Couplers Technical Data Sheet

**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)

**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 PE2242A-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 PE2242A-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>0.5</td>
<td></td>
<td>3</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±1.5</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>0.5</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Directivity</td>
<td>18</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Main Line VSWR</td>
<td>1.3:1</td>
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<td></td>
</tr>
<tr>
<td>Secondary Line VSWR</td>
<td>1.3:1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Power (CW)</td>
<td>50</td>
<td></td>
<td></td>
<td>Watts</td>
</tr>
</tbody>
</table>

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

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 To 3 GHz Rated to 50 Watts PE2242A-20
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**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]

**Finish**
- Blue

**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

**Compliance Certifications**
(see product page for current document)

**Plotted and Other Data**

**Notes:**

Directional 20 dB SMA Coupler To 3 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 99.4% 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 To 3 GHz Rated to 50 Watts PE2242A-20**

**URL:** [https://www.pasternack.com/directional-20-db-sma-coupler-3-ghz-pe2242a-20-p.aspx](https://www.pasternack.com/directional-20-db-sma-coupler-3-ghz-pe2242a-20-p.aspx)
PE2242A-20 CAD Drawing
Directional 20 dB SMA Coupler To 3 GHz Rated to 50 Watts