MACP-007741-CG09E0

17 dB Coupler, Broadband CATV
5 - 1200 MHz

Features
- Surface Mount
- 17 dB Coupler
- 260°C Reflow Compatible
- RoHS* Compliant version of EMDC-17-1-75
- Available on Tape and Reel. Reel quantity 2000

Description
MACOM’s MACP-007741-CG09E0 is a high performance 75 Ω coupler, in a SM-22 low cost, surface mount package. This coupler is designed for use in high volume CATV applications. Typical applications include Set-top Boxes, Network Interface Units, Broadband Amplifiers and Headend equipment.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MACP-007741-CG09E0</td>
<td>2000 piece reel</td>
</tr>
<tr>
<td>MACP-007741-CG09TB</td>
<td>Customer Test Board</td>
</tr>
</tbody>
</table>

1. Reference Application Note M513 for reel size information.

Functional Schematic

Pin Configuration

<table>
<thead>
<tr>
<th>Pin Number</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Coupled</td>
</tr>
<tr>
<td>2</td>
<td>Ground</td>
</tr>
<tr>
<td>3</td>
<td>Input</td>
</tr>
<tr>
<td>4</td>
<td>Output</td>
</tr>
<tr>
<td>5</td>
<td>Isolated (external 75 Ω termination)</td>
</tr>
</tbody>
</table>

Electrical Specifications: \( T_A = +25^\circ C, \ Z_0 = 75 \ \Omega \)

<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</td>
<td>5 - 1200 MHz</td>
<td>dB</td>
<td>—</td>
<td>17</td>
<td>±1.5</td>
</tr>
<tr>
<td>Coupling Flatness</td>
<td>5 - 1200 MHz</td>
<td>dB</td>
<td>—</td>
<td>—</td>
<td>±1.2</td>
</tr>
</tbody>
</table>
| Main Line Loss     | 5 - 50 MHz
50 - 1000 MHz
1000 - 1200 MHz | dB | — | 0.8 | 0.9 |
| Directivity        | 5 - 50 MHz
50 - 500 MHz
500 - 1200 MHz | dB | 25  | 35   |
| Return Loss        | 5 - 50 MHz
50 - 500 MHz
500 - 1000 MHz
1000 - 1200 MHz | dB | 23  | 27   |

Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Power</td>
<td>250 mV</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>

Handling Procedures

Please observe the following precautions to avoid damage:

Static Sensitivity

These electronic devices are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.
Typical Performance Curves

**Coupling**

![Coupling Graph]

**Main Line Loss**

![Main Line Loss Graph]

**Input Return Loss**

![Input Return Loss Graph]

**Output Return Loss**

![Output Return Loss Graph]

**Coupled Return Loss**

![Coupled Return Loss Graph]

**Directivity**

![Directivity Graph]
Recommended PCB Configuration

Outline Drawing, Case Style SM-22

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

M/A-COM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.

For further information and support please visit: https://www.macom.com/support