

Circulator SMA Female with 17 dB Isolation from 1 to 2 GHz Rated to 50 Watts

FMCR1041



Features

- Forward Power 50 watts
- Wide-Band Operating Frequency Range of 1 to 2 GHz
- SMA Female Connectors
- Low VSWR of 1.45:1 Max
- Low Insertion Loss of 1 dB
- Good Isolation Performance of 17 dB Minimum

Applications

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

Description

The FMCR1041 is a high power circulator offering a forward power rating of 50 Watts over an operational frequency band of 1 to 2 GHz. This coaxial part uses three SMA female connectors on the three ports and has a minimum of 17 dB of isolation.

Fairview Microwave offers a wide variety of circulators to fit your needs. These unique devices enable two signals to use one channel. The classic use of this three port device is for the line/coax between an antenna and a transceiver, allowing the receive signal to come from the antenna (port 1) to the receiver (port 2) while the transmit signal goes from the transmitter (port 3) to the antenna (port 1). An isolator can be created by terminating one port into a matched load. These components can be used in antenna transmitting and receiving, radar, amplifier systems and anything that requires isolation from a signal reflection and the ability to send signals in opposite directions down a single channel. These circulators feature excellent insertion loss, high isolation and reliability.

Electrical Specifications

| Description | Min | Typ | Max | Units |
|-------------------|-----|-------|--------|-------|
| Frequency Range | 1 | | 2 | GHz |
| Impedance | | 50 | | Ohms |
| Insertion Loss | | 0.8 | 1 | dB |
| Isolation | 17 | 18 | | dB |
| VSWR | | 1.4:1 | 1.45:1 | |
| Forward Power, CW | | | 50 | Watts |

Electrical Specification Notes:

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

Mechanical Specifications

Size

| | |
|---------------------------|------------------------|
| Length | 2.6 in [66.04 mm] |
| Width | 2.52 in [64.01 mm] |
| Height | 1.02 in [25.91 mm] |
| Weight | 0.79 lbs [358.34 g] |
| Body Material and Plating | Aluminum Alloy, Nickel |

Configuration

| | |
|-----------|-----------------|
| Design | Single Junction |
| Direction | Clockwise |

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| | |
|---------------|---------------|
| Package Style | Connectorized |
| Connector 1 | SMA Female |
| Connector 2 | SMA Female |
| Connector 3 | SMA Female |

Environmental Specifications

| | |
|-----------------|--|
| Temperature | |
| Operating Range | 0 to +50 deg C |
| Storage Range | -40 to +85 deg C |
| Humidity | 100% RH at 35c, 95%RH at 40°c |
| Shock | 20G for 11msec half sine wave,3 axis both directions |
| Vibration | 25gRMS (15 degrees 2KHz) endurance, 1 hour per axis |
| Altitude | 30,000 ft. (Epoxy Sealed Controlled environment) |

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

Plotted and Other Data

Notes:

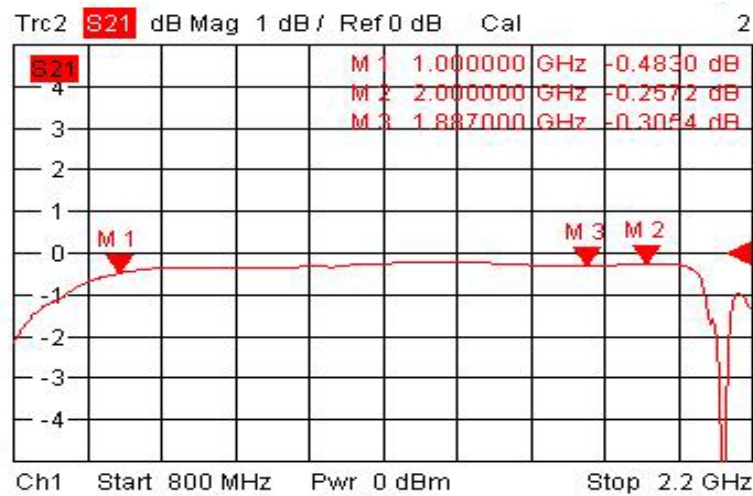
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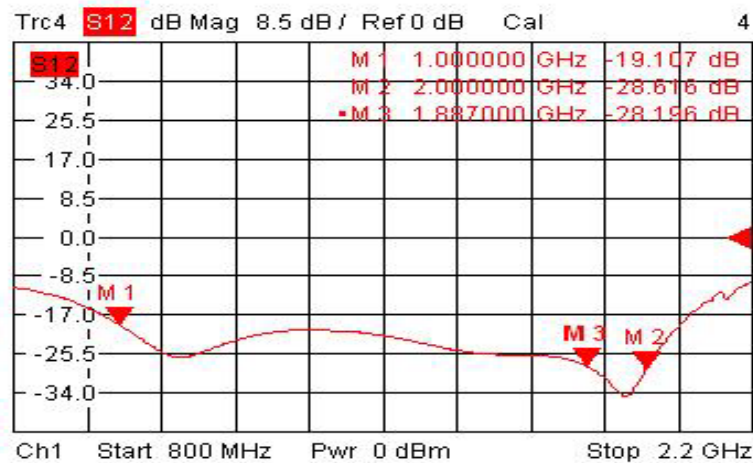
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Typical Performance Data

Insertion Loss



Isolation

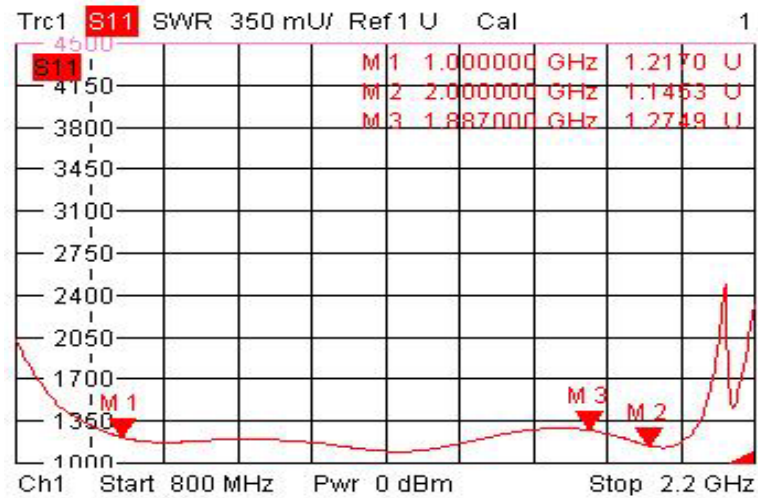


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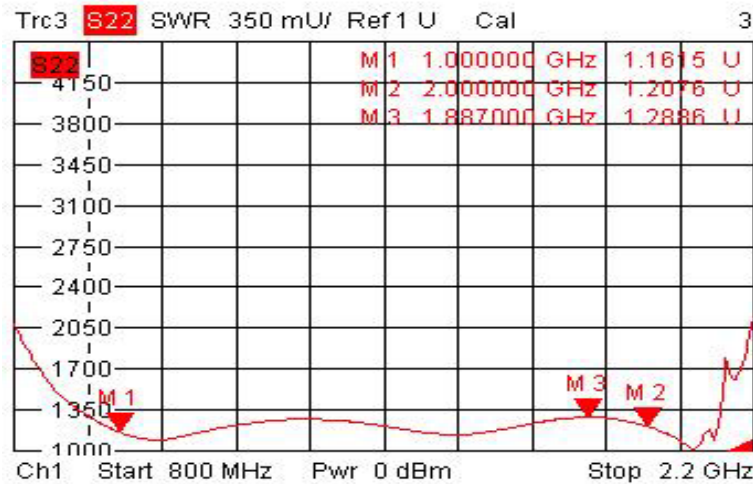
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VSWR 1



VSWR 2



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Circulator SMA Female with 17 dB Isolation from 1 to 2 GHz Rated to 50 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: [Circulator SMA Female with 17 dB Isolation from 1 to 2 GHz Rated to 50 Watts FMCR1041](https://www.fairviewmicrowave.com/circulator-sma-female-17db-isolation-2-ghz-50-watts-fmcr1041-p.aspx)

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FMCR1041 CAD Drawing

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