

## Isolator SMA Female with 21 dB Isolation from 12 to 15 GHz Rated to 10 Watts

### FMIR1051



#### Features

- 12 to 15 GHz Frequency Range
- Max Forward Power 10 Watt CW
- Max Reverse Power 1 Watt CW
- Insertion Loss 0.4 dB
- VSWR < 1.25:1
- Isolation > 21 dB
- SMA Female Connectors

#### Applications

- Radar Systems
- Military
- Wireless Radio Systems
- Telecom Infrastructure
- Communication Systems
- R&D Labs
- Microwave Radio Systems

#### Description

The FMIR1051 is a single junction isolator offering a forward power rating of 10 Watt and reverse power rating of 1 Watt CW over an operational frequency band of 12 to 15 GHz. This coaxial isolator uses SMA female connectors on all ports and has a minimum of 21 dB isolation.

Fairview Microwave offers a wide variety of isolators to fit your needs. These are two-port devices that transmit microwave or radio frequency power in one direction only and block the signal in the opposite direction. They can be thought of as a diode for RF energy. Isolators are used to isolate equipment from the effects of conditions outside of the equipment. For instance they are used to prevent a microwave source being detuned by a mismatched load. Fairview Microwave's isolators feature excellent insertion loss, high isolation and reliability.

#### Electrical Specifications

| Description       | Min | Typ    | Max   | Units |
|-------------------|-----|--------|-------|-------|
| Frequency Range   | 12  |        | 15    | GHz   |
| Impedance         |     | 50     |       | Ohms  |
| Insertion Loss    |     | 0.3    | 0.4   | dB    |
| Isolation         | 21  | 22     |       | dB    |
| VSWR              |     | 1.25:1 | 1.3:1 |       |
| Forward Power, CW |     |        | 10    | Watts |
| Reverse Power, CW |     |        | 1     | Watt  |

#### Electrical Specification Notes:

Due to the magnetic components in the Isolators,  
please keep it at least 0.2 inches away from magnetic materials during installation or placement.

#### Mechanical Specifications

##### Size

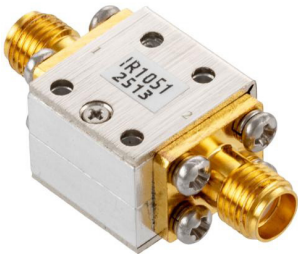
|                           |                    |
|---------------------------|--------------------|
| Length                    | 0.59 in [14.99 mm] |
| Width                     | 0.55 in [13.97 mm] |
| Height                    | 0.47 in [11.94 mm] |
| Weight                    | 0.03 lbs [13.61 g] |
| Body Material and Plating | Aluminum Alloy     |

##### Configuration

|        |                 |
|--------|-----------------|
| Design | Single Junction |
|--------|-----------------|

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|               |               |
|---------------|---------------|
| Direction     | Clockwise     |
| Package Style | Connectorized |
| Connector 1   | SMA Female    |
| Connector 2   | SMA Female    |

Environmental Specifications

Temperature

|                 |   |
|-----------------|---|
| Operating Range | -40 to +70 deg C                                    |
| Storage Range   | -45 to +85 deg C                                    |
| Humidity        | 100% RH at 35°c, 95%RH at 40°c                      |
| Shock           | 20G for 11msc half sin wave,3 axis both directions  |
| Vibration       | 25g rms (15 degree 2KHz) endurance, 1 hour per axis |
| Altitude        | 30,000 ft. (Epoxy Seal Controlled environment)      |

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

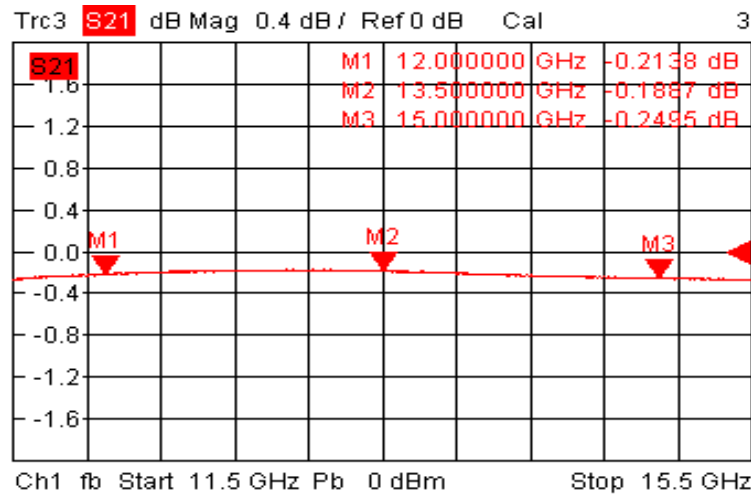
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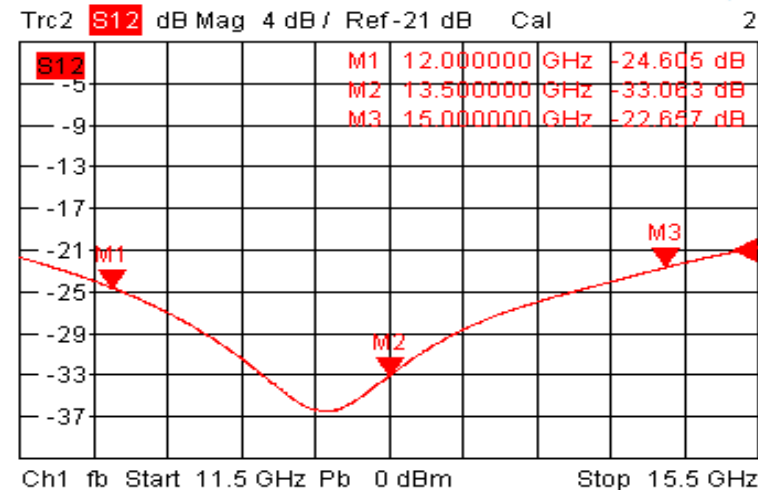


### Typical Performance Data

#### Insertion Loss



#### Isolation

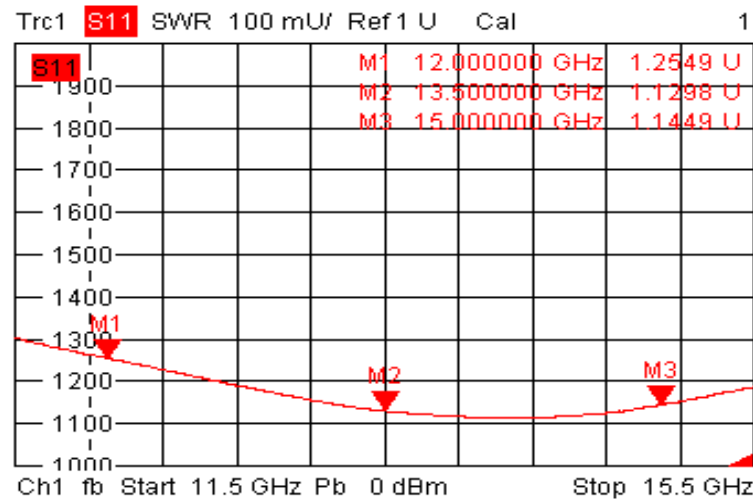


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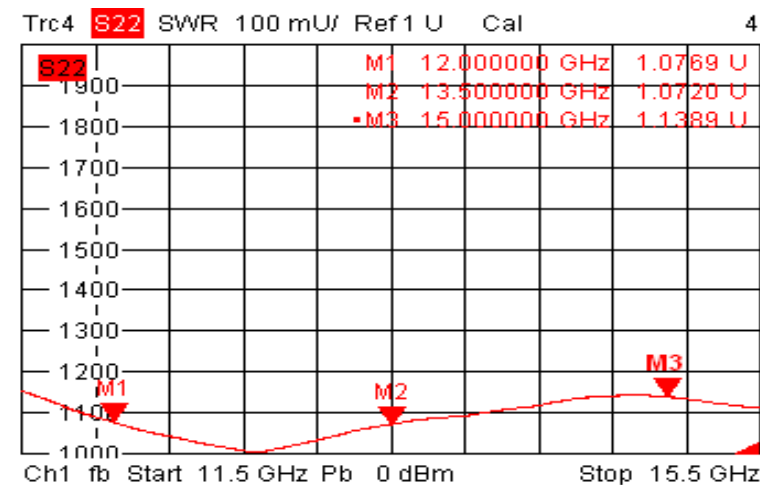
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### VSWR 1



### VSWR 2



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Isolator SMA Female with 21 dB Isolation from 12 to 15 GHz Rated to 10 Watts from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Isolator SMA Female with 21 dB Isolation from 12 to 15 GHz Rated to 10 Watts FMIR1051](https://www.fairviewmicrowave.com/isolator-sma-female-21db-isolation-15-ghz-10-watts-fmir1051-p.aspx)

URL: <https://www.fairviewmicrowave.com/isolator-sma-female-21db-isolation-15-ghz-10-watts-fmir1051-p.aspx>

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FMIR1051 CAD Drawing

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