Broadband CATV 10 dB Directional Coupler
5 - 1200 MHz

Features
- Coupling +10 dB
- Stable Over Large Temperature Range
- Surface Mount Technology
- Available on Tape & Reel
- RoHS* Compliant

Applications
- High Volume CATV / Broadband

Description
The MACP-010045-CA08A0 is a 10 dB broadband coupler in a surface mount package. It offers low loss, good Isolation, good input/output matching and exceptional coupling repeatability. Ideally suited for high volume CATV/Broadband applications.

Electrical Specifications: \( T_A = 25^\circ C, P_{in} = 0 \text{ dBm}, Z_0 = 75 \Omega \)

<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 (Pin 1-3)</td>
<td>5- 1200 MHz</td>
<td>dB</td>
<td>—</td>
<td>10</td>
<td>±0.4</td>
</tr>
</tbody>
</table>
| Main Line Loss (Pin 1-5)         | 5 - 50 MHz
50 - 1000 MHz
1000 - 1200 MHz | dB | — | 1.2 | 1.4 | 1.3 |
| Coupling Flatness (Pin 1-3)      | 5 - 1200 MHz             | dB    | —    | —    | 0.5  |
| Isolation (Pin 1-4)              | 5 - 50 MHz
50 - 1000 MHz
1000 - 1200 MHz | dB | 25 | 32 | 30 |
| Return Loss: Input (Pin 1)       | 5 - 50 MHz
50 - 1000 MHz
1000 - 1200 MHz | dB | 16 | 19 | 19 |
| Return Loss: Output (Pin 5)      | 5 - 50 MHz
50 - 1000 MHz
1000 - 1200 MHz | dB | 20 | 22 | 28 |
| Return Loss: Coupling (Pin 3)    | 5 - 50 MHz
500 - 1000 MHz
1000 - 1200 MHz | dB | 16 | 18 | 19 |

Ordering Information

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MACP-010045-CA08A0</td>
<td>2000 piece reel</td>
</tr>
<tr>
<td>MACP-010045-CA08TB</td>
<td>Customer Test Board</td>
</tr>
</tbody>
</table>

Recommended Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Power</td>
<td>250 mW</td>
</tr>
<tr>
<td>DC Current</td>
<td>30 mA</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-55°C to +100°C</td>
</tr>
</tbody>
</table>

* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

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DS-MACP-010045-CA08A0
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5 - 1200 MHz

Typical Performance Curves: $T_A = 25^\circ C$, $P_{IN} = 0 \text{ dBm}$, $Z_0 = 75 \Omega$

**Coupling**

**Main Line Loss**

**Return Loss: Input**

**Return Loss: Output**

**Return Loss: Coupled**

**Isolation**
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Application Circuit

Case Style: SM-138

Dimensions in inches [mm] tolerance: x.xx ± 0.02, x.xxx ± 0.010, unless otherwise stated.
Plating finish: CuSn6
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