MACPCT0040

Broadband CATV, Coupler
5 - 1000 MHz

Rev. V3

Features
- Surface Mount
- Typical Coupling +10dB
- 260°C compatible
- RoHS Compliant
- Available on Tape and Reel
- Pb Free

Description
MACPCT0040 is a 10 dB broadband Coupler in a low cost, 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: \( T_A = 25^\circ C, \ Z_0 = 50 \ \Omega \)

<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 - 500 MHz</td>
<td>dB</td>
<td>—</td>
<td>9.95</td>
<td>10 ± 0.4</td>
</tr>
<tr>
<td></td>
<td>500 - 1000 MHz</td>
<td></td>
<td>9.90</td>
<td>10 ± 0.6</td>
<td></td>
</tr>
<tr>
<td>Main Line Loss</td>
<td>5 - 500 MHz</td>
<td>dB</td>
<td>—</td>
<td>1.1</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>500 - 1000 MHz</td>
<td></td>
<td>1.3</td>
<td></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 - 500 MHz</td>
<td></td>
<td>18</td>
<td>21</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>500 - 1000 MHz</td>
<td></td>
<td>13</td>
<td>18</td>
<td>—</td>
</tr>
<tr>
<td>Input Return Loss</td>
<td>5 - 1000 MHz</td>
<td>dB</td>
<td>16</td>
<td>21</td>
<td>—</td>
</tr>
<tr>
<td>Output Return Loss</td>
<td>5 - 50 MHz</td>
<td>dB</td>
<td>20</td>
<td>30</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>50 - 500 MHz</td>
<td></td>
<td>28</td>
<td>40</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>500 - 1000 MHz</td>
<td></td>
<td>20</td>
<td>35</td>
<td>—</td>
</tr>
<tr>
<td>Coupling Return Loss</td>
<td>5 - 50 MHz</td>
<td>dB</td>
<td>16</td>
<td>20</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>500 - 1000 MHz</td>
<td></td>
<td>13</td>
<td>18</td>
<td>—</td>
</tr>
<tr>
<td>Isolation Return Loss</td>
<td>5 - 50 MHz</td>
<td>dB</td>
<td>20</td>
<td>30</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>50 - 500 MHz</td>
<td></td>
<td>25</td>
<td>43</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>500 - 1000 MHz</td>
<td></td>
<td>16</td>
<td>25</td>
<td>—</td>
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</table>

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
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<tbody>
<tr>
<td>MACPCT0040TR</td>
<td>2000 piece reel</td>
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</table>

Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
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<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>
Typical Performance Curves: $T_A = +25^\circ C$, $Z_0 = 50 \, \Omega$\textsuperscript{1}

1. Full Temperature Plots Available on request.
MACPCT0040

Broadband CATV Coupler
5 - 1000 MHz

Dimensions

1. Dimensions in mm
2. Tolerance: ±0.2 mm unless otherwise noted
3. Model number and lot code are printed on reel
4. Lead Finish: Gold

Tape & Reel Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qty Per Reel</td>
<td>-</td>
<td>2000</td>
</tr>
<tr>
<td>Reel Size</td>
<td>mm</td>
<td>330</td>
</tr>
<tr>
<td>Tape Width</td>
<td>mm</td>
<td>12.00</td>
</tr>
<tr>
<td>Pitch</td>
<td>mm</td>
<td>8.00</td>
</tr>
<tr>
<td>Orientation</td>
<td>-</td>
<td>F5</td>
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Reference Application Note ANI-019 for orientation
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