STF-12-S1-WP

E-Band Faraday Isolator

STF-12-S1-WP is a full band Faraday isolator that operates from 60 to 90 GHz. The Faraday isolator is constructed with a longitudinal, magnetized ferrite rod that causes a Faraday rotation of the incoming RF signal. The isolator offers 3.0 dB typical insertion loss and 28 dB nominal isolation with good flatness. The return loss of the isolator is 16 dB. The input and output ports are WR-12 waveguides with UG-387/U anti-cocking flanges.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Frequency	60 GHz		90 GHz
Insertion Loss		3.0 dB	
Isolation		28 dB	
Return Loss		16 dB	
Power Handling		1.0 W (CW)	1.2 W (CW)
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

Mechanical Specifications:

Item	Specification
RF Input/Output Ports	WR-12 Waveguide with UG-387/U Anti-Cocking Flange
Waveguide Flange Material	Brass
Waveguide Flange Finish	Gold Plated
Cover Material	Aluminum
Cover Finish	Black Anodized
Weight	2.45 Oz
Insertion Length	2.5”
Outline	TF-SE-A

ECCN

EAR99

FEATURES

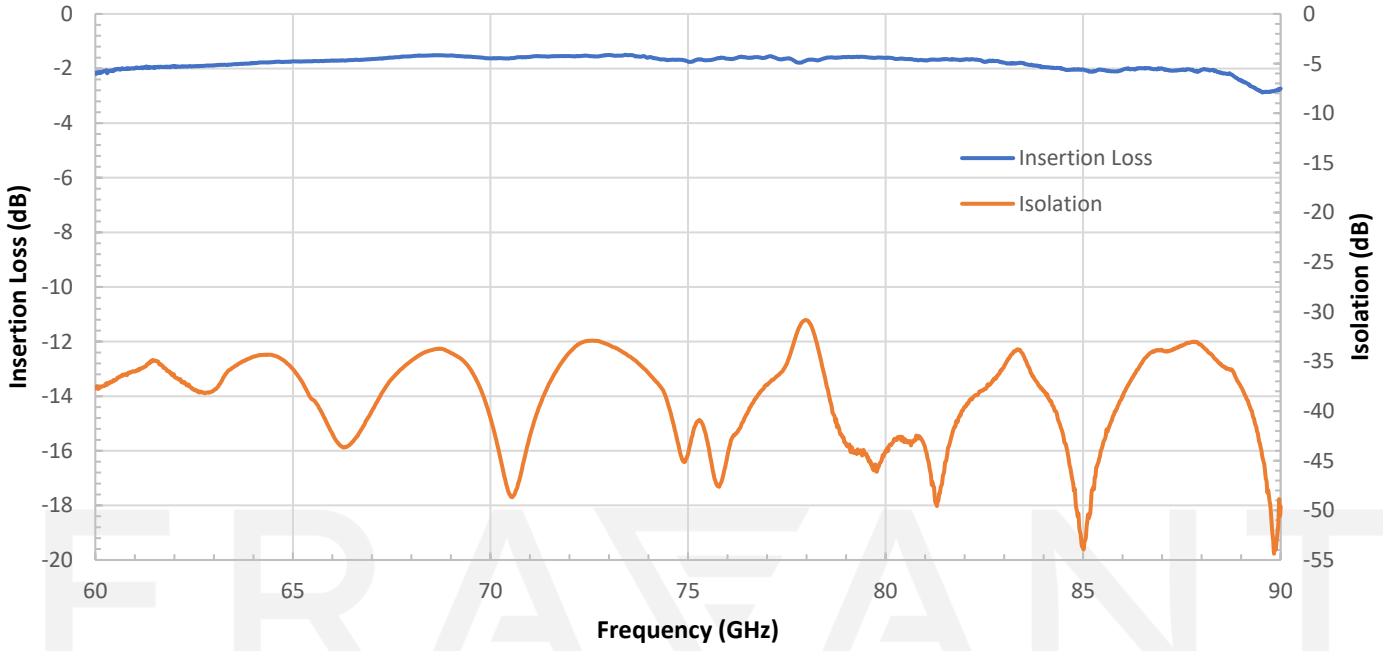
- Full Waveguide Band Operation
- Moderate Insertion Loss
- High Isolation
- Instrumentation Grade

APPLICATIONS

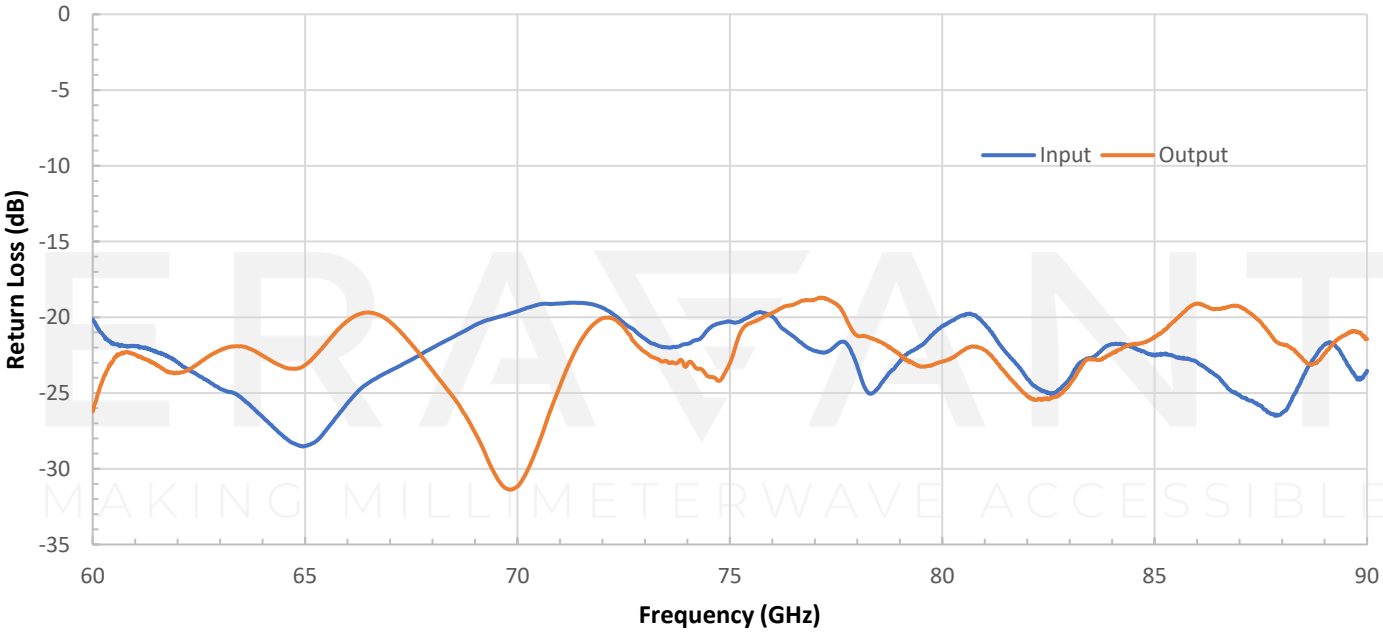
- Test Lab
- Instrumentations
- Sub-assemblies

SUPPLEMENTAL DETAILS

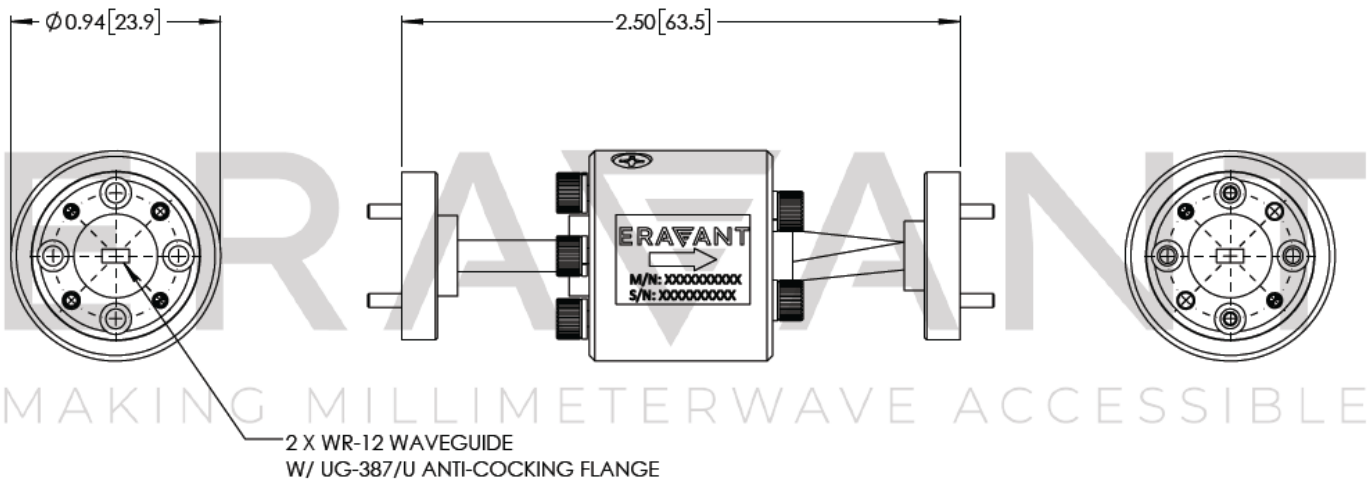
Typical Performance vs. Frequency



Typical Performance vs. Frequency



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 slightly from unit to unit. All testing is performed under +25 °C room temperature.
- The model with orthogonal input and output ports is offered under model number STF-12-91.
- The compact version is offered under model number STF-12-S1-C.
- 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.
- Any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- For 1 mm connectors proper torque should be applied: 4.0 ± 0.15 inch-pounds (0.45 ± 0.02 Nm). Torque wrench model SCH-06004-S1 is highly recommended.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model SCH-08008-S1 is highly recommended.