Features
- Directional Coupler
- 2 to 4 GHz Frequency Range
- Coupling 20±1.25 dB
- Directivity > 22 dB
- Low VSWR < 1.15:1
- Max Power 50 Watts (CW)

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

Description
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 PE2202-20 is a 20 dB directional coupler that operates from 2 to 4 GHz and can handle up to 50 Watts (CW) with 22 dB directivity minimum and 1.15:1 VSWR maximum. The package interface uses SMA female connectors, and is also REACH and RoHS compliant.

The PE2202-20 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>2</td>
<td></td>
<td>4</td>
<td>GHz</td>
</tr>
<tr>
<td>Impedance</td>
<td>50</td>
<td></td>
<td></td>
<td>Ohms</td>
</tr>
<tr>
<td>Coupling</td>
<td>20 ±1.25</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Frequency Sensitivity</td>
<td>±0.75</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Main Line Loss</td>
<td>0.2</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>0.15</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Directivity</td>
<td>22</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Main Line VSWR</td>
<td></td>
<td>1.15:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary Line VSWR</td>
<td></td>
<td>1.15:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Power (CW)</td>
<td></td>
<td>50</td>
<td></td>
<td>Watts</td>
</tr>
<tr>
<td>Reverse Power (CW)</td>
<td></td>
<td>50</td>
<td></td>
<td>Watts</td>
</tr>
<tr>
<td>Input Power (Peak)</td>
<td></td>
<td>3</td>
<td></td>
<td>KWatts</td>
</tr>
</tbody>
</table>

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: Directional 20 dB SMA Coupler From 2 GHz to 4 GHz Rated to 50 Watts PE2202-20
Directional 20 dB SMA Coupler From 2 GHz to 4 GHz Rated to 50 Watts

**Couplers Technical Data Sheet**

**PE2202-20**

**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.

**Mechanical Specifications**

**Size**
- Length: 1.16 in [29.46 mm]
- Width/Dia.: 0.38 in [9.65 mm]
- Height: 1.06 in [26.92 mm]
- Weight: 0.055 lbs [24.95 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**

**Notes:**

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: Directional 20 dB SMA Coupler From 2 GHz to 4 GHz Rated to 50 Watts PE2202-20
Directional 20 dB SMA Coupler From 2 GHz to 4 GHz Rated to 50 Watts

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: Directional 20 dB SMA Coupler From 2 GHz to 4 GHz Rated to 50 Watts PE2202-20
Directional 20 dB SMA Coupler From 2 GHz to 4 GHz Rated to 50 Watts

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: Directional 20 dB SMA Coupler From 2 GHz to 4 GHz Rated to 50 Watts PE2202-20
Directional 20 dB SMA Coupler From 2 GHz to 4 GHz Rated to 50 Watts

Couplers Technical Data Sheet

Directional 20 dB SMA Coupler From 2 GHz to 4 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.

Click the following link (or enter part number in “SEARCH” on website) to obtain additional part information including price, inventory and certifications: Directional 20 dB SMA Coupler From 2 GHz to 4 GHz Rated to 50 Watts PE2202-20


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. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.
Directional 20 dB SMA Coupler From 2 GHz to 4 GHz Rated to 50 Watts

PE2202-20 CAD Drawing

NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL DIMENSIONS ARE IN MILLIMETERS.

PE2202-20

-20 dB PASTERNACK YWWW
IN OUT

0.25 [6.3]
0.25 [6.4]
1.16 [29.5]

0.51 [13.0] TYP.
0.55 [14.0]
0.38 [9.7]

0.38 [9.5] TYP.
0.41 [10.4]

0.22 [5.6]

0.105 [2.7] (2 HOLES)

SMA FEMALE

0.08 [2.0]

1/4-36

SMA FEMALE (3 PLACES)

0.8 [20.3]

STANDARD TOLERANCES

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

© 2016 Pasternack Enterprises All Rights Reserved

PE2202-20 REV 1.2