Bi-Directional Couplers, 10 - 500 MHz

Features
- Constant Coupling - within ±0.5 dB max.
- MIL-STD-202 Screening Available

Description
Bi-Directional couplers offer the ability to couple the power in two directions while maintaining directivity.

FP-2 (CH-134)

Pin Configuration

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Function</th>
<th>Pin No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>C</td>
<td>5</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>6</td>
<td>GND</td>
</tr>
<tr>
<td>3</td>
<td>GND</td>
<td>7</td>
<td>GND</td>
</tr>
<tr>
<td>4</td>
<td>B</td>
<td>8</td>
<td>D</td>
</tr>
</tbody>
</table>

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH-134-PIN</td>
<td>FP-2 (flat pack)</td>
</tr>
<tr>
<td>CHS-134-PIN</td>
<td>SF-1 (surface mount)</td>
</tr>
</tbody>
</table>
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**Electrical Specifications**¹: \( T_A = -55^\circ C \) to \(+85^\circ C\)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions</th>
<th>Units</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coupling</td>
<td>Input to Output</td>
<td>dB</td>
<td>10.1</td>
<td>10.8</td>
<td>11.5</td>
</tr>
<tr>
<td>Coupling Flatness</td>
<td>—</td>
<td>dB</td>
<td>—</td>
<td>—</td>
<td>±0.5</td>
</tr>
<tr>
<td>VSWR</td>
<td>All Ports 10 - 500 MHz, 25 - 200 MHz</td>
<td>Ratio</td>
<td>—</td>
<td>—</td>
<td>1.8:1 1.5:1</td>
</tr>
<tr>
<td>Directivity</td>
<td>Both Directions</td>
<td>dB</td>
<td>—</td>
<td>20</td>
<td>—</td>
</tr>
<tr>
<td>Main Line Loss²</td>
<td>—</td>
<td>dB</td>
<td>—</td>
<td>—</td>
<td>1.6</td>
</tr>
<tr>
<td>Input Power</td>
<td>—</td>
<td>W</td>
<td>—</td>
<td>—</td>
<td>1.0</td>
</tr>
</tbody>
</table>

¹. All specifications apply with 50 ohm source and load impedance.

². Includes theoretical power split.

This product contains elements protected by United States Patent number 3,426,298.

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**Functional Diagram (CH-134)**

![Diagram of CH-134]

**Functional Diagram (CHS-134)**

![Diagram of CHS-134]

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Case P2, P3, P6 and P7 Ground

Case Ground

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For further information and support please visit:
[https://www.macom.com/support](https://www.macom.com/support)
Typical Performance Curves

**Main Line Loss**

- VSWR

- Coupling

**Directivity**

- Frequency (MHz)

- Directivity (dB)

**Typical Performance Curves**

- Frequency (MHz)

- Main Line Loss (dB)

- Total Loss (dB)

- Above 0-46 dB Power Split (dB)

Visit [www.macom.com](http://www.macom.com) for additional data sheets and product information.
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10 - 500 MHz

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