SFD-114174-06SF-P1-M

WR-06 Amplitude Detector, Positive Output

SFD-114174-06SF-P1-M is a WR-06 amplitude detector that can be used for full or narrow band applications. 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	110 GHz		170 GHz
Sensitivity*		2000 mV/mW	
RF Input Power		-20 dBm	
RF Power Handling			+10 dBm
Video Bandwidth		10 MHz	
Detection Speed, Rise Time (50 Ohm Load)		5 Nano Seconds	
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 Port	WR-06 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-D3-A

ECCN

EAR99

FEATURES

- Full Waveguide Band Operation
- High Sensitivity

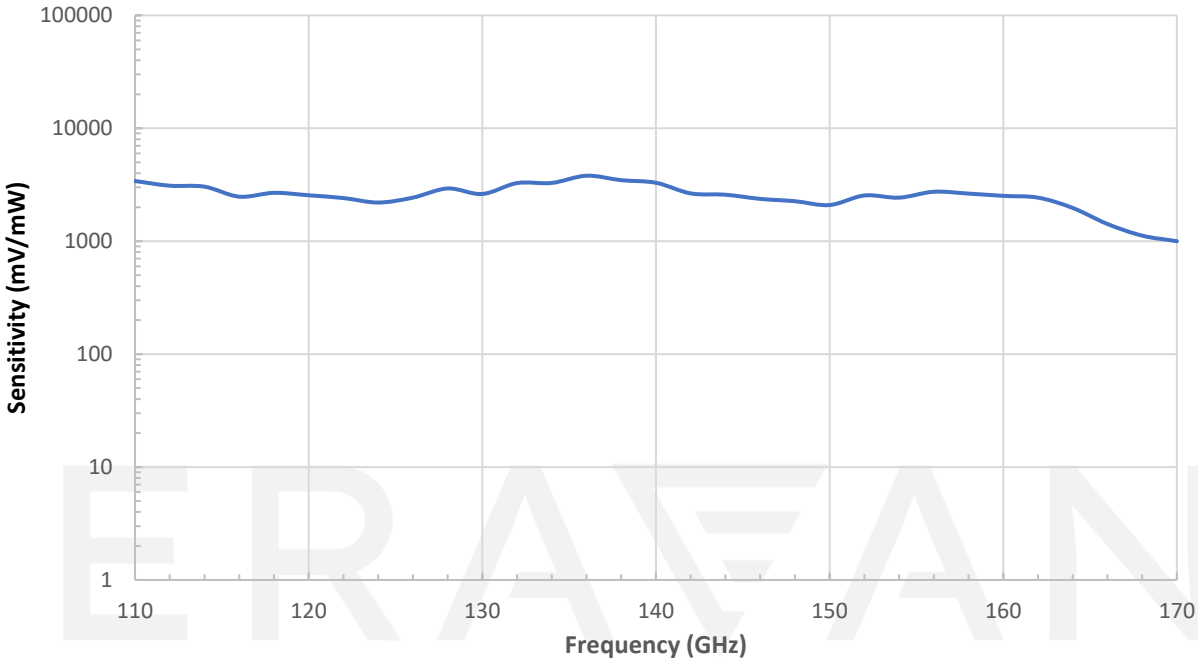
APPLICATIONS

- Test Instrumentations
- THz Systems

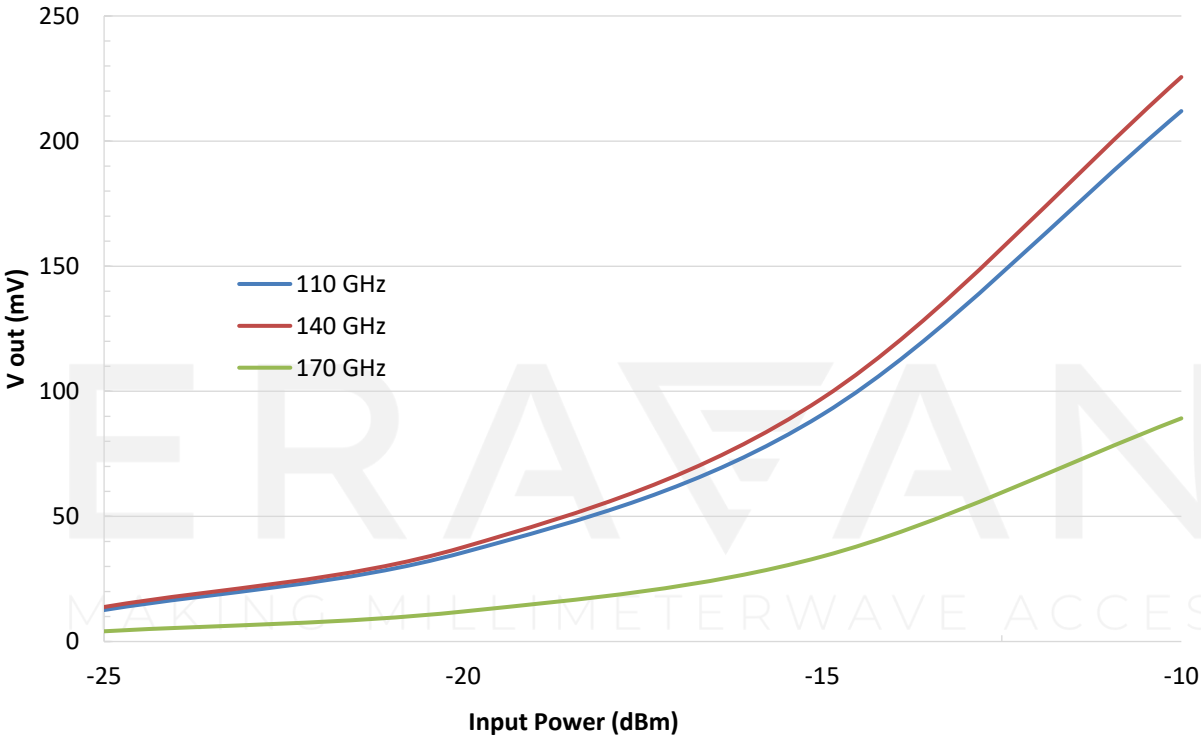
SUPPLEMENTAL DETAILS

Typical Performance vs. Frequency

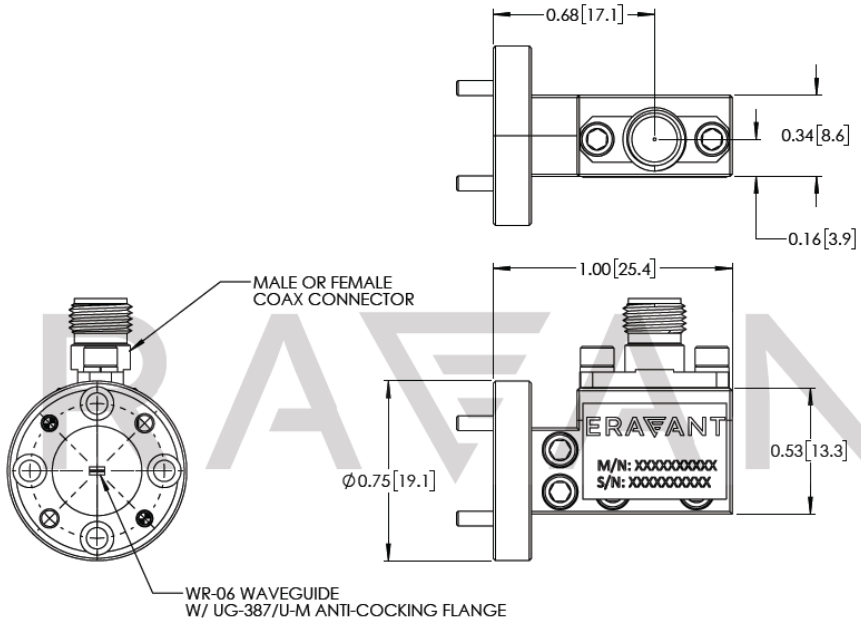
P_{in} = -20 dBm



Typical Detected Voltage vs. Input Power



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.
- All testing was performed under +25˚C case 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 can possibly damage the device.
- 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