MACP-009596-CA0160

E-Series Coupler
5 to 1000 MHz
M/A-COM Products
Rev. V1

Features
- Surface mount
- 10dB Coupler
- 260°C reflow compatible
- RoHS* compliant, lead-free
- Available on tape and reel.

Description
M/A Com’s MACP-009596-CA0160 is a 10dB coupler in a low cost, surface mount package. Excellent coupling flatness. Ideally suited for broadband CATV applications.

Schematic

Case style: SM-22

Dimensions in inches [mm] Tolerance: .xx ± .02, .xxx ± .010, unless otherwise stated

Ordering information

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MACP-009596-CA0160</td>
<td>2000 piece reel</td>
</tr>
<tr>
<td>MACP-009596-CA01TB</td>
<td>Customer Test Board</td>
</tr>
</tbody>
</table>

Note: Reference Application Note M513 for reel size information.

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

<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>5 - 1000 MHz</td>
<td>dB</td>
<td>-</td>
<td>10</td>
<td>±0.5</td>
</tr>
<tr>
<td>Main Line Loss</td>
<td>5 - 50 MHz</td>
<td>dB</td>
<td>-</td>
<td>1.1</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>50 - 500 MHz</td>
<td>dB</td>
<td>-</td>
<td>1.3</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>500 - 1000 MHz</td>
<td>dB</td>
<td>-</td>
<td>1.4</td>
<td>1.7</td>
</tr>
<tr>
<td>Directivity</td>
<td>5 - 50 MHz</td>
<td>dB</td>
<td>20</td>
<td>22</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>50 - 600 MHz</td>
<td>dB</td>
<td>16</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>600 - 1000 MHz</td>
<td>dB</td>
<td>14</td>
<td>18</td>
<td>-</td>
</tr>
<tr>
<td>Input Return Loss</td>
<td>5 - 1000 MHz</td>
<td>dB</td>
<td>12</td>
<td>18</td>
<td>-</td>
</tr>
<tr>
<td>Output Return Loss</td>
<td>5 - 1000 MHz</td>
<td>dB</td>
<td>12</td>
<td>23</td>
<td>-</td>
</tr>
<tr>
<td>Coupling Return Loss</td>
<td>5 - 1000 MHz</td>
<td>dB</td>
<td>12</td>
<td>16</td>
<td>-</td>
</tr>
</tbody>
</table>

**Absolute Maximum Ratings**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF power</td>
<td>250mW</td>
</tr>
<tr>
<td>DC current</td>
<td>30mA</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-20°C to +80°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-20°C to +80°C</td>
</tr>
</tbody>
</table>

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. M/A-COM does not recommend sustained operation near these survivability limits.
Typical Performance Curves: $T_A = 25^\circ C$, $0\text{dBm}$, $Z_0 = 75\Omega$, $P_{in} = 0\text{dBm}$

**Coupling**

- Frequency (MHz)
- dB
- 5 204 403 602 801 1000
- Coupling

**Main Line Loss**

- Frequency (MHz)
- dB
- 5 204 403 602 801 1000
- Main Line Loss

**Return Loss: Input**

- Frequency (MHz)
- dB
- 5 204 403 602 801 1000
- Return Loss: Input

**Return Loss: Output**

- Frequency (MHz)
- dB
- 5 204 403 602 801 1000
- Return Loss: Output

**Return Loss: Coupling**

- Frequency (MHz)
- dB
- 5 204 403 602 801 1000
- Return Loss: Coupling

**Directivity**

- Frequency (MHz)
- dB
- 5 204 403 602 801 1000
- Directivity

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

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