

SAS-153-59462-F1

Linear to Circular Polarizer, Ku Band

SAS-153-59462-F1 is a Ku band, linear to circular polarizer that operates to cover the waveguide bandwidth from 12.4 to 18 GHz. The polarizer offers a typical insertion loss of 0.5 dB, a typical axial ratio of 1.2, and a typical return loss of 15 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 Eravants's rectangular to circular waveguide transition (**SWT-62594-SA**), Ku band conical horn antenna (**SAC-2309-594-M2**) and scalar feed horn antenna (**SAF-1331831725-594-S1**) for various system applications.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	12.4 GHz	15.2 GHz	18.0 GHz
Bandwidth		±2.8 GHz	
Insertion Loss		0.5 dB	
Axial Ratio		1.2	
Return Loss		15 dB	
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

Mechanical Specifications:

Item	Specification
Waveguide	Ø 0.594" Circular Waveguide with UG-419/U-M Flange
Length	3.0"
Case Material	Aluminum
Inner Finish	Silver Plated
Outer Finish	Black Paint
Weight	3.2 oz
Outline	AS-F6-M

ECCN

EAR99

FEATURES

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

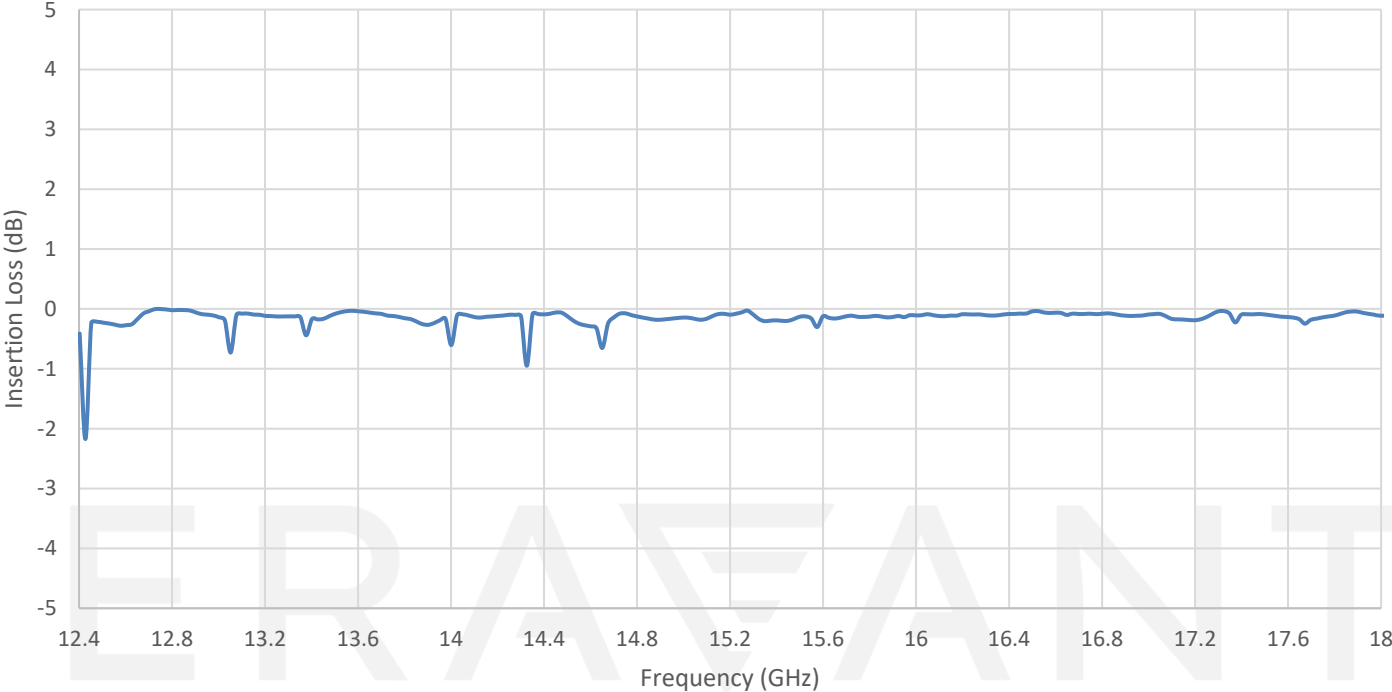
APPLICATIONS

- Antenna Ranges
- Waveguide Polarization Selection
- Radar Systems
- Communication Systems

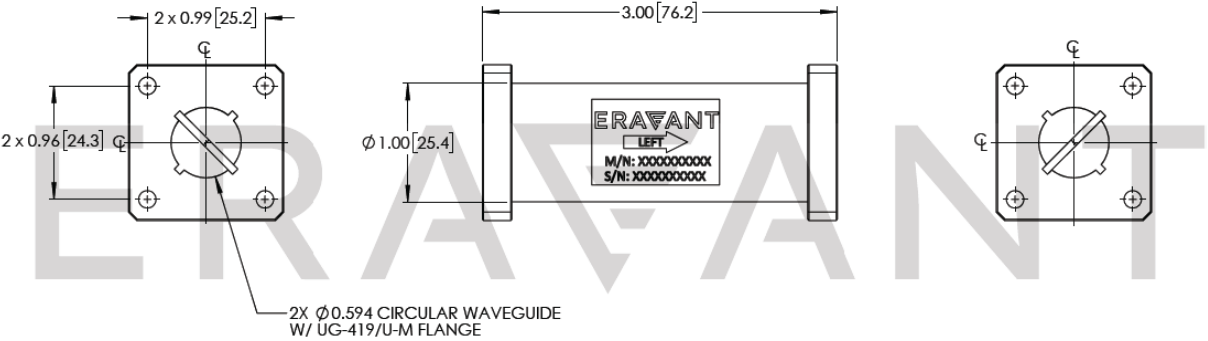
SUPPLEMENTAL DETAILS



Typical Insertion Loss vs Frequency



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



NOTE:

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

CAUTION:

- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.

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.

