STF-12-S1-M

Rev 1.0

E-Band, Mini Faraday Isolator, 0.75” Insertion Length

Description:

Model STF-12-S1-M is a WR-12 miniature Faraday isolator that operates from 60 to 90 GHz. The mini 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 mini 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. The mini isolator offers 23 dB typical isolation and 1.8 dB typical insertion loss. The input and output ports are WR-12 waveguides with UG-387/U anti-cocking flanges. Other mechanical configurations, such as block cavity type housings that allow rear access for waveguide screws, are available under different model numbers.

Features:

- Full Waveguide Band Operation
- Low Insertion Loss
- High Isolation
- Compact Form Factor
- Resistant to Stray Magnetic Fields

Applications:

- Test Labs
- Instrumentations
- Sub-assemblies

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	60 GHz		90 GHz
Insertion Loss		1.8 dB	
Isolation		23 dB	
Return Loss		15 dB	
Power Handling			0.1 W (CW)
Specification Temperature		+25 °C	
Operation Temperature	-40 °C		+85 °C

Mechanical Specifications:

Item	Specification
RF Ports	WR-12 Waveguide with UG-387/U Anti-Cocking Flange
Insertion Length	0.75”
Material	Aluminum
Finish	Gold Plated
Weight	0.6 Oz
Outline	TF-SE-A-C-0.75

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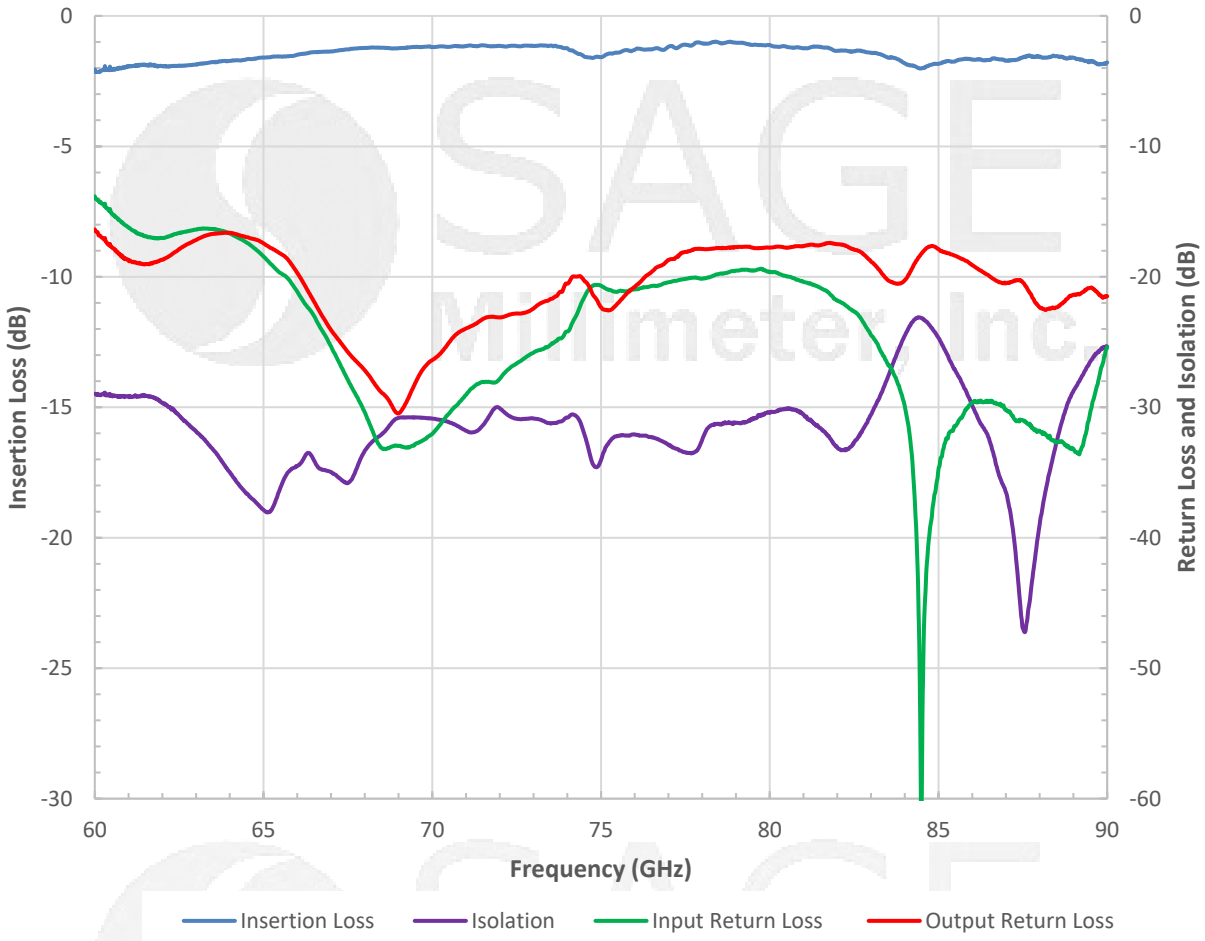
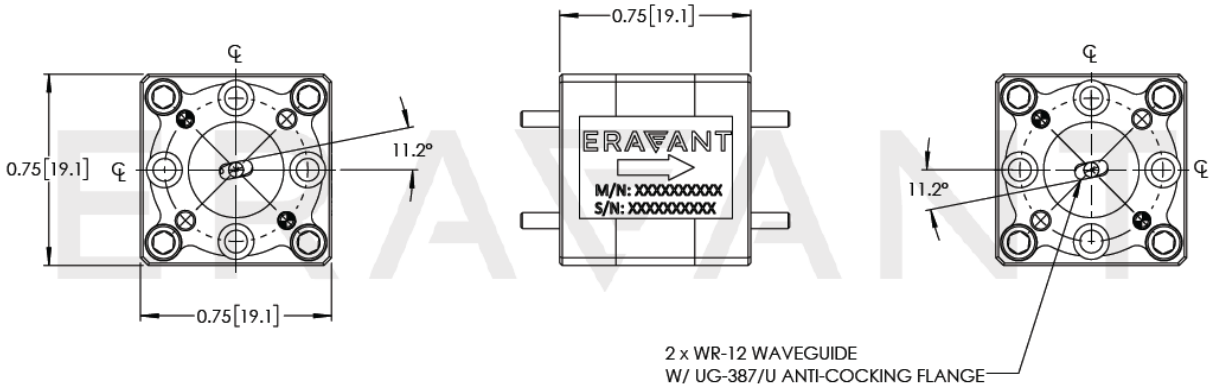
Typical Measured Performance vs Frequency



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



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Notes:

- Eravant offers three types of waveguide isolators based on the Faraday rotation principle: Standard, Compact, and Mini. Standard isolators offer high broadband performance in a sturdy waveguide configuration. Compact isolators offer similar performance as standard but in a smaller package. Mini isolators offer the smallest package size available and are highly resistant to stray magnetic fields.
- The standard Faraday isolator model is offered under model number **STF-12-S1.**
- The compact Faraday isolator model 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 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.

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