

SFD-174264-04SF-P1-M

WR-04 Amplitude Detector, Positive Output

SFD-174264-04SF-P1-M is a WR-04 amplitude detector that can be used in the frequency range of 170 to 260 GHz. The detector is zero biased and intended for small signal detection purposes. The detector exhibits high sensitivity characteristics across the full waveguide operating bandwidth. The detector is designed to have a 10 MHz video bandwidth and a 1 MΩ video output impedance.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	170 GHz		260 GHz
Sensitivity*		800 mV/mW	
RF Input Power		-20 dB	
RF Power Handling			+10 dBm
Video Bandwidth		10 MHz	
Detection Speed, Rise Time (50 Ohm Load)		5 Nano Second	
Output Voltage Polarity		Positive	
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

* Note: The sensitivity is for the input signal level -20 dBm or below.

Mechanical Specifications:

Item	Specification
RF Ports	WR-04 Waveguide with UG-387/U-M Anti-Cocking Flange
DC Port	SMA (F)
Case Material	Aluminum
Finish	Gold Plated
Weight	0.4 Oz
Outline	FD-043-A

ECCN

EAR99

FEATURES

- Full Band Coverage
- Compact Size
- High Resolution Micrometer
- Low Insertion Loss

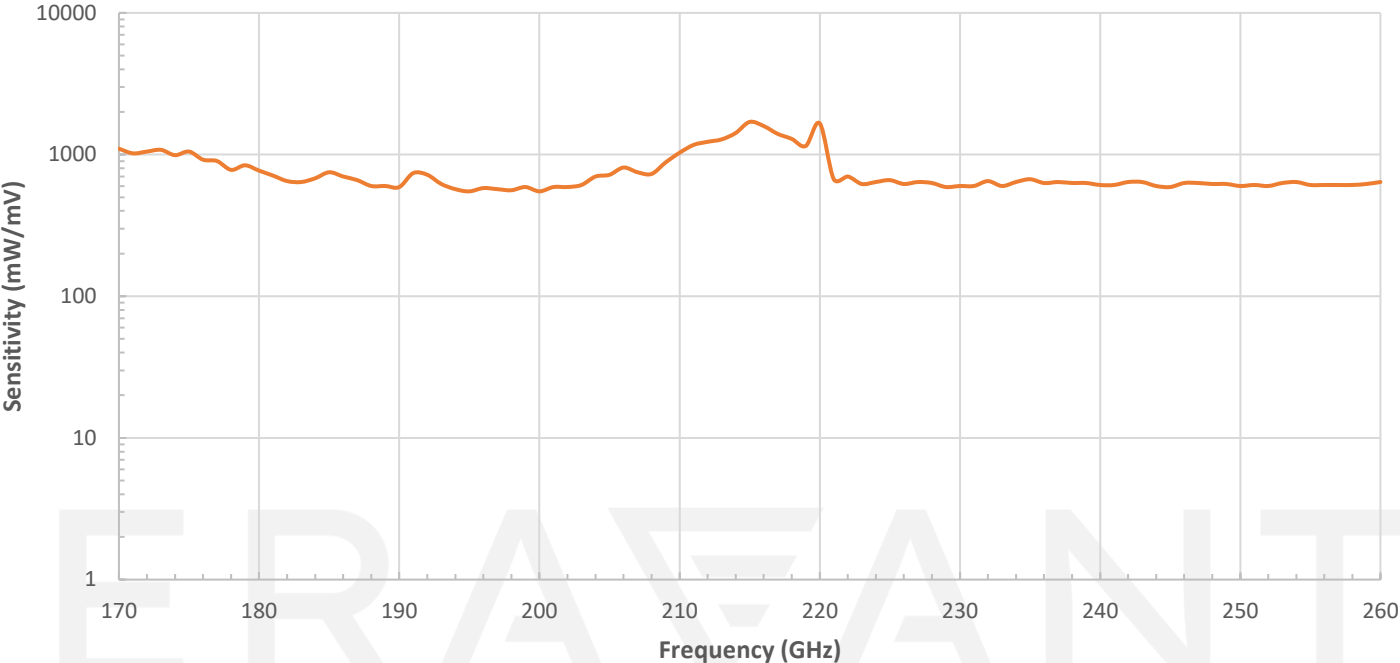
APPLICATIONS

- Test Lab
- Instrumentations
- System Integration

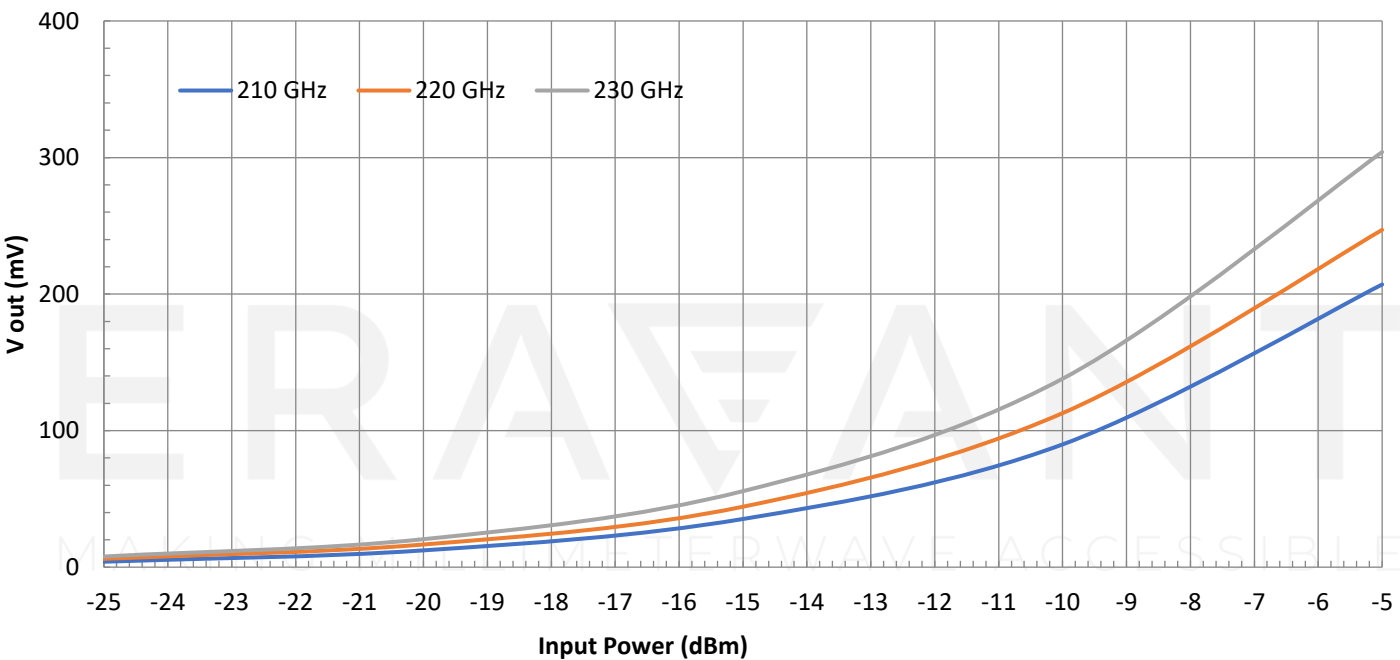
SUPPLEMENTAL DETAILS



Sensitivity vs. Frequency

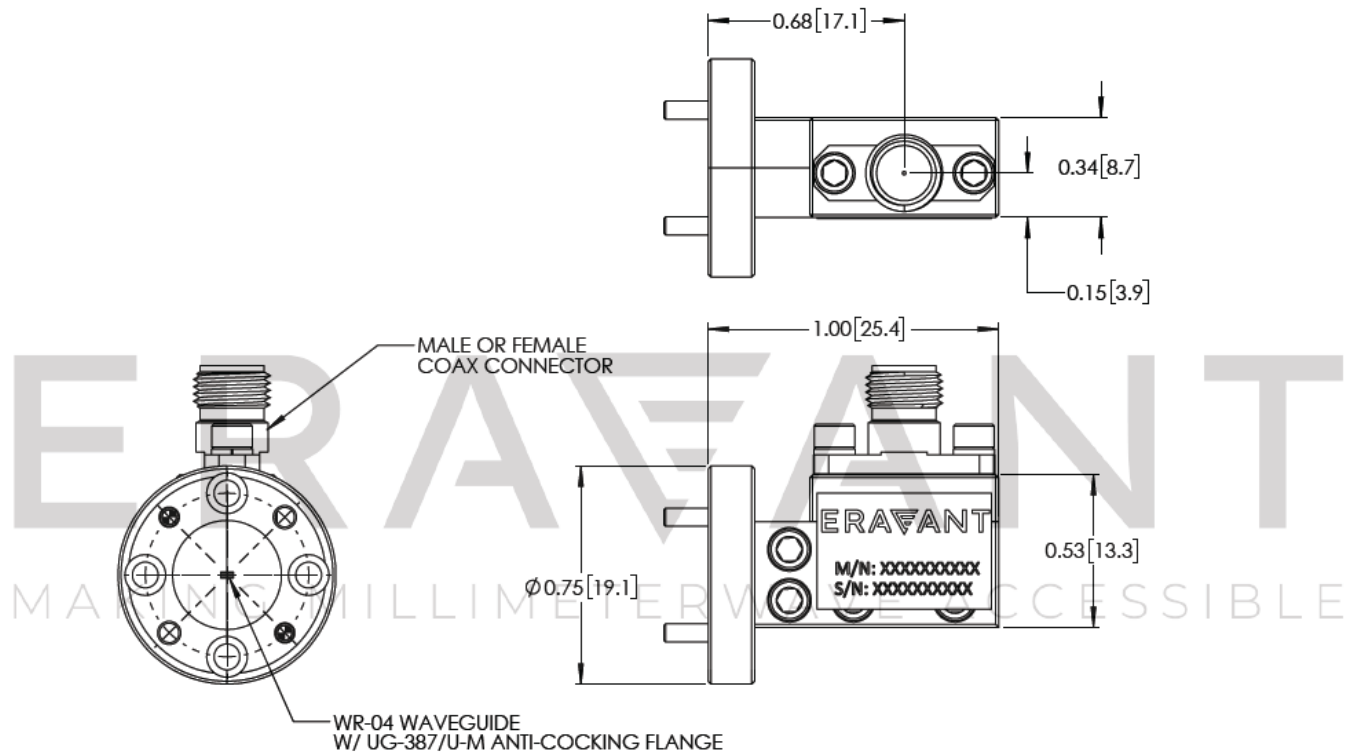


Detected Voltage vs. Input Power



SFD-174264-04SF-P1-M

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 amplitude detector is a small signal detector. The sensitivity shown is for RF signal -20 dBm or lower.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Exceeding absolute maximum ratings will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- Any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- 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.