



## WR-06 Orthomode Transducer, 110 to 170 GHz, Square Waveguide

### Description

**Model SAT-FD-06506-S1** is a WR-06 orthomode transducer (OMT) that operates between 110 and 170 GHz. The OMT separates a circular or elliptical polarized waveform into two linear, orthogonal waveforms or combines two linear polarized waveforms into one circular or elliptical polarized waveform or vice versa. The OMT also supports either vertical or horizontal polarized waveguide forms with 18 dB cross polarization rejections. The OMT shows high port isolation while providing a low insertion loss. The OMT is configured with a 0.065" x 0.065" square waveguide for the antenna port and two WR-06 waveguides for the horizontal and vertical ports. All ports have standard UG-387/U-M anti-cocking flanges and 4-40 threaded holes.



### Features:

- High Isolation
- Low Insertion Loss
- Full Band Performance

### Applications:

- Radar and Communication Systems
- Antenna Range
- Circular and Linear Waveform Separation and Combination

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	110 GHz		170 GHz
Insertion Loss (A to V Port)		2.5 dB	
Insertion Loss (A to H Port)		2.5 dB	
Isolation (V to H Port)		30 dB	
Cross Polarization (A to V Port)		18 dB	
Cross Polarization (A to H Port)		18 dB	
Return Loss (H Port)		15 dB	
Return Loss (V Port)		15 dB	
Return Loss (A Port, Vertical)		15 dB	
Return Loss (A Port, Horizontal)		15 dB	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

### Mechanical Specifications:

Item	Specification
Antenna Port	0.065" x 0.065" Square Waveguide
Horizontal and Vertical Ports	WR-06 Waveguide
Flange Type	UG-387/U-M Anti-Cocking Flange w/ 4-40 Threaded Holes
Material and Finish	Gold Plated Aluminum
Weight	1.2 Oz
Size	1.30" (L) x 0.80" (W) x 0.80" (H)
Outline	AT-DS-065-F-A

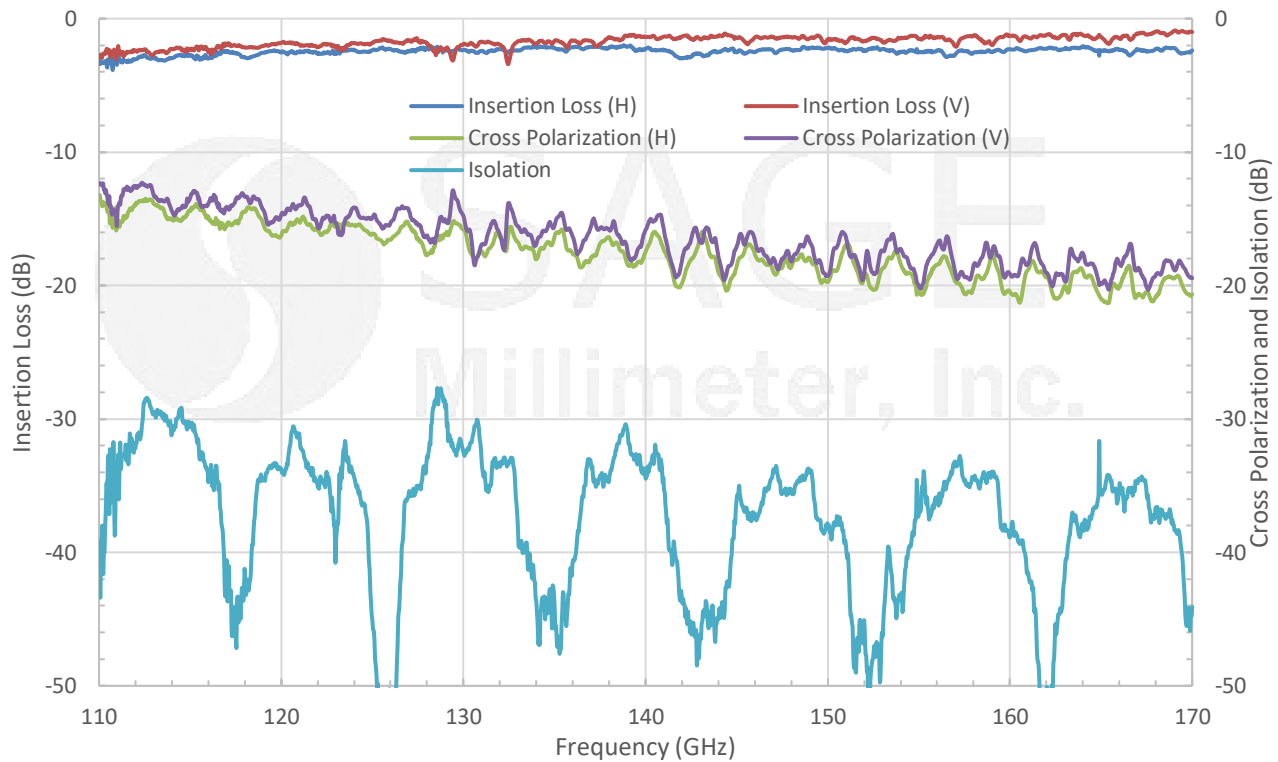


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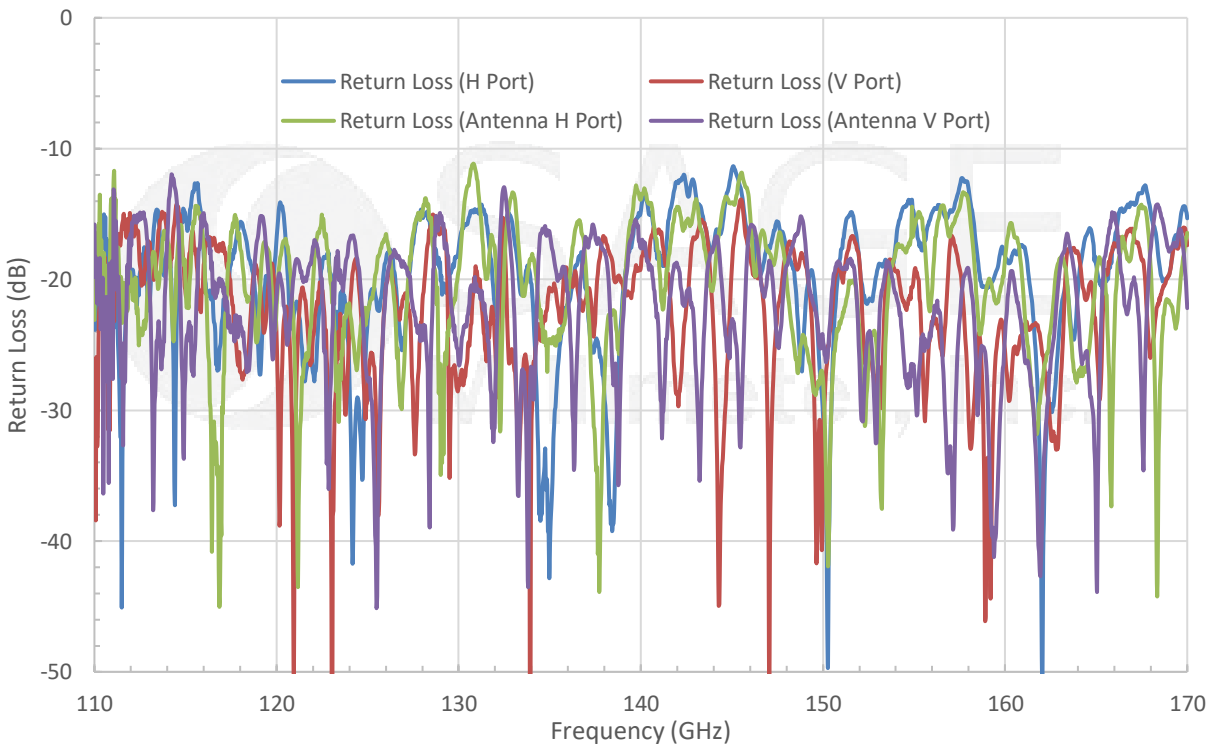


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### Typical Performance vs. Frequency



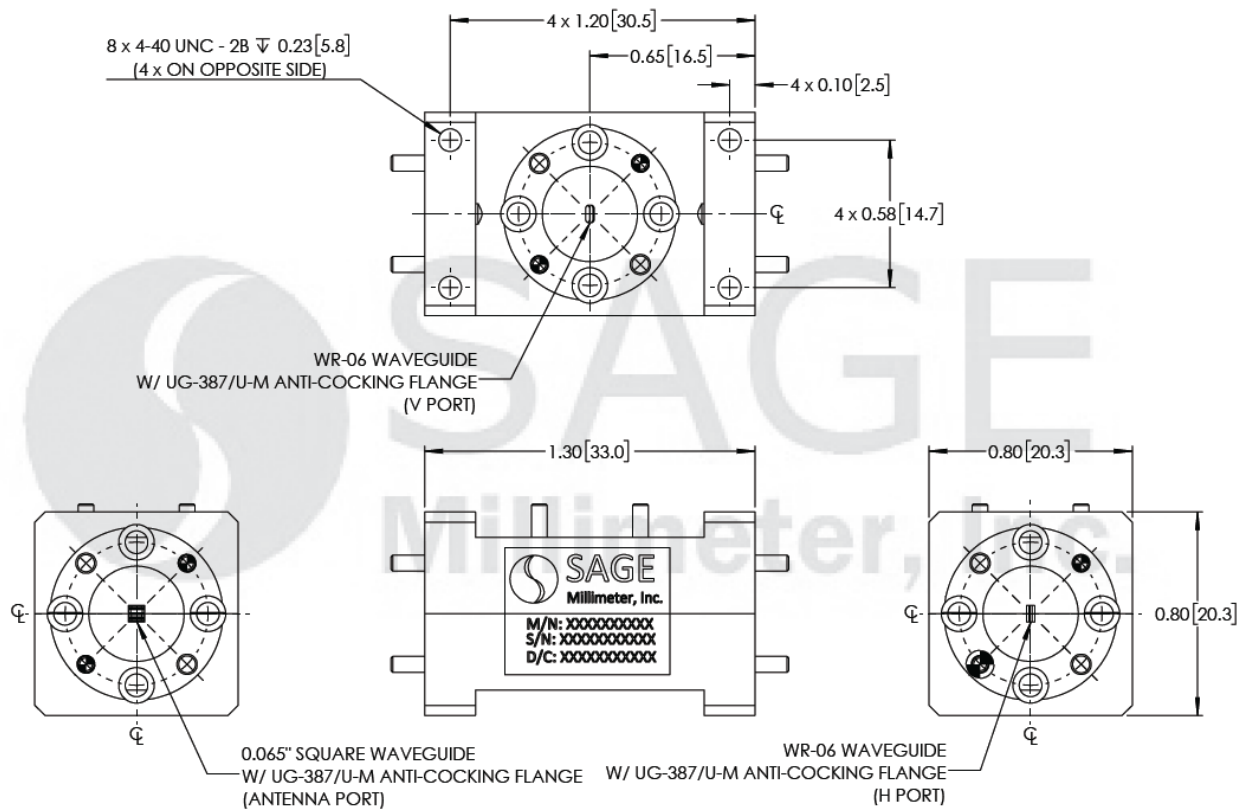
### Typical Return Loss vs. Frequency





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**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 room temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

**Caution:**

- Any foreign objects in the antenna will cause performance degradation and possible device damage.

