

## STF-12-S1-C

### E-Band Full Waveguide Band Compact Faraday Isolator

**STF-12-S1-C** 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 compact, robust package is ideal for system integration and testing applications. The Faraday isolator offers 28 dB typical isolation and 1.5 dB nominal insertion loss with good flatness. The input and output ports are WR-12 waveguides with UG-387/U anti-cocking flanges. A 90° twist configuration is available under model number STF-12-91-C.



#### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Frequency	60 GHz		90 GHz
Insertion Loss		1.5 dB	2.0 dB
Isolation		28 dB	
Return Loss		14 dB	
Power Handling		1.2 W (CW)	1.5 W (CW)
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

#### Mechanical Specifications:

Item	Specification
RF Input/Output	WR-12 Waveguide with UG-387/U Anti-Cocking Flange
Material	Aluminum
Finish	Gold Plated and Black Anodized
Weight	0.8 Oz
Insertion Length	1.0"
Outline	TF-SE-A-C

#### ECCN

EAR99

#### FEATURES

- Full Waveguide Band Operation
- Moderate Insertion Loss
- High Isolation
- Compact Form Factor

#### APPLICATIONS

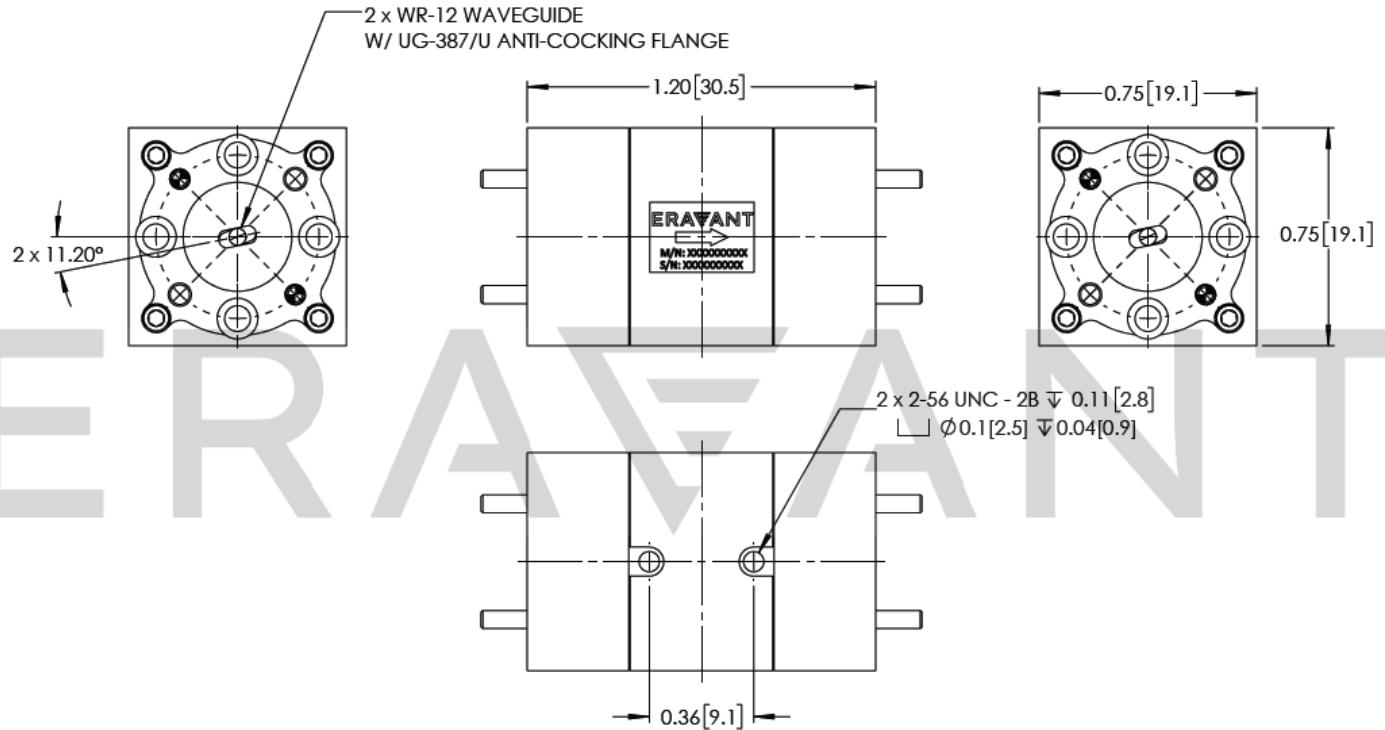
- Test Lab
- Instrumentations
- Sub-assemblies

#### SUPPLEMENTAL DETAILS



## STF-12-S1-C

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



### NOTE:

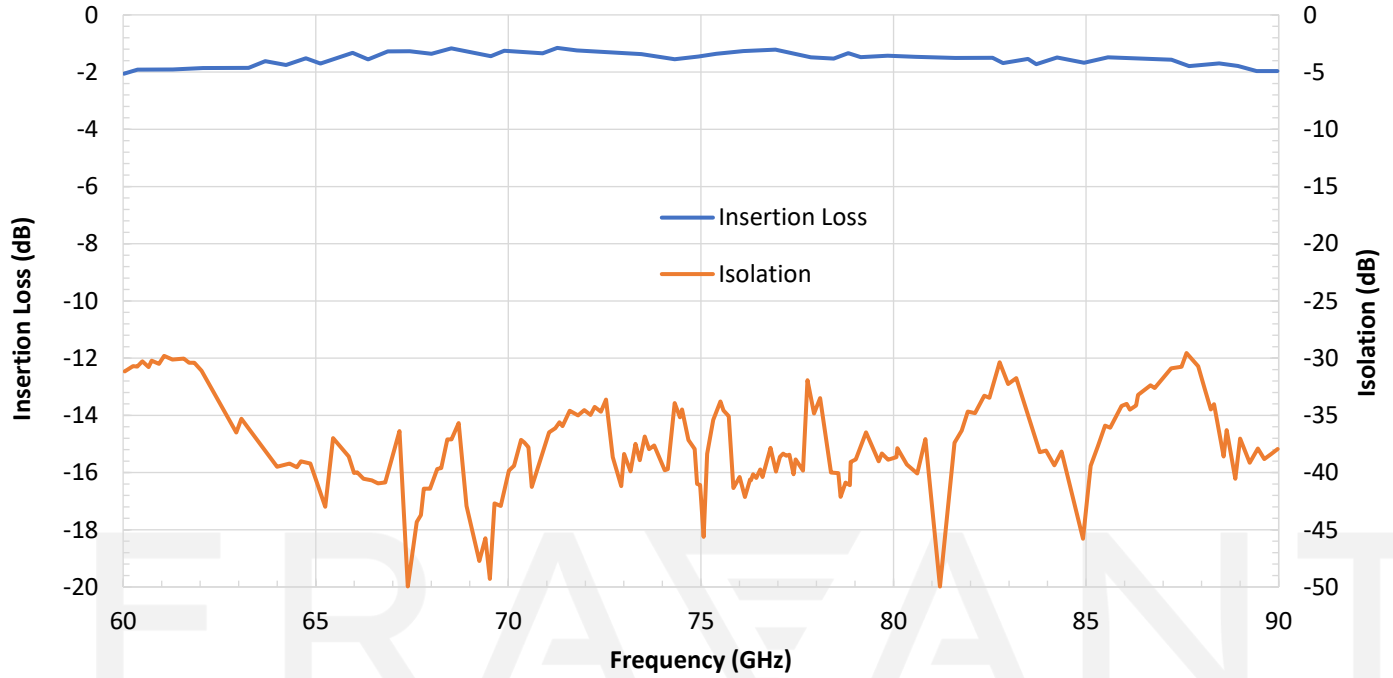
- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- On condition that simulated test data is provided, actual measured data may slightly vary.
- The compact model with orthogonal input and output port is offered under model number **STF-12-91-C**.
- The standard model is offered under **STF-12-S1**.
- 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. Keep the device at least 6" away from magnetic fields.
- If a waveguide is present, 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:  $4.0 \pm 0.15$  inch-pounds ( $0.45 \pm 0.02$  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:  $8.0 \pm 0.15$  inch-pounds ( $0.90 \pm 0.02$  Nm). Torque wrench model [SCH-08008-S1](#) is highly recommended.

## STF-12-S1-C

### Typical Insertion Loss and Isolation vs. Frequency



### Typical Return Loss vs. Frequency

