

SMA Directional Coupler 20 dB Coupled Port From 500 MHz to 12.4 GHz Rated To 30 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 MC0512-20 is a 20 dB directional coupler that operates from 500 MHz to 12.4 GHz with 15 dB directivity minimum and can handle up to 30 Watts of CW power. The package interface has SMA inputs on all of the ports.

The MC0512-20 is part of Fairview Microwave's family of directional/dual-directional couplers that offer coupling ratio 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
- 500 MHz to 12.4 GHz Frequency Range
- Coupling 20±1.25 dB
- Directivity > 15 dB
- Max Power 30W (CW)

Electrical Specifications

| Description | Min | Typ | Max | Units |
|--------------------|-----|----------|--------|--------|
| Frequency Range | 0.5 | | 12.4 | GHz |
| Impedance | | 50 | | Ohms |
| Coupling | | 20 ±1.25 | | dB |
| Freq. Sensitivity | | ±1 | | dB |
| Directivity | 15 | | | dB |
| Main Line VSWR | | | 1.22:1 | |
| Sec. Line VSWR | | | 1.22:1 | |
| Input Power (CW) | | | 30 | Watts |
| Input Power (Peak) | | | 3 | kWatts |

Performance by Frequency

| Description | F1 | F2 | F3 | F4 | F5 | Units |
|---------------------|----------|--------|-----------|----|----|-------|
| Frequency Range | 0.5 to 4 | 4 to 8 | 8 to 12.4 | | | GHz |
| Insertion Loss, Typ | 0.5 | 0.7 | 1.13 | | | dB |
| Directivity, Typ | 20 | 17 | 17 | | | dB |

Electrical Specification Notes:
 Values specified at +25°C, sea level.
 Coupling includes frequency sensitivity.

Mechanical Specifications

| | |
|-------------|--------------------|
| Size | |
| Length | 4.4 in [111.76 mm] |
| Width/Dia. | 0.6 in [15.24 mm] |
| Height | 0.38 in [9.65 mm] |
| Weight | 0.138 lbs [62.6 g] |

Configuration

| | |
|--------------------|------------|
| Input Connector | SMA Female |
| Output Connector | SMA Female |
| Coupled Connectors | SMA Female |

Applications:

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

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

Plotted and Other Data

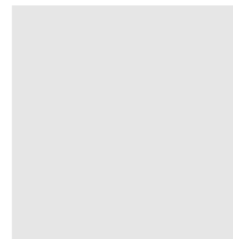
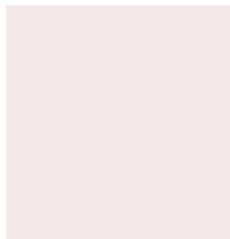
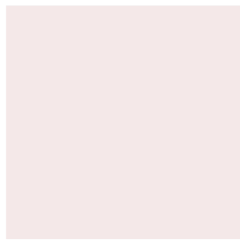
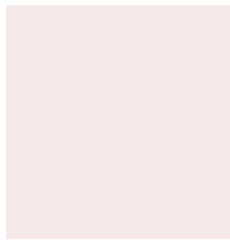
Notes:

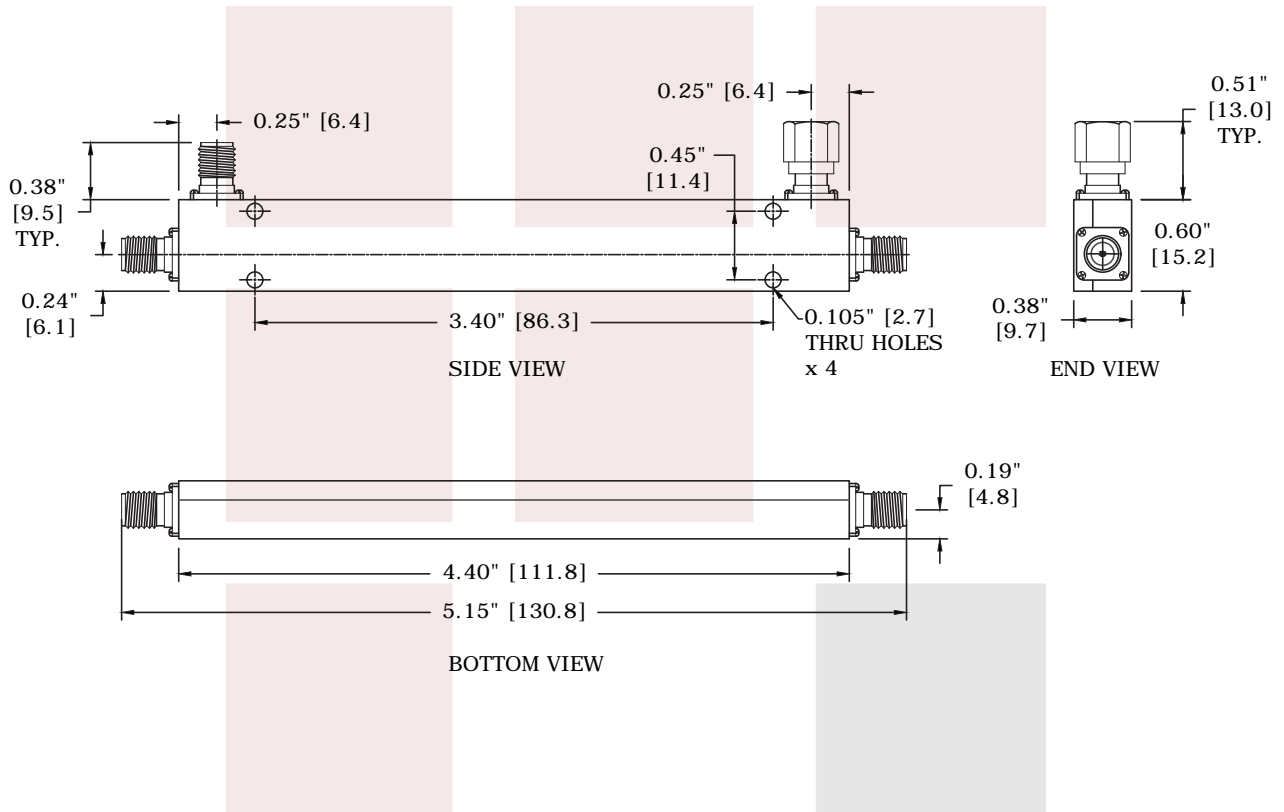
SMA Directional Coupler 20 dB Coupled Port From 500 MHz to 12.4 GHz Rated To 30 Watts from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is 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 12.4 GHz Rated To 30 Watts MC0512-20](#)

URL: <https://www.fairviewmicrowave.com/sma-directional-coupler-20-db-12.4-ghz-50-watts-mc0512-20-p.aspx>

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| TITLE SMA Directional Coupler 20 dB Coupled Port From 500 MHz to 12.4 GHz Rated To 30 Watts | | DWG NO MC0512-20 | | CAGE CODE 3FKR5 | |
| CAD FILE | 011415 | SHEET | SCALE | N/A | SIZE A 5568 |