

SFQ-06327315-KFKFSF-N1-M

Broadband Quadrature Mixer or Phase Detector, 6 to 26.5 GHz

SFQ-06327315-KFKFSF-N1-M is a broadband quadrature mixer that covers the frequency range of 6 to 26.5 GHz. The typical conversion loss of the quadrature mixer is 15 dB with an LO driving power of +18 dBm. The typical LO to RF port isolation is 30 dB. Since the IF port of the quadrature mixer is DC coupled, the mixer can be used as a phase detector. In addition, the mixer can be readily configured into an image rejection mixer or single sideband modulator by adding an IF quadrature coupler.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Frequency	6 GHz		26.5 GHz
LO Frequency	6 GHz		26.5 GHz
LO Pumping Power	+16 dBm	+18 dBm	+20 dBm
IF Frequency	DC		5 GHz
Conversion Loss		15 dBm	
I/Q Phase Unbalance		$\pm 2^\circ$	
I/Q Amplitude Unbalance		± 1 dB	
LO to RF Port Isolation		30 dB	
LO to IF Port Isolation		40 dB	
RF to IF Port Isolation		20 dB	
Input P1dB		+13 dBm	
Image Rejection (with IF Hybrid)		18 dB	
Combined RF and LO Power			+23 dBm
Specification Temperature		+25°C	
Operating Temperature	0°C		+50°C

Mechanical Specifications:

Item	Specification
RF (Port 3)	2.92 mm (F)
LO (Port 2)	2.92 mm (F)
IF-I (Port 1)	SMA (F)
IF-Q (Port 4)	SMA (F)
Material	Aluminum
Finish	Gold Plated
Weight	0.68 Oz
Outline	UH-235-4C

ECCN

3A001.b.7

FEATURES

- Compact Package
- High Port Isolation
- IF Port DC Coupled for Phase Detection

APPLICATIONS

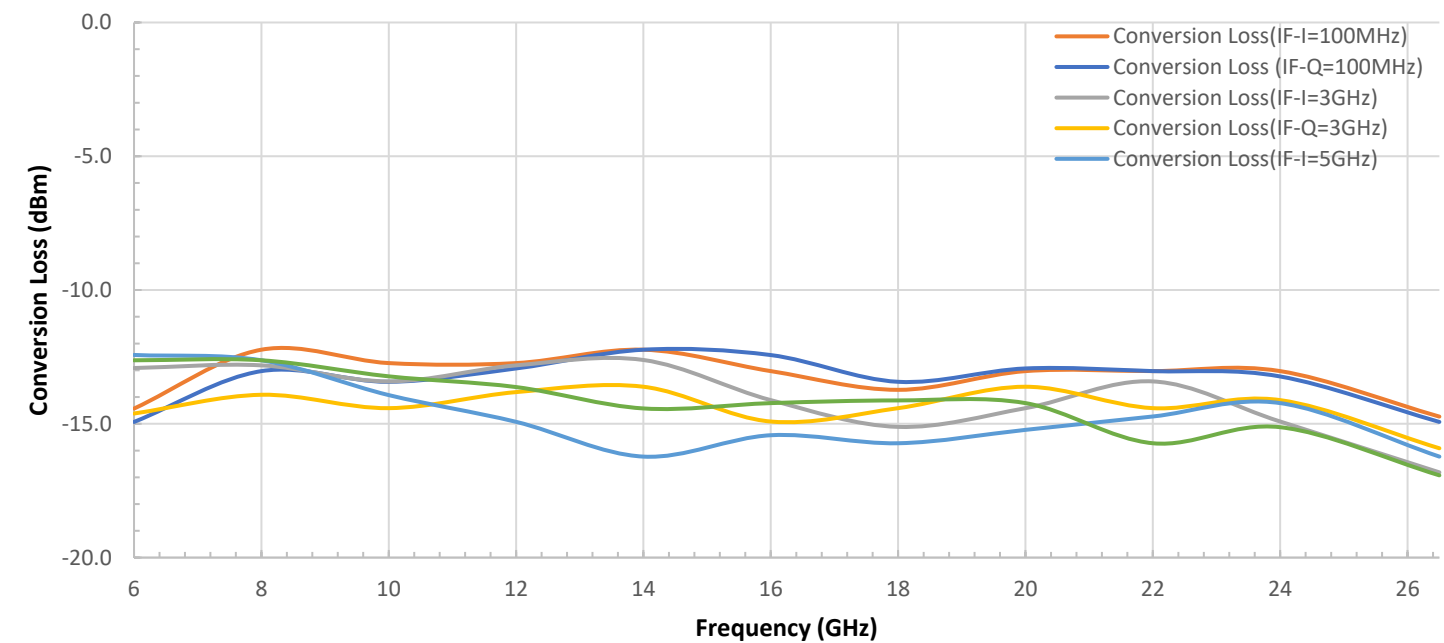
- Phase Detection
- Speed and Ranging Radar Systems
- Test Equipment

SUPPLEMENTAL DETAILS

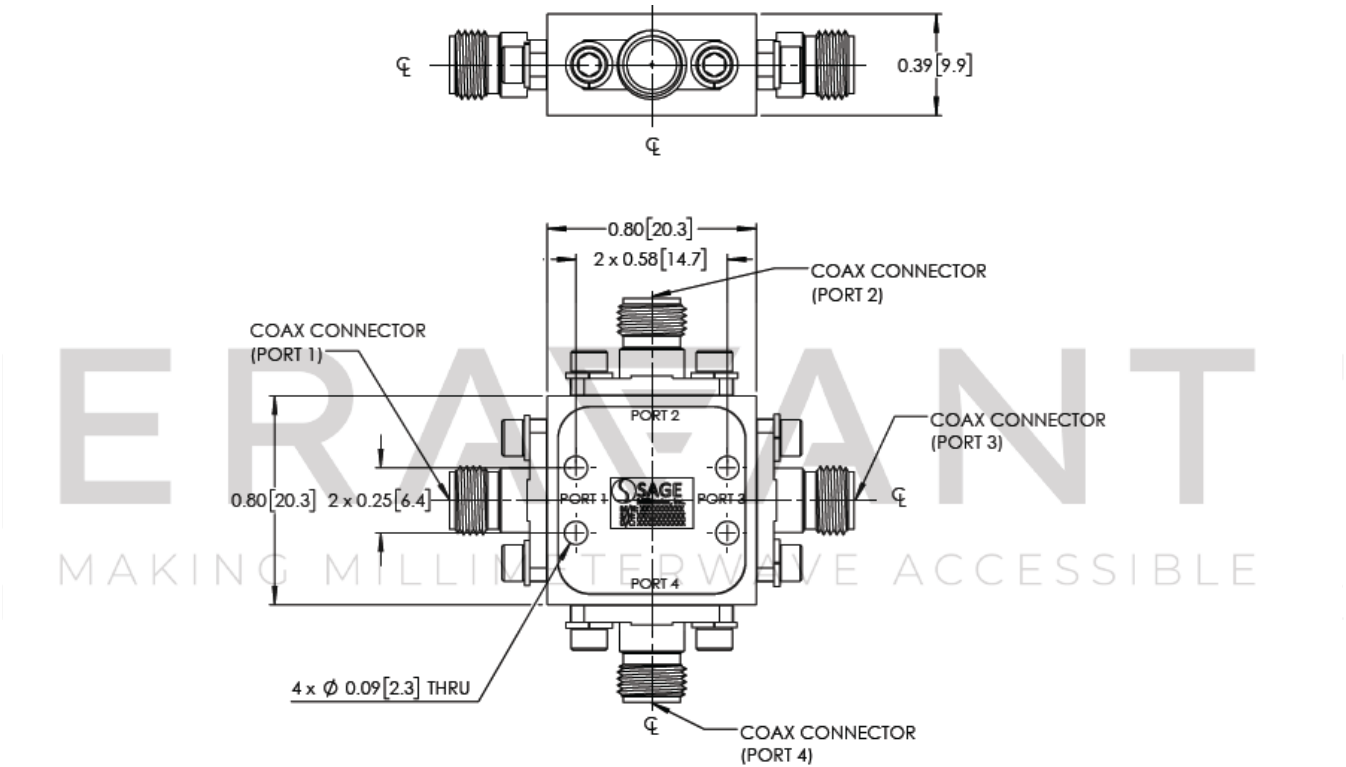


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Conversion Loss vs. Frequency
RF: -20 dBm (Typ); LO: +18 dBm (Typ)



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.
- The I/Q mixer can be configured as an image rejection mixer or used as an I/Q up-converter, single sideband modulator and phase detector.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Exceeding absolute maximum ratings of the multiplier will damage the device.
- The mixer 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.
- The IF ports are DC coupled. Use DC blocks if necessary. **Do not apply an external bias voltage to the IF port.**
- For 1 mm connectors proper torque should be applied: 4.0 ± 0.15 inch-pounds (0.45 ± 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 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model SCH-08008-S1 is highly recommended

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