

## V-Band Faraday Isolator

### Description:

**Model STF-15-S1** is a full band Faraday isolator that operates from 50 to 75 GHz. The Faraday isolator is constructed with a longitudinal, magnetized ferrite rod that causes a Faraday rotation of the incoming RF signal. The Faraday isolator offers 28 dB typical isolation and 1.5 dB nominal insertion loss with good flatness. The return loss of the isolator is 16 dB. The input and output ports are WR-15 waveguides with UG-385/U flanges.



### Features:

- Full Waveguide Band Operation
- Moderate Insertion Loss
- High Isolation
- Instrumentation Grade

### Applications:

- Test Labs
- Instrumentations
- Sub-assemblies

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Frequency	50 GHz		75 GHz
Insertion Loss		1.5 dB	1.8 dB
Isolation		28 dB	
Return Loss		16 dB	
Power Handling		1.0 W (CW)	1.2 W (CW)
Specification Temperature		+25 °C	
Operation Temperature	-40 °C		+85 °C

### Mechanical Specifications:

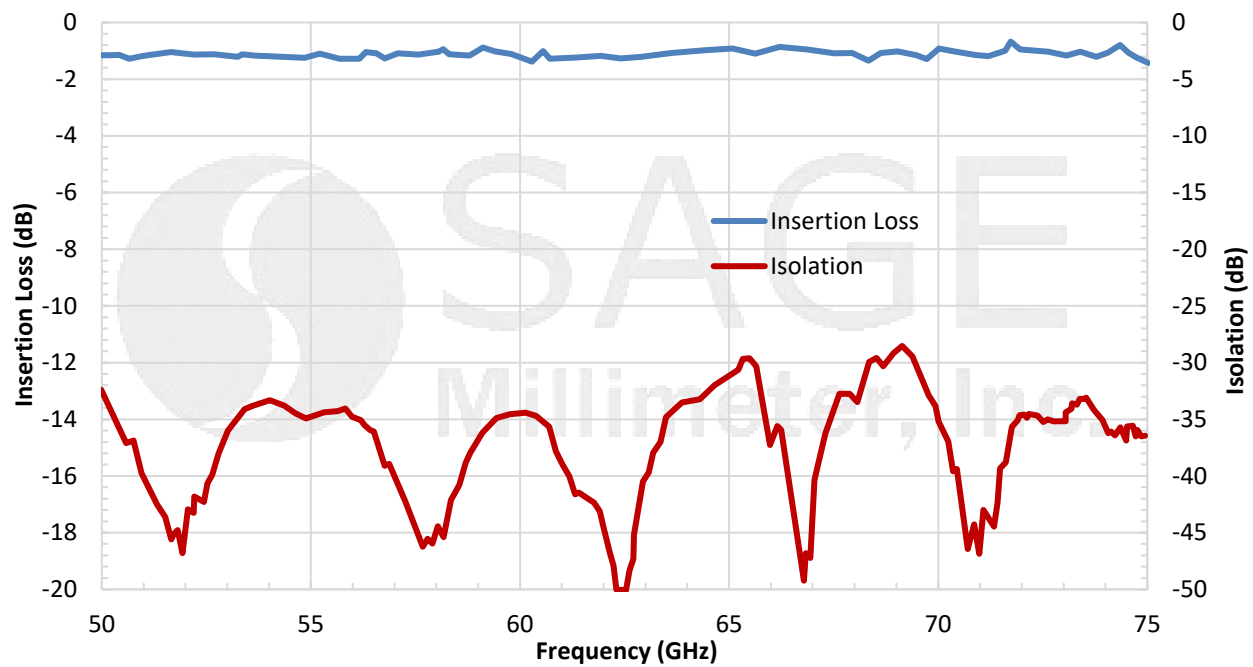
Item	Specification
RF Input and Output	WR-15 Waveguide with UG-385/U Flange
Waveguide Flange Material	Brass
Waveguide Flange Finish	Gold Plated
Cover Material	Aluminum
Cover Finish	Black Anodized
Weight	2.2 Oz
Insertion Length	2.5"
Outline	TF-SV



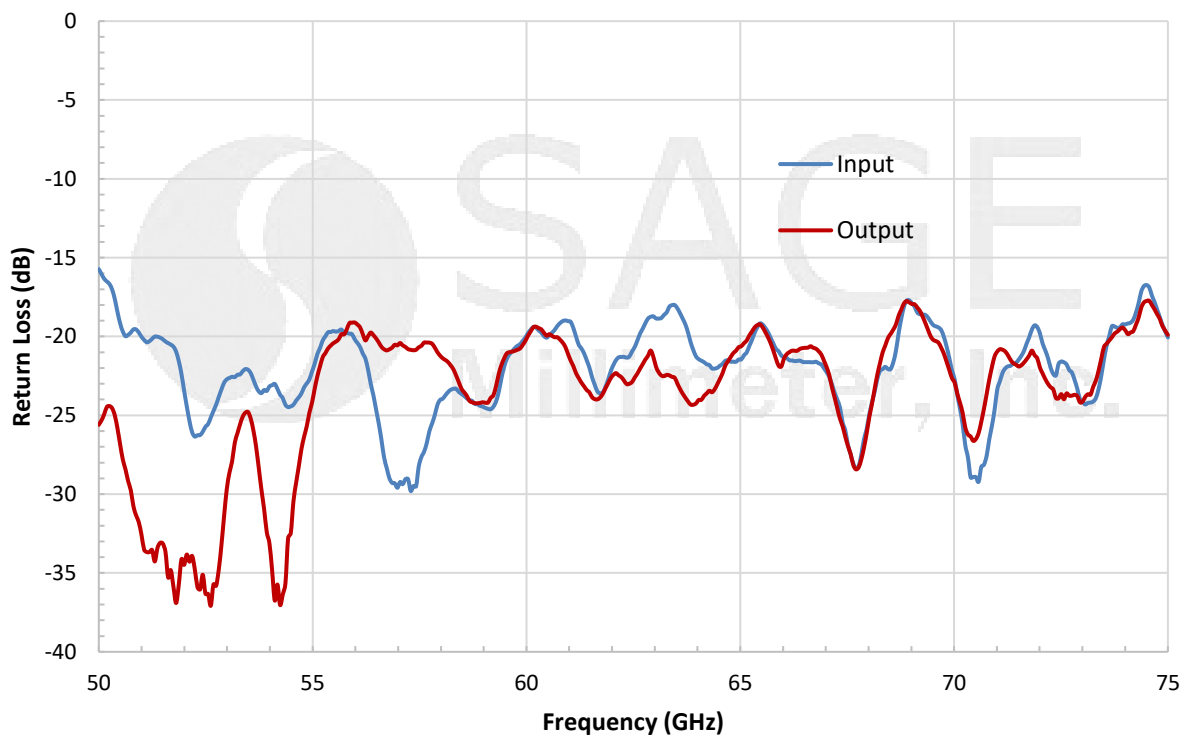


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### Typical Performance vs. Frequency



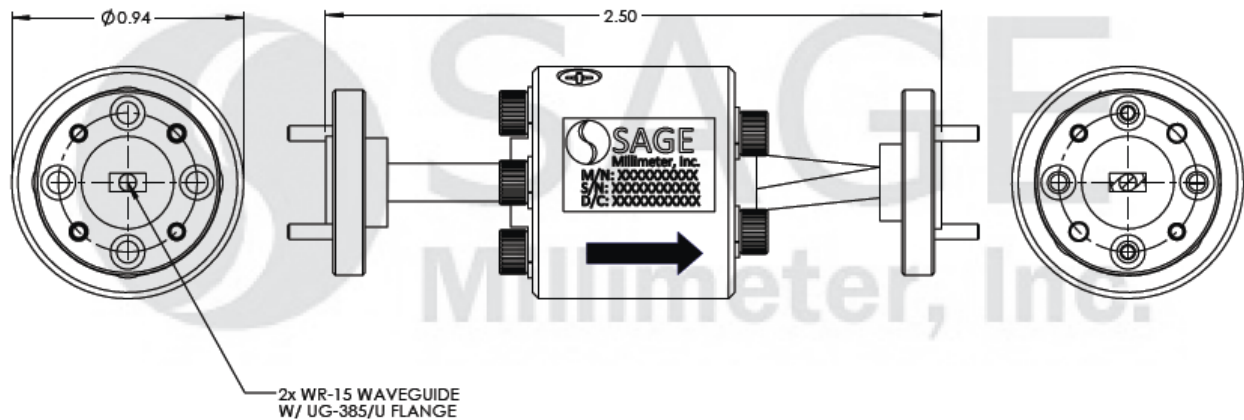
### Typical Return Loss vs. Frequency





## V-Band Faraday Isolator

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



**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 model with orthogonal input and output ports is offered under model number **STF-15-91**.
- The compact version is offered under model number **STF-15-S1-C**.
- Other custom mechanical configurations are available under different model numbers.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

**Caution:**

- Exceeding absolute maximum ratings will damage the device.
- The device is sensitive to magnetic fields. Always keep magnet fields 6 inches away.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.

