MACP-009821-CG0650

16dB 75Ohm Coupler
5 to 862MHz

Features

- Surface Mount
- Coupling 16dB typical
- 260°C Reflow Compatible
- RoHS Compliant, Lead free
- RoHS version of EMDC-16-11-75
- Available on Tape and Reel.

Description

M/A-COM’s MACP-009821-CG0650 is a high performance 75 Ohm Coupler, in a SM-101 low cost, surface mount package. The MACP-009821-CG0650 is designed for use in high volume CATV applications. Typical applications include Set-top Boxes, Network Interface Units, Broadband Amplifiers and Headend equipment.

Schematic

Case style: SM-101

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-009821-CG0650</td>
<td>900 piece reel</td>
</tr>
<tr>
<td>MACP-009821-CG06TB</td>
<td>Customer Test Board</td>
</tr>
</tbody>
</table>

Note: Reference Application Note M513 for reel size information.

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Frequency</th>
<th>Units</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mainline Loss</td>
<td>5 - 862 MHz</td>
<td>dB</td>
<td>-</td>
<td>1.05</td>
<td>1.25</td>
</tr>
<tr>
<td>Coupling</td>
<td>5 - 44 MHz</td>
<td>dB</td>
<td>-</td>
<td>-</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>45 MHz</td>
<td>dB</td>
<td>-</td>
<td>-</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>862 MHz</td>
<td>dB</td>
<td>-</td>
<td>-</td>
<td>15.6</td>
</tr>
<tr>
<td>Coupling Flatness</td>
<td>5 - 862 MHz</td>
<td>dB</td>
<td>-</td>
<td>-</td>
<td>±0.3</td>
</tr>
<tr>
<td>Isolation</td>
<td>5 - 862 MHz</td>
<td>dB</td>
<td>29</td>
<td>33</td>
<td>-</td>
</tr>
<tr>
<td>Input Return Loss</td>
<td>5 - 862 MHz</td>
<td>dB</td>
<td>18</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>Output Return Loss</td>
<td>5 - 862 MHz</td>
<td>dB</td>
<td>18</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>Coupled Return Loss</td>
<td>5 - 862 MHz</td>
<td>dB</td>
<td>18</td>
<td>25</td>
<td>-</td>
</tr>
</tbody>
</table>

Recommended Maximum Ratings \(^{1,2}\)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</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>-40°C to +85°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40°C to +85°C</td>
</tr>
</tbody>
</table>
Typical Performance Curves: $T_A = 25^\circ C$, $0\text{dBm}$, $Z_0 = 75\Omega$, $P_{in} = 0\text{dBm}$

**Coupling**

**Main Line Loss**

**Return Loss: Input**

**Return Loss: Output**

**Isolation**

**Return Loss: Coupled**

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