

SMA Directional Coupler 20 dB Coupled Port From 500 MHz to 3 GHz Rated To 50 Watts

Directional couplers are indispensable components for isolating, separating and combining signals. For example, they provide a simple way of sampling microwave signals. They also can make accurate attenuator measurements since reflections are eliminated. The MC053S-20 is a 20 dB directional coupler that operates from 0.5 to 3 GHz and can handle up to 50 Watts (CW) with 18 dB directivity minimum and 1.3:1 VSWR maximum. The package interface uses SMA female connectors, and is also REACH and RoHS compliant.

The MC053S-20 is part of Fairview Microwave's family of directional/dual-directional couplers that offer coupling ratios up to 50 dB with excellent performance featuring high directivity, low insertion loss and VSWR. They are available in both narrow and broad bandwidths and can be used in a wide variety of applications including signal sampling, VSWR measurements, power combining and distribution.



Features:

- Directional Coupler
- 0.5 to 3 GHz Frequency Range
- Coupling 20±1.5 dB
- Directivity > 18 dB
- VSWR < 1.3:1
- Max Power 50 Watts (CW)

Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	0.5		3	GHz
Impedance		50		Ohms
Coupling		20 ±1.5		dB
Insertion Loss			1.5	dB
Directivity	18			dB
Main Line VSWR			1.3:1	
Sec. Line VSWR			1.3:1	
Input Power (CW)			50	Watts

Applications:

- Test and Measurement
- Military Communications
- Commercial Communications
- Wireless Communications
- SATCOM

Electrical Specification Notes:
Values at 25°C, sea level.

Mechanical Specifications

Size

Length	4.72 in [119.89 mm]
Width/Dia.	0.4 in [10.16 mm]
Height	1.18 in [29.97 mm]
Weight	0.2415 lbs [109.54 g]
Housing Material and Plating	Aluminum

Configuration

Package Type	Connectorized
Input Connector	SMA Female
Output Connector	SMA Female
Coupled Connectors	SMA Female

Environmental Specifications

Temperature

Operating Range	-30 to +85 deg C
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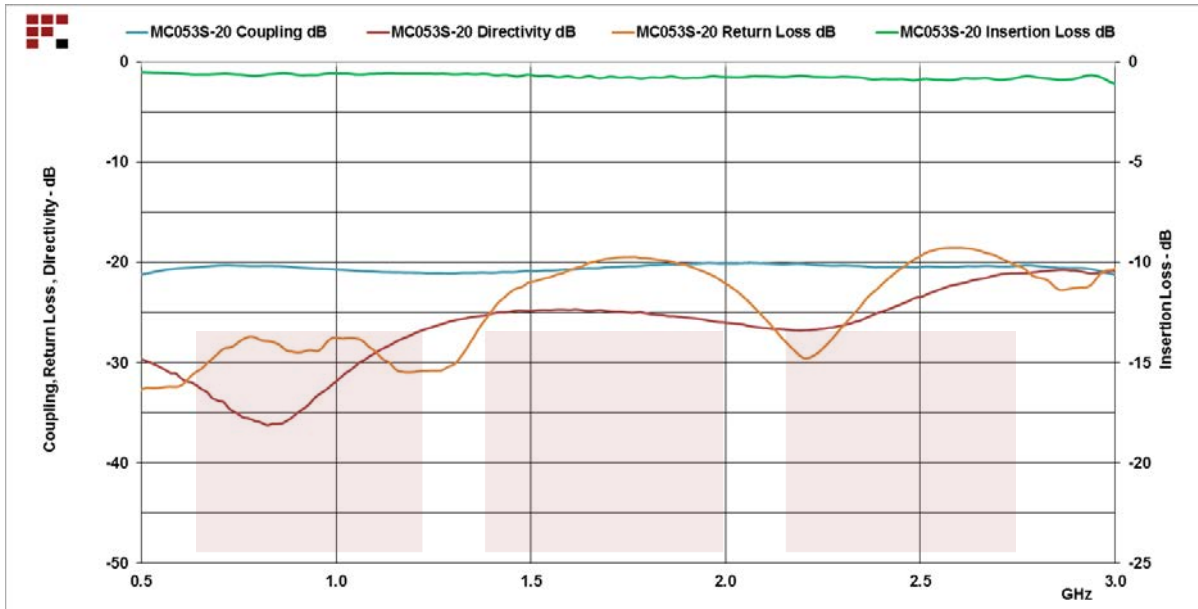
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

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Tel: 1-800-715-4396 / (972) 649-6678
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Typical Performance Data



Insertion loss includes coupled power

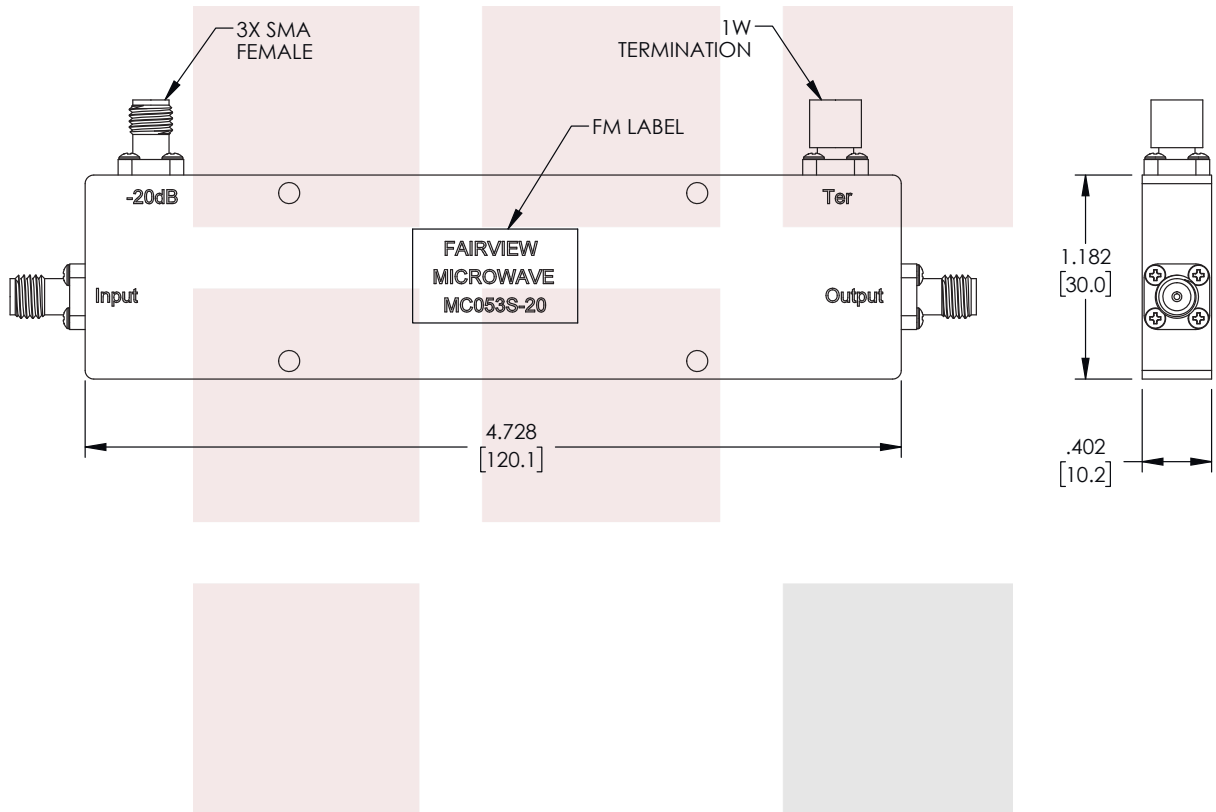
SMA Directional Coupler 20 dB Coupled Port From 500 MHz to 3 GHz Rated To 50 Watts from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SMA Directional Coupler 20 dB Coupled Port From 500 MHz to 3 GHz Rated To 50 Watts MC053S-20](https://www.fairviewmicrowave.com/sma-directional-coupler-20-db-3-ghz-50-watts-mc053s-20)

URL: <https://www.fairviewmicrowave.com/sma-directional-coupler-20-db-3-ghz-50-watts-mc053s-20-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
B	UPDATE COMPONENT VIEW	08/11/2021	DRIVAS



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<p>Fairview Microwave an INFINIT[®] brand</p>	<p>UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS</p> <p><u>TOLERANCES:</u> <u>CABLE LENGTH (L) TOLERANCES:</u></p> <table border="0"> <tr> <td>.X = ±.2 [5.08]</td> <td>FRACTIONS</td> <td>L ≤ 12 [305] = +1 [25] / -0</td> </tr> <tr> <td>.XX = ±.02 [.51]</td> <td>± 1/32</td> <td>12 [305] < L ≤ 60 [1524] = +2 [51] / -0</td> </tr> <tr> <td>.XXX = ±.005 [.13]</td> <td>ANGLES ± 1°</td> <td>60 [1524] < L ≤ 120 [3048] = +4 [102] / -0</td> </tr> <tr> <td></td> <td></td> <td>120 [3048] < L ≤ 300 [7620] = +6 [152] / -0</td> </tr> <tr> <td></td> <td></td> <td>300 [7620] < L = +5%L / -0</td> </tr> </table>		.X = ±.2 [5.08]	FRACTIONS	L ≤ 12 [305] = +1 [25] / -0	.XX = ±.02 [.51]	± 1/32	12 [305] < L ≤ 60 [1524] = +2 [51] / -0	.XXX = ±.005 [.13]	ANGLES ± 1°	60 [1524] < L ≤ 120 [3048] = +4 [102] / -0			120 [3048] < L ≤ 300 [7620] = +6 [152] / -0			300 [7620] < L = +5%L / -0	<p>THIRD-ANGLE PROJECTION</p> <p>THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF FAIRVIEW MICROWAVE CORPORATION. ALL RIGHTS RESERVED.</p>
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<p>SIZE A</p>	<p>CAGE CODE 3FKR5</p>	<p>DRAWN BY DMAY</p>	<p>ITEM NO. MC053S-20</p> <p>REV B</p>															

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