



W-Band Full Waveguide Band Compact Faraday Isolator, 90° Twist

Description:

Model STF-10-91-C is a full band Faraday isolator that operates from 75 to 110 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 and features a 90° twist between the input port and output port. 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-10 waveguides with UG-387/U-M flanges. An in-line configuration is available under model number STF-10-S1-C.



Features:

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

Applications:

- Test Labs
- Instrumentations
- Sub-assemblies

Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---------------------------|---------|------------|------------|
| RF Frequency | 75 GHz | | 110 GHz |
| Insertion Loss | | 1.5 dB | 2.2 dB |
| Isolation | | 28 dB | |
| Return Loss | | 15 dB | |
| Power Handling | | 1.0 W (CW) | 1.2 W (CW) |
| Specification Temperature | | +25 °C | |
| Operation Temperature | -40 °C | | +85 °C |

Mechanical Specifications:

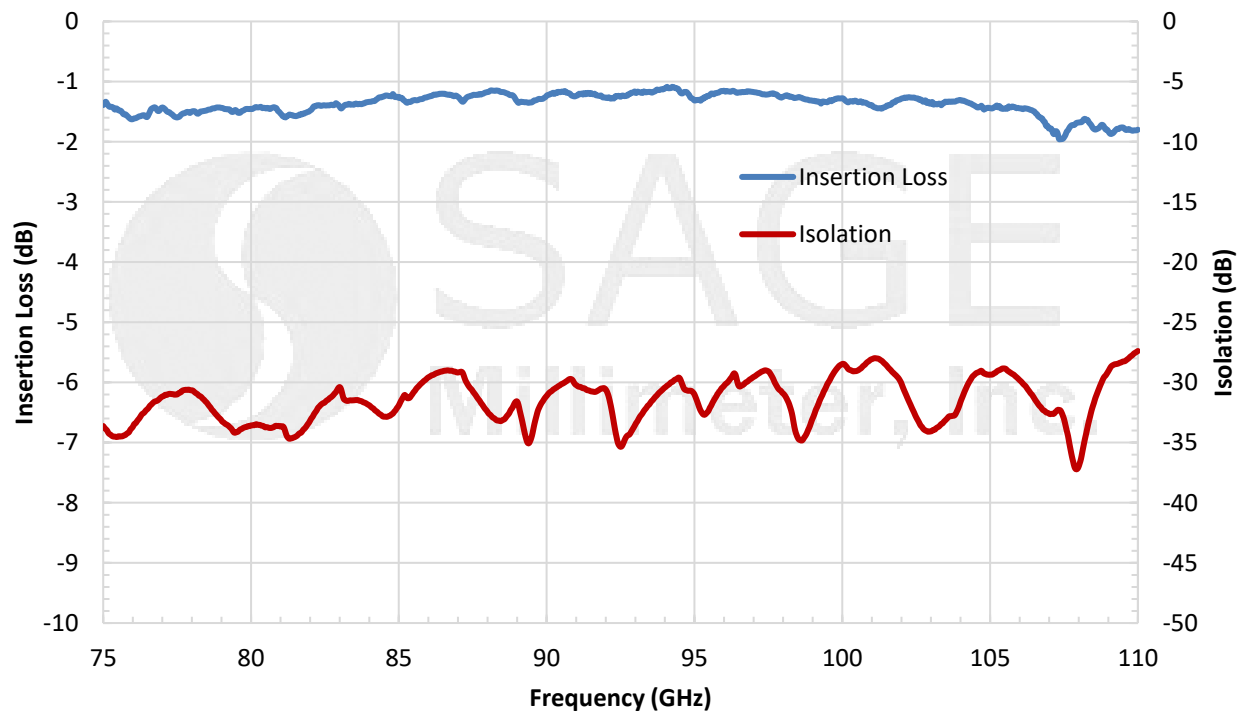
| Item | Specification |
|---------------------------|--|
| RF Input and Output Ports | WR-10 Waveguide with UG-387/U-M Flange |
| Material | Aluminum |
| Finish | Gold Plated and Black Anodized |
| Weight | 0.8 Oz |
| Insertion Length | 1.0" |
| Outline | TF-SW-9C |



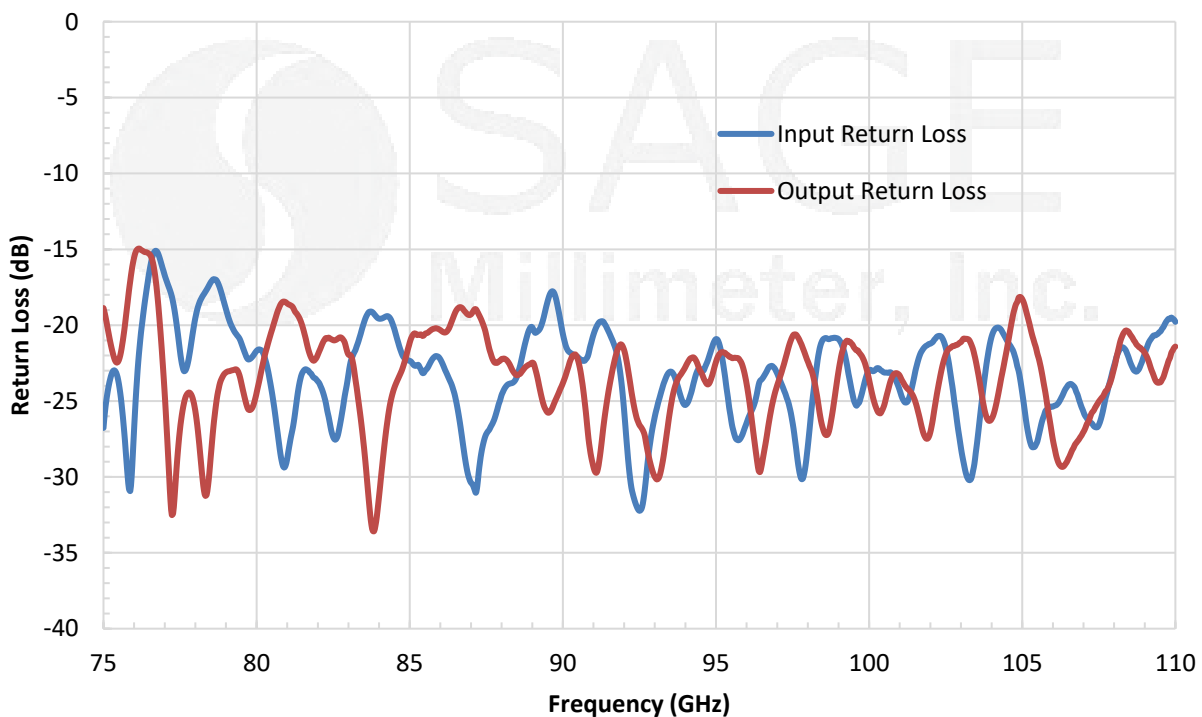


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Typical Insertion Loss and Isolation vs. Frequency



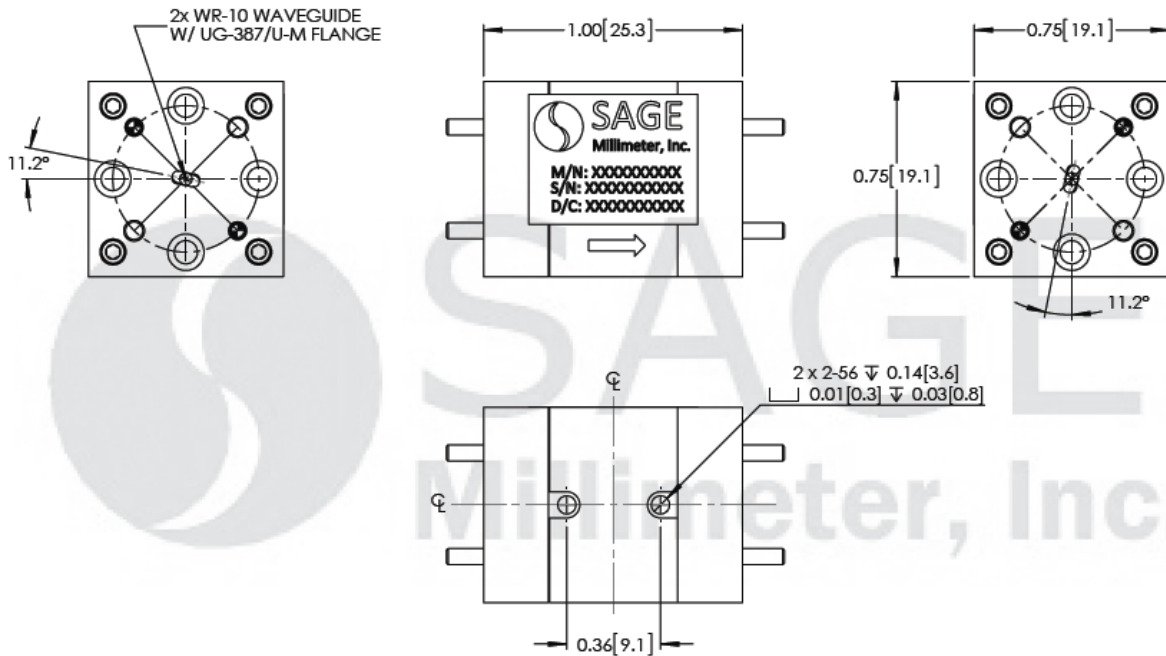
Typical Return Loss vs. Frequency





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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 unit to unit.
- All testing was performed under +25°C case temperature.
- The standard compact model is offered under model number **STF-10-S1-C**.
- The standard model is offered under model number **STF-10-S1**.
- 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 may damage the device.

