SFB-80312409-1010KF-N1

W-Band Balanced Mixer

SFB-80312409-1010KF-N1 is a W-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 full waveguide band operation for LO from 75 to 110 GHz and RF from 80 to 116 GHz with an extremely broad IF output from DC to 40 GHz. The mixer offers a conversion loss of 9 dB typical and a high RF to LO port isolation of 30 dB. **While the typical LO to IF isolation of the mixer is 10 dB, it can be improved to 40 dB by adding Eravant's SCF-55375330-KFKM-L1 coaxial low pass filter.**

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Frequency	80 GHz		116 GHz
LO Frequency	75 GHz		110 GHz
IF Frequency	DC		40 GHz
LO Pumping Power	+12 dBm	+13 dBm	+15 dBm
Conversion Loss (80-110 GHz)		9 dB	
Conversion Loss (110-116 GHz)		11 dB	
RF Input P_{-1dB}		-3 dBm	
LO to RF Isolation		30 dB	
Combined RF to LO Power			+18 dBm
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

Mechanical Specifications:

Item	Specification
RF Port	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
LO Port	WR-10 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-NW-A

ECCN

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FEATURES

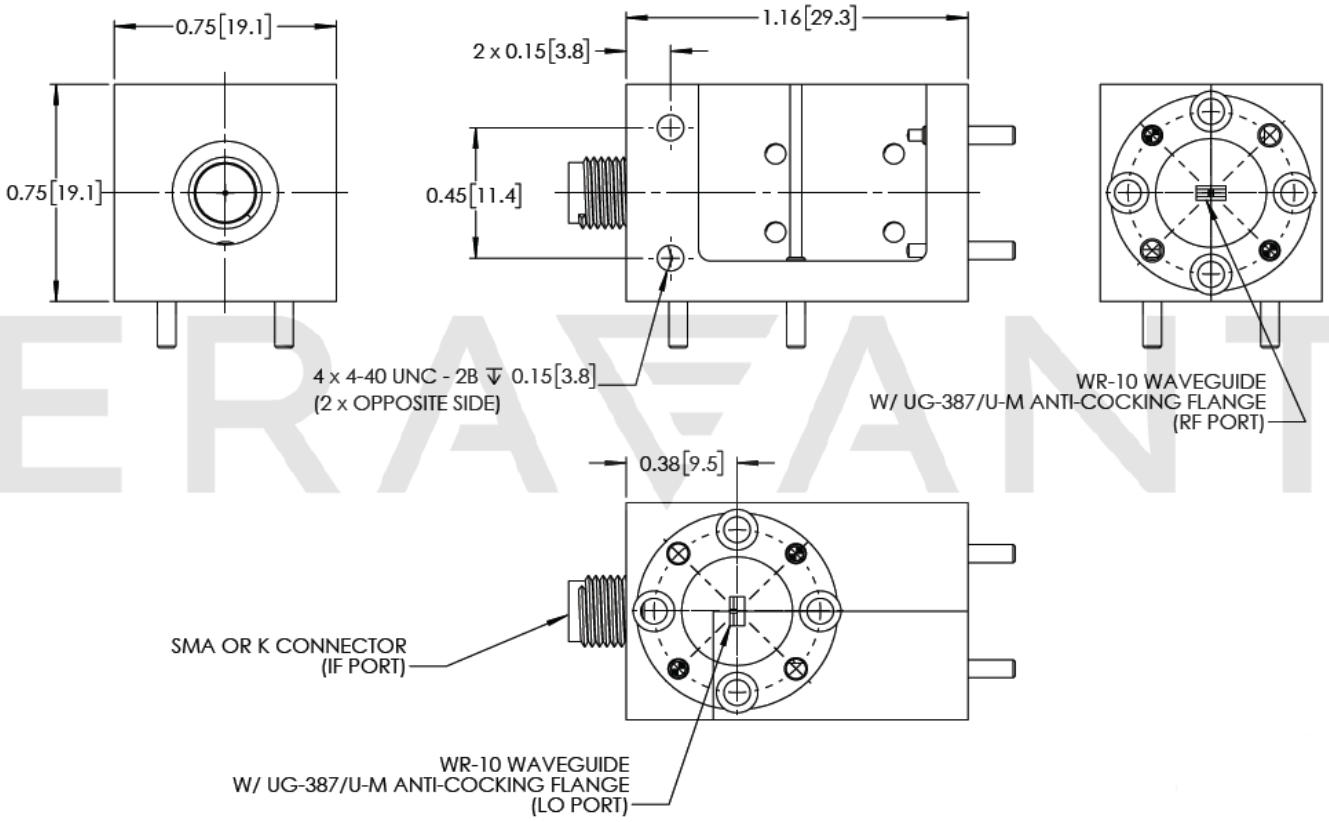
- Full Waveguide Band Coverage
- Low Conversion Loss
- High IF Frequency up to 20 GHz
- Compact Package

APPLICATIONS

- Radar Systems
- Communication Systems
- Test Equipment

SUPPLEMENTAL DETAILS

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



NOTE:

- On condition that test data is provided it 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.**
- If a waveguide is present, 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.