



## U-Band Amplitude Detector

### Description:

These detectors are GaAs Schottky beamlead diode based detectors with various RF and DC connector options to suit many different applications. Based on proprietary circuitry design and diode selection, they are zero biased and exhibit high sensitivity and extreme flat output characteristics. These detectors cover the whole WR-19 waveguide bandwidth, from 40.0 GHz to 60.0 GHz. They are designed to have 10 MHz video bandwidth and 1 M $\Omega$  video output impedance and capacity of handling the maximum RF input power up to + 17 dBm.



### Features:

- Broadband operation
- High sensitivity without tuning
- High sensitivity stability

### Applications:

- Radar systems
- Test instrumentations
- Communication systems

### Device Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	40.0 GHz		60.0 GHz
Sensitivity	960 mV/mW	1500 mV/mW	2180 mV/mW
Sensitivity Flatness		$\pm 2.0$ dB	
Video Bandwidth		10 MHz	
Output Voltage Polarity	Negative*		
Device Total Weight		0.32 Oz	

\*Note: Positive output voltage polarity is available under different model number.

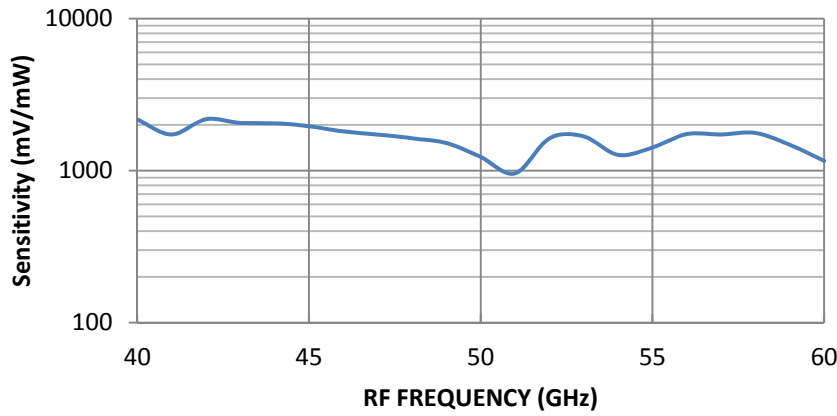
### Ports Specifications:

Port	Connector	Absolute Maximum Ratings
RF	WR-19 Waveguide with UG-383/U-M Flange	+17 dBm
DC	SMA (F) Coaxial Connector	N/A

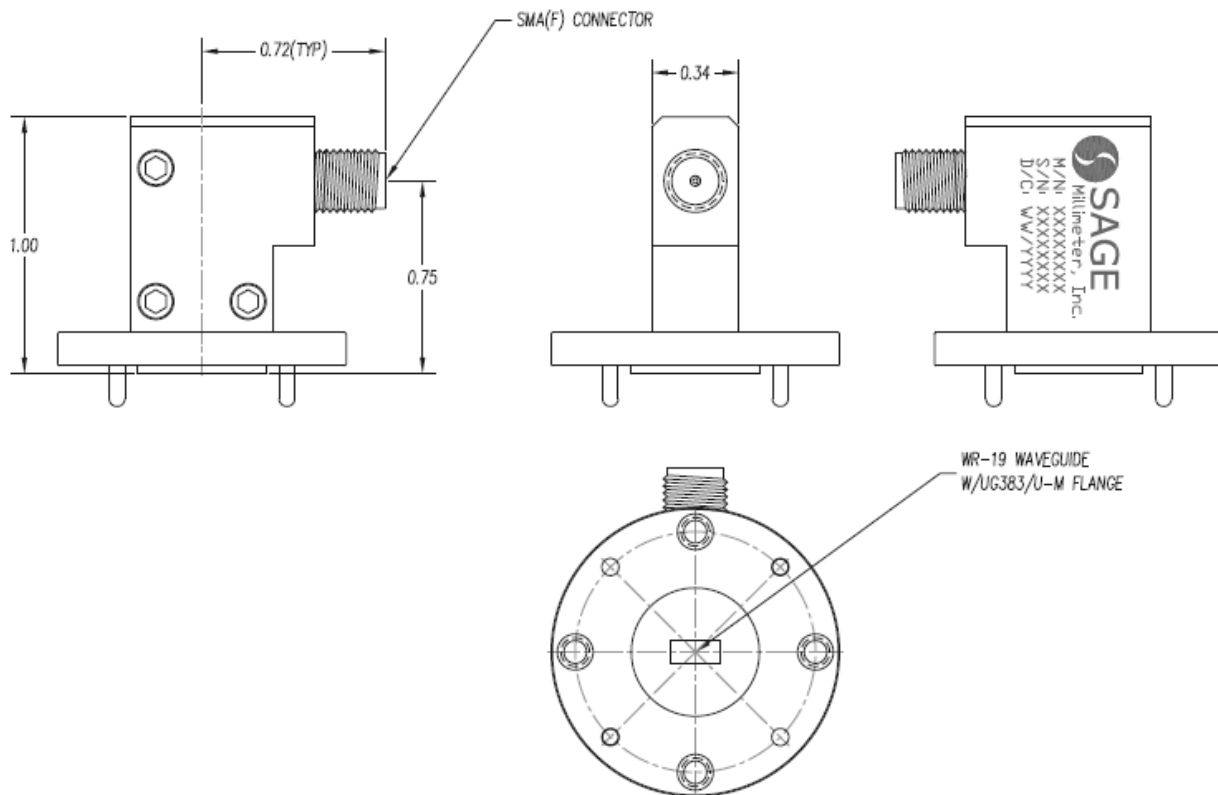


## U-Band Amplitude Detector

**WR-19 Detector Sensitivity @ RF = -20 dBm**



**Mechanical Outline:** (Unless otherwise specified, all dimensions are in inches)



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### Note:

- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.
- All data are presented using a limited sample lot, actual data may vary unit to unit.
- All testing was performed under 25°C case temperature.

### Caution:

- Exceeding absolute maximum ratings of the detector will damage the detector.
- The detector is a static sensitive device. Always follow ESD rules when working with the detector.
- Any foreign objects into the waveguide will destroy the detector.

