Dual Directional 20 dB SMA Coupler From 8 GHz to 16 GHz Rated to 50 Watts

**Features**

- Dual Directional Coupler
- 8 to 16 GHz Frequency Range
- Coupling 20±1.25 dB
- Directivity > 15 dB
- VSWR < 1.4:1
- Max Power 50 Watts (CW)

**Applications**

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

**Description**

Dual directional couplers are indispensable components for building a reflectometer as they can provide power measurements in both forward and reverse direction simultaneously. The PE2223-20 is a 20 dB Dual Directional coupler that operates from 8 to 16 GHz and can handle up to 50 Watts (CW) with 15 dB directivity minimum and 1.4:1 VSWR maximum. The package interface uses SMA female connectors, and is also REACH and RoHS compliant.

The PE2223-20 is part of Pasternack’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.

**Electrical Specifications**

<table>
<thead>
<tr>
<th>Description</th>
<th>Minimum</th>
<th>Typical</th>
<th>Maximum</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>8</td>
<td>16</td>
<td></td>
<td>GHz</td>
</tr>
<tr>
<td>Impedance</td>
<td></td>
<td></td>
<td>50</td>
<td>Ohms</td>
</tr>
<tr>
<td>Coupling</td>
<td>20 ±1.25</td>
<td>dB</td>
<td></td>
<td></td>
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<tr>
<td>Frequency Sensitivity</td>
<td>±0.8</td>
<td>dB</td>
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<tr>
<td>Main Line Loss</td>
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<td></td>
<td>1</td>
<td>dB</td>
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<tr>
<td>Directivity</td>
<td>15</td>
<td>dB</td>
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<td></td>
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<tr>
<td>Main Line VSWR</td>
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<td></td>
<td>1.4:1</td>
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</tr>
<tr>
<td>Secondary Line VSWR</td>
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<td></td>
<td>1.4:1</td>
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</tr>
<tr>
<td>Input Power (CW)</td>
<td>50</td>
<td>Watts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Power (Peak)</td>
<td></td>
<td></td>
<td>2</td>
<td>KWatts</td>
</tr>
</tbody>
</table>

Electrical Specification Notes:
Values at 25°C, sea level.
Coupling tolerance includes frequency sensitivity.
Main line loss is the difference in power level between input and output.
Insertion loss excludes coupled power from main line loss.

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: Dual Directional 20 dB SMA Coupler From 8 GHz to 16 GHz Rated to 50 Watts PE2223-20
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Mechanical Specifications

Size
- Length: 2.1 in [53.34 mm]
- Width/Dia.: 0.38 in [9.65 mm]
- Height: 1.1 in [27.94 mm]
- Weight: 0.096 lbs [43.54 g]

Configuration
- Package Type: Connectorized
- Input Connector: SMA Female
- Output Connector: SMA Female
- Coupled Connectors: SMA Female

Compliance Certifications (visit www.Pasternack.com for current document)
- RoHS Compliant
- REACH Compliant: 12/17/2015

Plotted and Other Data

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**Couplers Technical Data Sheet**

**PE2223-20**

**Typical Performance Data**

**Coupling**

-26  -24  -22  -20  -18  -16  -14  -12  -10  -8  -6  -4  -2  0  2  4  6  8  10  12  14  16

*dB*  

<table>
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<tr>
<th>Freq (GHz)</th>
<th>8</th>
<th>8.8</th>
<th>9.6</th>
<th>10.4</th>
<th>11.2</th>
<th>12</th>
<th>12.8</th>
<th>13.6</th>
<th>14.4</th>
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**Directivity**

-50  -40  -30  -20  -10  0  10  20  30  40  50

*dB*  

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<td>Directivity</td>
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Couplers Technical Data Sheet

Dual Directional 20 dB SMA Coupler From 8 GHz to 16 GHz Rated to 50 Watts from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

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