STF-42-S1

Rev. 1.0

K-Band Faraday Isolator

Description:

Model STF-42-S1 is a full band Faraday isolator that operates from 18 to 26.5 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 a 1.2 dB nominal insertion loss with good flatness. The return loss of the isolator is 14 dB. The input and output ports are WR-42 waveguides with UG-595/U flanges.

Features:

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

Applications:

- Test Labs
- Instrumentations
- Sub-assemblies

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Frequency	18 GHz		26.5 GHz
Insertion Loss		1.2 dB	1.8 dB
Isolation		30 dB	
Return Loss		14 dB	
Power Handling		2.0 W (CW)	2.2 W (CW)
Specification Temperature		+25 °C	
Operation Temperature	-40 °C		+85 °C

Mechanical Specifications:

Item	Specification
RF Input and Output	WR-42 Waveguide with UG-595/U Flange
Waveguide Flange Material	Brass
Waveguide Flange Finish	Gold Plated
Cover Material	Aluminum
Cover Finish	Black Anodized
Weight	5.6 Oz
Insertion Length	3.08”
Outline	TF-SK

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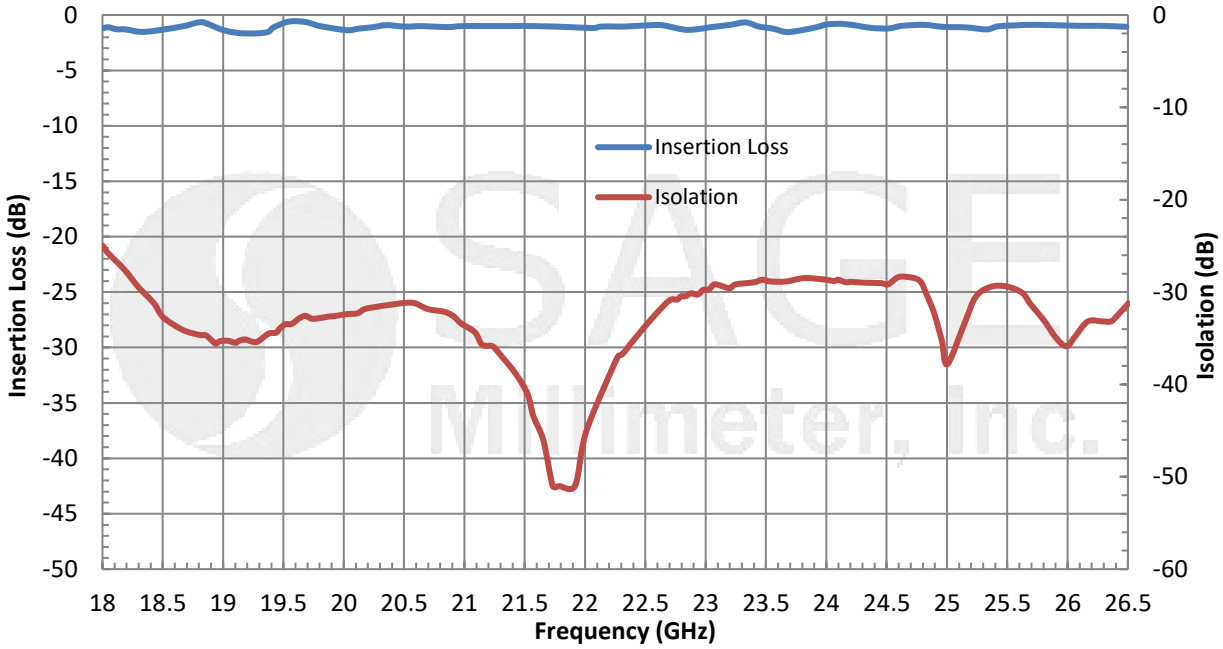
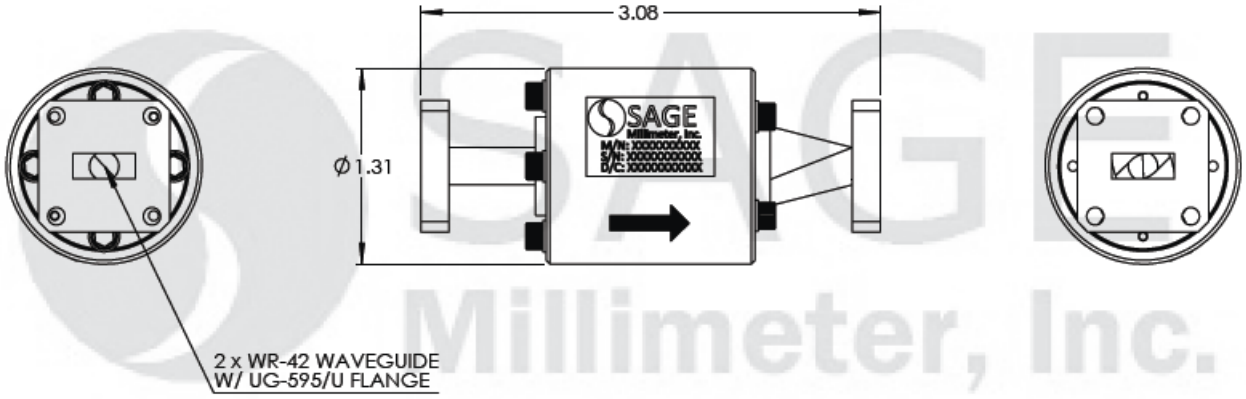
Typical Performance vs. Frequency



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



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 model with orthogonal input and output ports is offered under model number **STF-42-91.**
- The compact version is offered under model number **STF-42-S1-C.**
- 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.

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- Any foreign objects in the waveguide will cause performance degradation and possible device damage.

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