

STF-10-91-M2-WP

W-Band, Mini Faraday Isolator, 0.658" Insertion Length, 90° Twist

STF-10-91-M2-WP is a WR-10 miniature Faraday isolator that operates from 75 to 110 GHz. The isolator utilizes a novel magnetic design with precision machined housings to achieve the smallest Faraday isolator package size offered by Eravant. Due to the nature of the magnetic configuration, the isolator's performance is stable and resistant to external stray magnetic fields. The compact, robust package is highly ideal for system integration and subassemblies where space is at a premium and allows for backside access for waveguide screws. The isolator offers 19 dB typical isolation and 1.5 dB typical insertion loss. The input and output ports are WR-10 waveguides with UG-387/U-M anti-cocking flanges and are twisted 90° with respect to each other. An inline version of this isolator is available under model **STF-10-S1-M2**.



Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---------------------------|---------|---------|-------------|
| Frequency Range | 75 GHz | | 110 GHz |
| Insertion Loss | | 1.5 dB | |
| Isolation | | 19 dB | |
| Return Loss | | 18 dB | |
| Power Handling | | | 100 mW (CW) |
| Specification Temperature | | +25 °C | |
| Operating Temperature | -40 °C | | +85 °C |

Mechanical Specifications:

| Item | Specification |
|------------------|---|
| RF Ports | WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange |
| Insertion Length | 0.658" |
| Material | Aluminum |
| Finish | Gold Plated |
| Weight | 0.6 Oz |
| Outline | TF-SW-A-9M-0.658 |

ECCN

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FEATURES

- Full Band Coverage
- Low Insertion Loss
- High Isolation
- Compact Form Factor
- Resistant to Stray Magnetic Fields
- Backside Flange Screw Access
- 90 Degree Twist

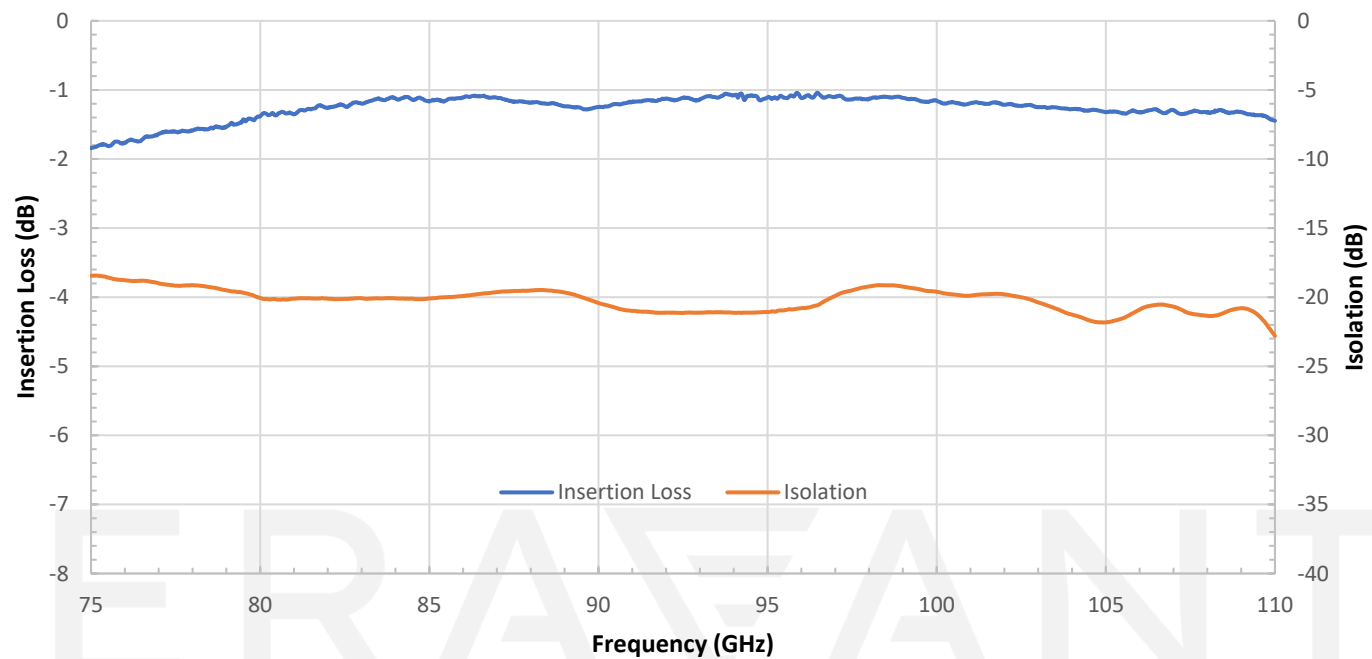
APPLICATIONS

- Test Lab
- Instrumentations
- Subassemblies

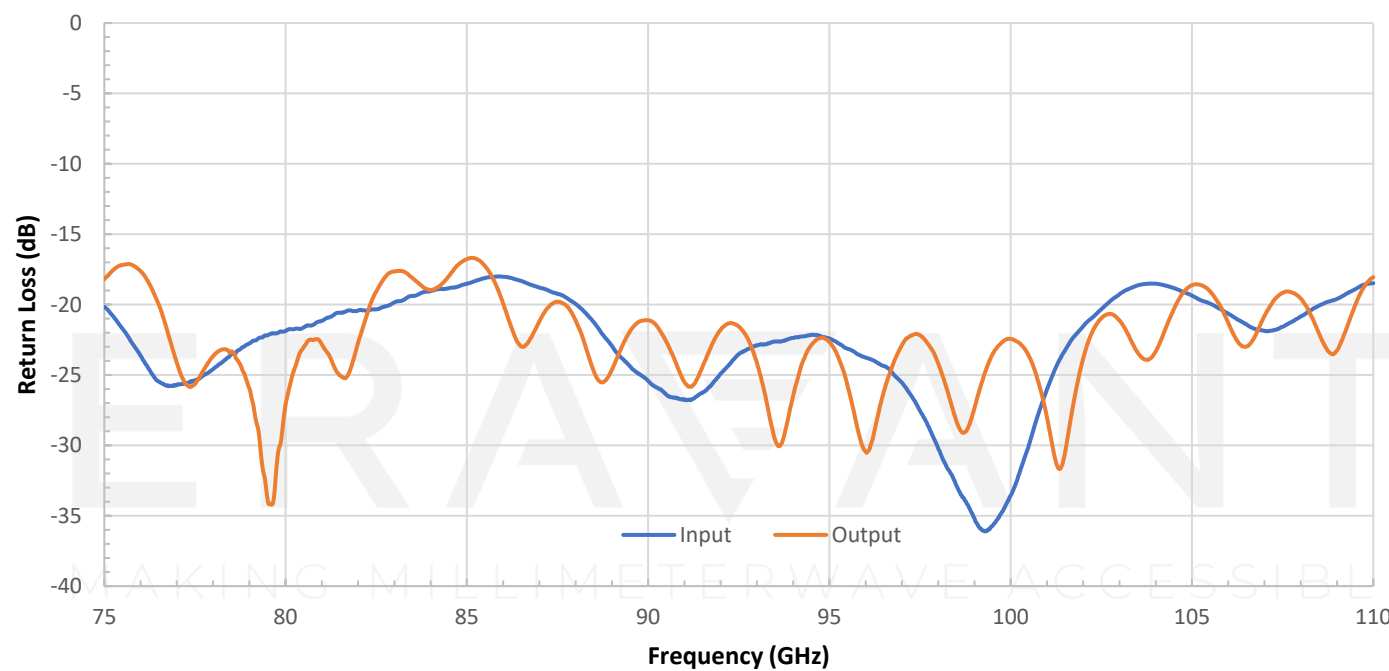
SUPPLEMENTAL DETAILS



Typical Insertion Loss and Isolation vs. Frequency

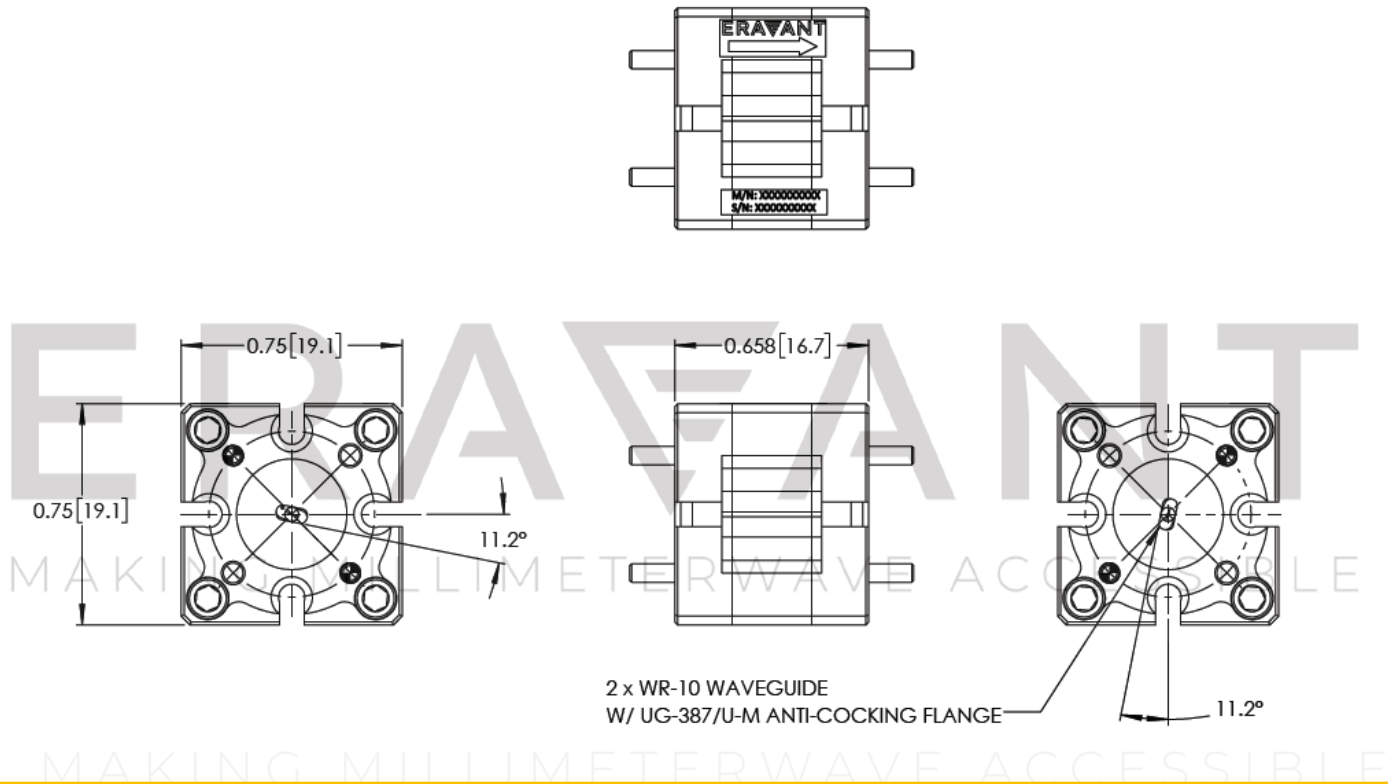


Typical Return Loss vs. Frequency



STF-10-91-M2-WP

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.
- **Extended bandwidth data presented is for reference only.**
- All testing is performed under +25 °C room temperature.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Exceeding absolute maximum ratings will damage the device.
- The mini isolator exhibits a moderately strong magnetic field around its package. Keep devices that are sensitive to magnetic fields at least 2" away from the mini isolator.
- The mini isolator is resistant to stray magnetic fields. However, any magnets or devices that exhibit magnetic fields with a very strong, axially focused component will interfere with the operation of the isolator. Keep such magnets or devices at least 6" away from the mini isolator.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.