

Linear to Circular Polarizer, E Band, 77 GHz

Description:

Model SAS-773-12512-F1 is an E band, linear to circular polarizer that operates at 77 GHz with a ± 6.0 GHz bandwidth. The polarizer offers a maximum insertion loss of 1.0 dB, a maximum axial ratio of 1.2, and a typical return loss of 20 dB. The polarizer is fixed and can be used for either right-handed or left-handed polarization based on the direction of the input signal. The polarizer is often combined with Eravant's rectangular to circular waveguide transition (**SWT-12125-SB**) and WR-12 conical horn antenna (**SAC-2309-125-S2**) for various system applications.



Features:

- Circular Waveguide Interface
- Low Insertion Loss
- Good Axial Ratio

Applications:

- Antenna Ranges
- Waveguide polarization selection
- Radar Systems
- Communication Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Center Frequency		77 GHz	
Bandwidth		± 6.0 GHz	
Insertion Loss		0.5 dB	1.0 dB
Axial Ratio		1.1	1.2
Return Loss		20 dB	15 dB

Mechanical Specifications:

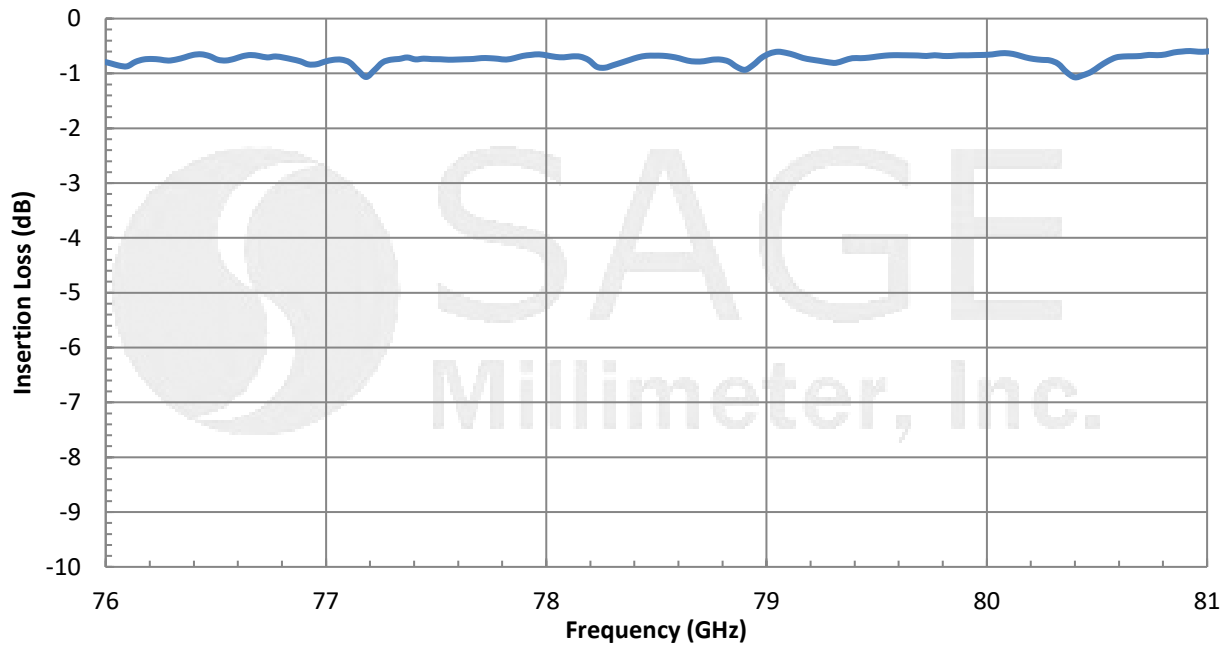
Item	Specification
Waveguide	0.125" Dia Circular Waveguide with UG-387/U-M Flange
Length	1.0"
Case Material	Aluminum
Finish	Gold Plated
Weight	0.8 Oz
Outline	AS-FEB-125



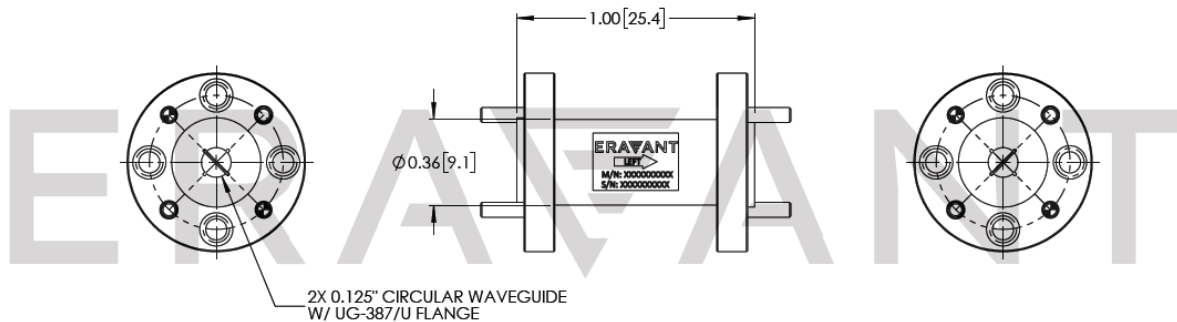


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Typical Insertion Loss vs. Frequency (Back to Back)



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



Note:

- 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.
- The Polarizer is offered as LHCP. However, it can be used as RHCP by reversing the input and output ports.
- Eravant reserves the right to change the information presented without notice.

Caution:

- Any foreign objects in the waveguide will destroy the polarizer.



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LHCP and RHCP Polarization Configuration Notes and Diagram:

- The polarizer's product label indicates the direction of **Left-Handed Circular Polarization (LHCP)**.
- An example configuration diagram is provided below. The diagram indicates the input and output ports and the orientation in which the polarizer is to be attached to the rest of the components to obtain a **LHCP** signal at the output port.
- The polarizer can be configured to obtain a **Right-Handed Circular Polarized (RHCP)** signal at the output port by reversing the input and output ports as shown in the second diagram.

