

## STF-19-91

### U-Band Faraday Isolator, 90° Twist Input

**STF-19-91** is a full band Faraday isolator that operates from 40 to 60 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 30 dB typical isolation and a 1.3 dB nominal insertion loss with good flatness. The return loss of the isolator is 16 dB. The input and output ports are WR-19 waveguides with UG-383/U-M flanges and features a 90° twist.



### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	40 GHz		60 GHz
Insertion Loss		1.3 dB	
Isolation		30 dB	
Return Loss		16 dB	
Power Handling		1.5 W (CW)	2.0 W (CW)
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

### Mechanical Specifications:

Item	Specification
RF Input and Output	WR-19 Waveguide with UG-383/U-M Flange
Waveguide Flange Material	Brass
Waveguide Flange Finish	Gold Plated
Cover Material	Aluminum
Cover Finish	Black Anodized
Weight	5.0 Oz
Insertion Length	2.69"
Outline	TF-SU-9

### ECCN

EAR99

### FEATURES

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

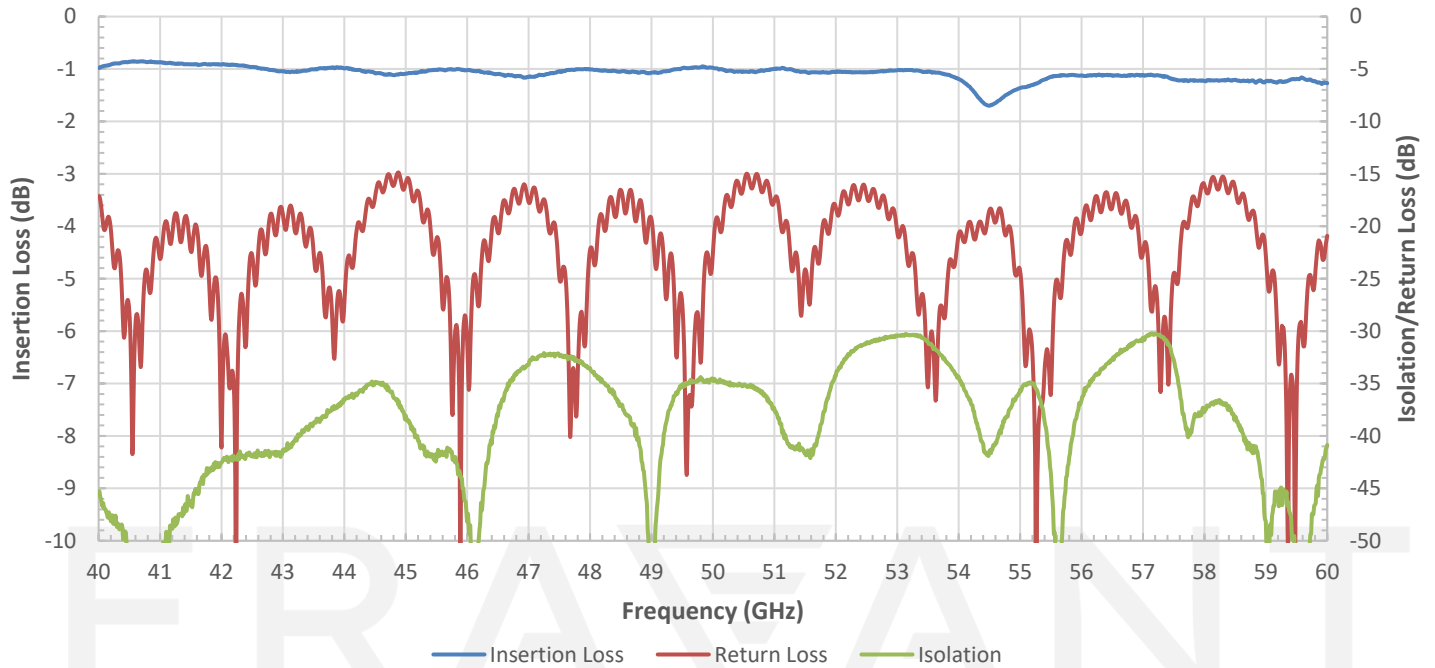
### APPLICATIONS

- Test Lab
- Instrumentations
- Sub-assemblies

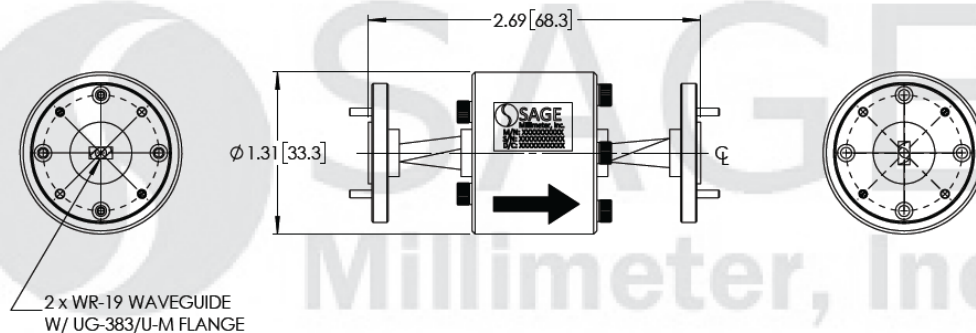
### SUPPLEMENTAL DETAILS



### Typical Measured Performance vs Frequency



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



#### NOTE:

- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- On condition that simulated test data is provided, actual measured data may slightly vary.
- The model with orthogonal input and output ports is offered under model number **STF-19-91**.
- Other custom mechanical configurations are available under different model numbers.
- Eravant 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 magnetic fields 6 inches away.
- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.