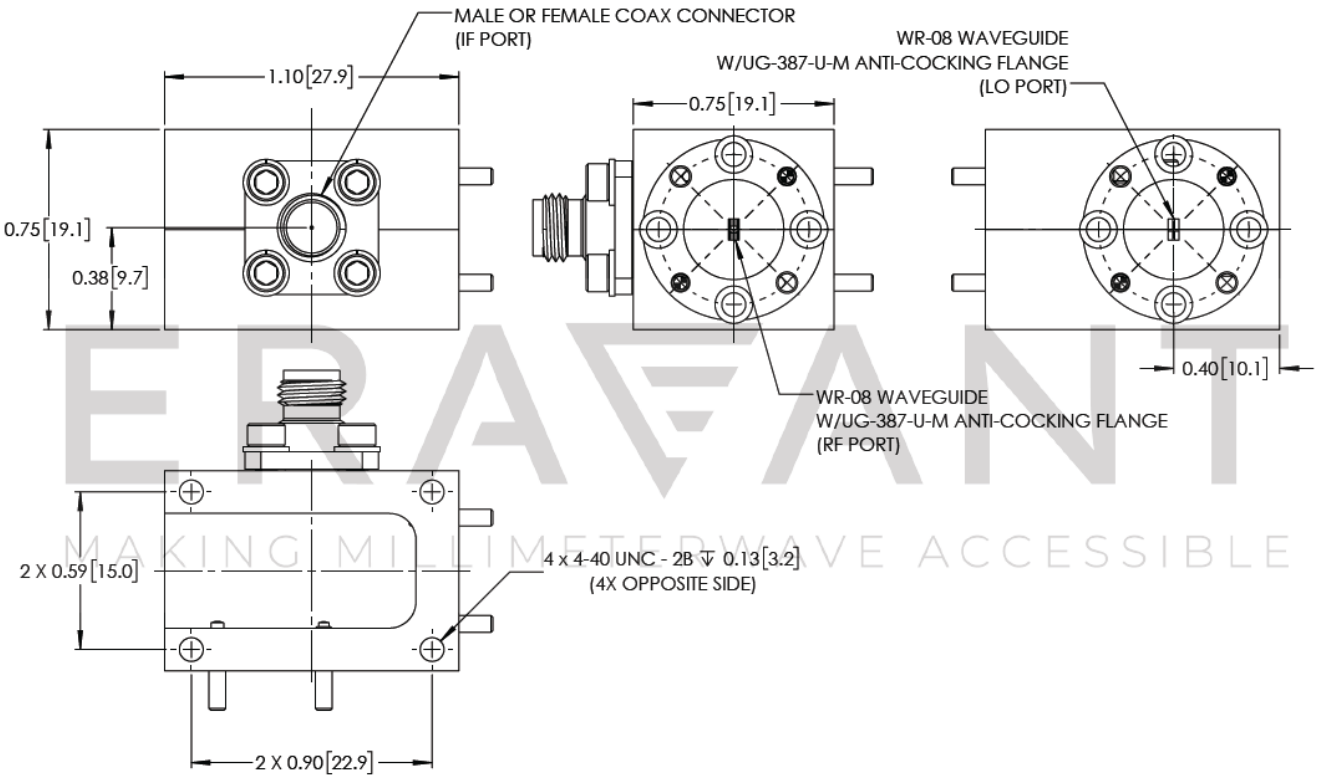
SUPPLEMENTAL DETAILS

Typical Conversion Loss vs. Frequency

RF: -20 dBm; LO: +13 dBm



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



NOTE:

- Test data provided is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- A DC block at IF port may be required when connecting to a device, such as an IF low noise amplifier or a base band mixer which input port is DC coupled.
- 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 a DC block when connecting to other devices.**
- **Never apply an external bias voltage to the IF port because the mixer will be damaged.**
- Any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- 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.

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