Circulator SMA Female with 32 dB Isolation from 2 to 4 GHz Rated to 100 Watts

FMCR1044

Features

- Forward Power 100 watts
- Wide-Band Operating Frequency Range of 2 to 4 GHz
- SMA Female Connectors
- Low VSWR of 1.5:1 Max
- Low Insertion Loss of 1.5 dB
- Good Isolation Performance of 32 dB Minimum

Applications

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

Description

The FMCR1044 is a high power circulator offering a forward power rating of 100 Watts over an operational frequency band of 2 to 4 GHz. This coaxial part uses three SMA female connectors on the three ports and has a minimum of 32 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	2		4	GHz
Impedance		50		Ohms
Insertion Loss		1	1.5	dB
Isolation	32	35		dB
VSWR		1.35:1	1.5:1	
Forward Power, CW			100	Watts
Reverse Power, CW			10	Watts

Electrical Specification Notes:
Insertion Loss Values only for Port 1 to Port 2 and Port 2 to Port 3
Isolation value for Port 1 to Port 3: 14 dB min, 17 dB typ.
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	3.6 in [91.44 mm]
Width	1.67 in [42.42 mm]
Height	0.75 in [19.05 mm]
Weight	0.19 lbs [86.18 g]
Body Material and Plating	Aluminum Alloy, Nickel

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Configuration	
Design	Triple Junction
Direction	Clockwise
Package Style	Connectorized
Connector 1	SMA Female
Connector 2	SMA Female
Connector 3	SMA Female

Environmental Specifications

Temperature	
Operating Range	-40 to +80 deg C
Storage Range	-40 to +85 deg C
Humidity	100% RH at 35c, 95%RH at 40ºc
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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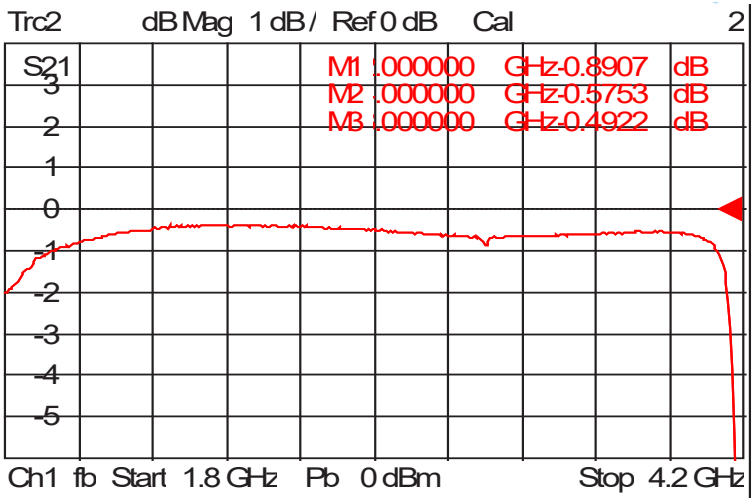
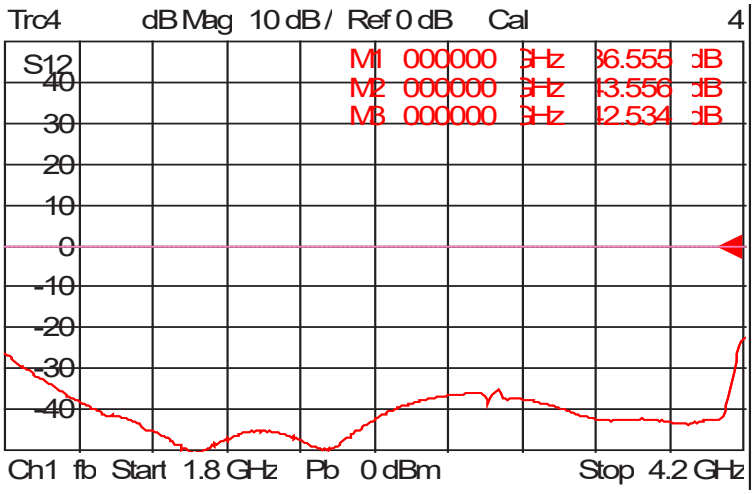
Typical Performance Data

Insertion Loss



Isolation



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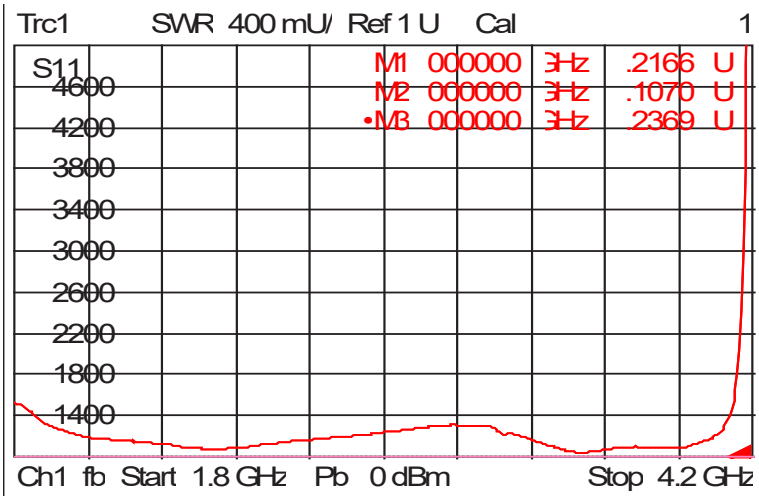
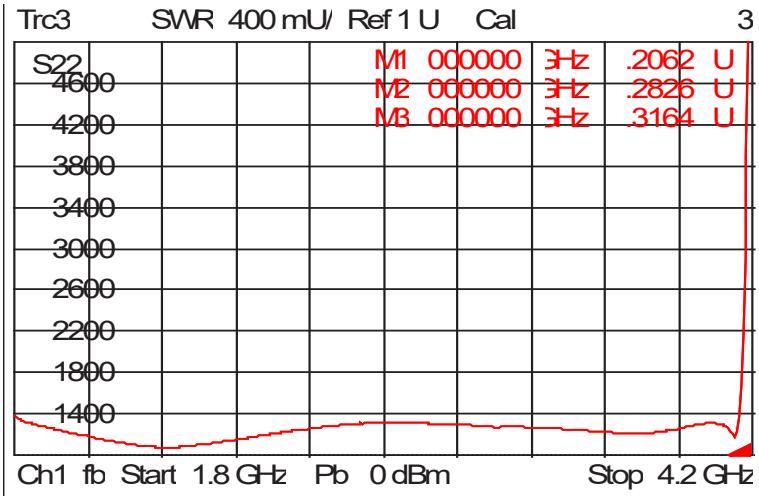
VSWR 1



VSWR 2



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Circulator SMA Female with 32 dB Isolation from 2 to 4 GHz Rated to 100 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 32 dB Isolation from 2 to 4 GHz Rated to 100 Watts FMCR1044

URL: https://www.fairviewmicrowave.com/circulator-sma-female-32db-isolation-4-ghz-100-watts-fmcr1044-p.aspx

FMCR1044 CAD Drawing

Circulator SMA Female with 32 dB Isolation from 2 to 4 GHz Rated to 100 Watts