

## STF-22-S1

### Q-Band Faraday Isolator

**STF-22-S1** is a full band Faraday isolator that operates from 33 to 50 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 1.2 dB nominal insertion loss with good flatness. The return loss of the isolator is 16 dB. The input and output ports are WR-22 waveguides with UG-383/U anti-cocking flanges.



#### Electrical Specifications:

| Parameter                 | Minimum | Typical    | Maximum    |
|---------------------------|---------|------------|------------|
| Frequency                 | 33 GHz  |            | 50 GHz     |
| Insertion Loss            |         | 1.2 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 Ports                  | WR-22 Waveguide with UG-383/U Anti-Cocking 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-SQ-A                                           |

#### ECCN

EAR99

#### FEATURES

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

#### APPLICATIONS

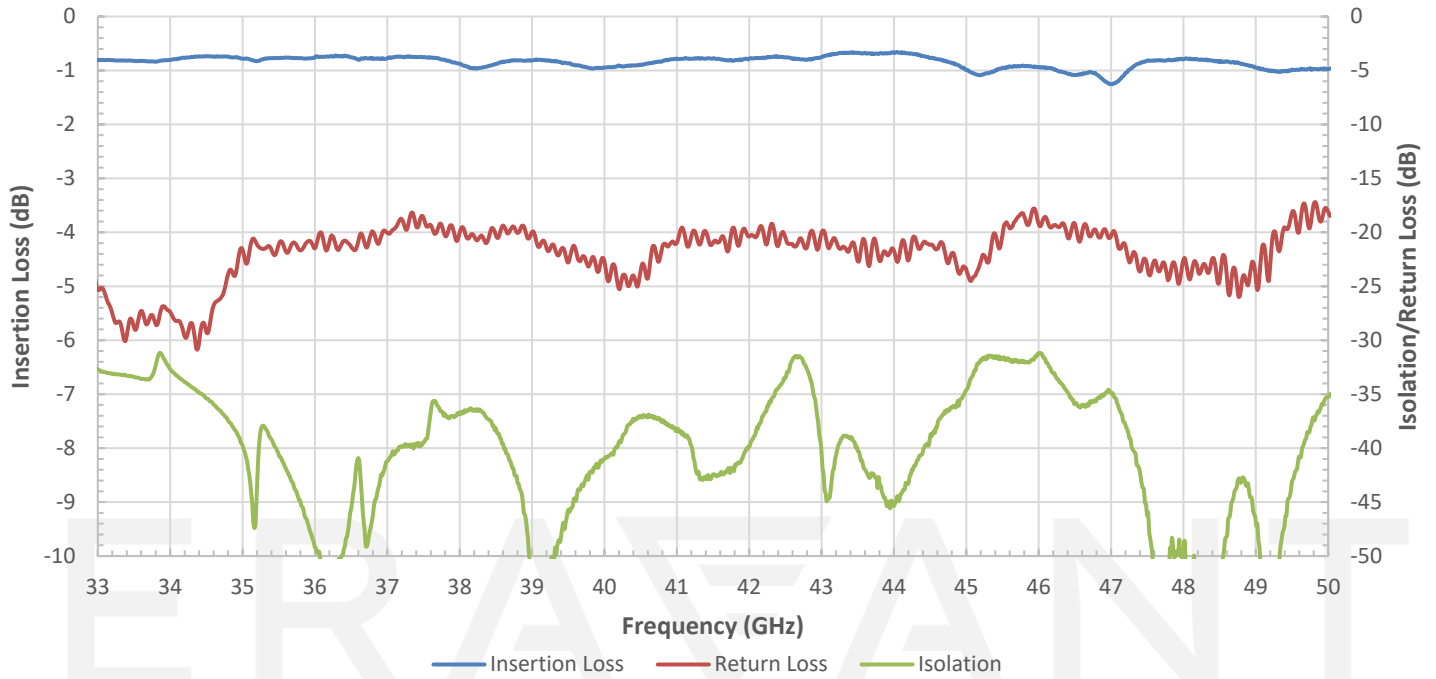
- Test Labs
- Instrumentations
- Sub-assemblies

#### SUPPLEMENTAL DETAILS

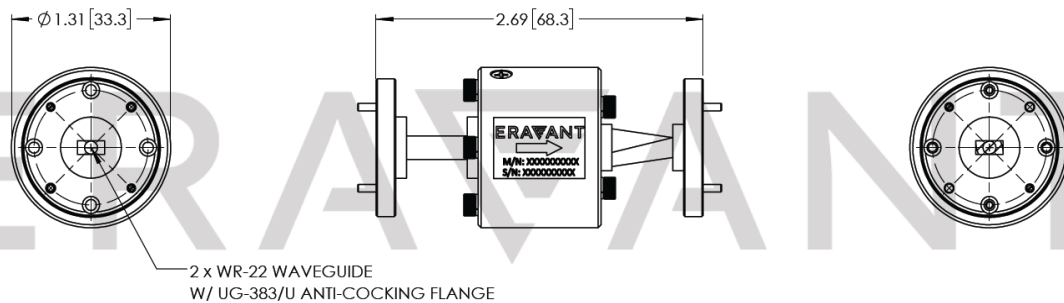


## STF-22-S1

### 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.
- The model with orthogonal input and output ports is offered under model number STF-22-91.
- 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 magnet 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.