SFS-15-N1

Rev 1.0

V-Band Sub-Harmonically Pumped Mixer, 50-75 GHz

Description:

Model SFS-15-N1 is an V-Band sub-harmonically pumped mixer. The mixer is designed with high performance GaAs Schottky diodes and accepts an LO frequency at half the RF frequency to cover the frequency range from 50 to 75 GHz. With a low LO frequency range of 25 to 37.5 GHz, this mixer is well suited for low cost V-Band system solutions as a result of half of the operating RF frequency. The mixer provides 20 dB conversion loss. The sub-harmonically pumped mixers in other frequency bands are offered under various model numbers.

Features:

- Low LO Power Requirement
- Subharmonic Mixing
- Compact Package

Applications:

- Radar Systems
- Communication Systems
- Test Equipment

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Frequency	50 GHz		75 GHz
LO Frequency	25 GHz		37.5 GHz
IF Frequency	DC		5.0 GHz
LO Pumping Power	+10 dBm	+13 dBm	+16 dBm
Conversion Loss		20 dB	
Combined RF and LO Power			+20 dBm
Specification Temperature		+25°C	
Operating Temperature	+0°C		+50°C

Mechanical Specifications:

Item	Specification
RF Port	WR-15 Waveguide with UG-387/U-M Anti-Cocking Flange
LO Port	K (F)
IF Port	SMA (F)
Case Material	Aluminum
Finish	Gold Plated
Weight	0.5 Oz
Outline	FS-NV-A

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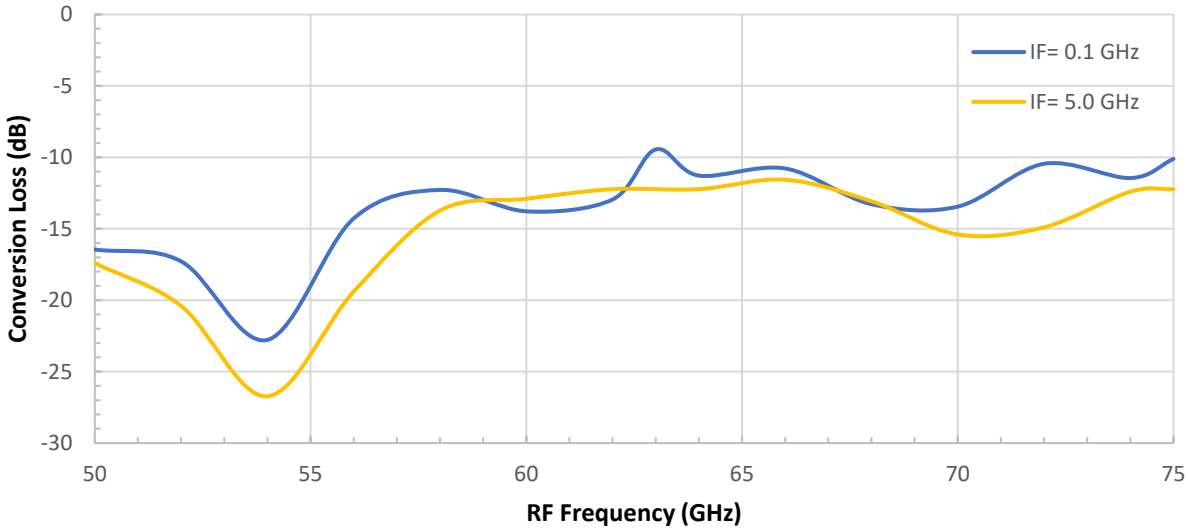
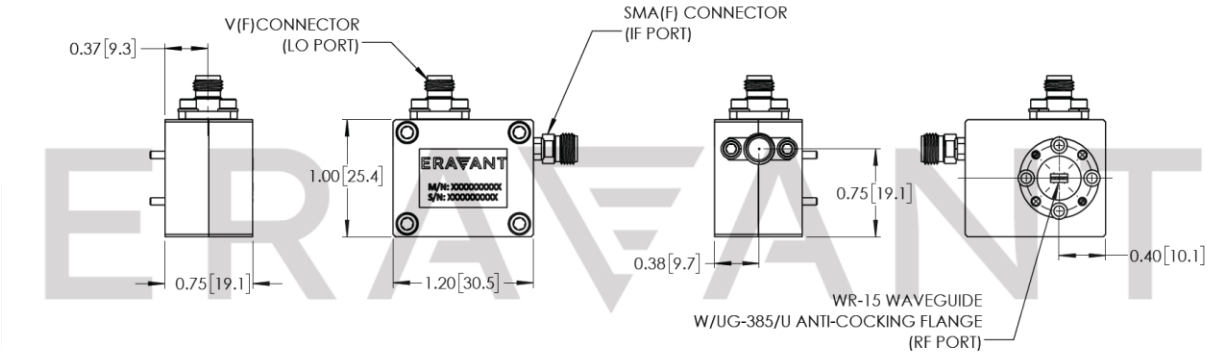
Typical Conversion Loss vs. Frequency

RF: -20 dBm (Typ); LO: +13 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 unit to unit, slightly.
- All testing was performed under +25 °C case temperature.
- Eravant reserves the right to change the information presented without notice.

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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. **Any external bias voltage applied to the IF port will damage the mixer. Eravant, model SCB-050-KFKM-U2, is highly recommended.**
- 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.