MAPDCT0032

3 Way 0 Degree Power Divider
5 to 1200 MHz

Features
- Surface mount
- 3 Way 0 Degree
- RoHS Compliant and is 260°C reflow compatible
- RoHS version of MAPDCT0005 & MAPDCT0017
- Available on tape and reel, reel quantity 500

Description
M/A-COM's MAPDCT0032 is a 3 way 0 degree Power Divider in a low cost, surface mount package. Ideally suited for high volume CATV/Broadband applications. No external components are required with this product.

Pin Configuration

<table>
<thead>
<tr>
<th>Function</th>
<th>Pin Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Output 1</td>
</tr>
<tr>
<td>2,3,6,7</td>
<td>Ground</td>
</tr>
<tr>
<td>4</td>
<td>Output 2</td>
</tr>
<tr>
<td>5</td>
<td>Output 3</td>
</tr>
<tr>
<td>8</td>
<td>Input</td>
</tr>
</tbody>
</table>

Schematic

Case Style SM-4

Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF 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>-40°C to +85°C</td>
</tr>
</tbody>
</table>

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

<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>Insertion Loss 1 (pin8 - pin1)</td>
<td>5 - 46 MHz</td>
<td>dB</td>
<td>-</td>
<td>0.37</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>46 - 870 MHz</td>
<td>dB</td>
<td>-</td>
<td>1.23</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>870 - 1002 MHz</td>
<td>dB</td>
<td>-</td>
<td>1.50</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>1002 - 1200 MHz</td>
<td>dB</td>
<td>-</td>
<td>2.23</td>
<td>3.2</td>
</tr>
<tr>
<td>Insertion Loss 2 (pin8 - pin4)</td>
<td>5 - 46 MHz</td>
<td>dB</td>
<td>-</td>
<td>0.37</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>46 - 870 MHz</td>
<td>dB</td>
<td>-</td>
<td>1.0</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>870 - 1002 MHz</td>
<td>dB</td>
<td>-</td>
<td>1.2</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>1002 - 1200 MHz</td>
<td>dB</td>
<td>-</td>
<td>2.0</td>
<td>2.8</td>
</tr>
<tr>
<td>Insertion Loss 3 (pin8 - pin5)</td>
<td>5 - 46 MHz</td>
<td>dB</td>
<td>-</td>
<td>0.38</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>46 - 870 MHz</td>
<td>dB</td>
<td>-</td>
<td>1.5</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>870 - 1002 MHz</td>
<td>dB</td>
<td>-</td>
<td>1.8</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>1002 - 1200 MHz</td>
<td>dB</td>
<td>-</td>
<td>2.8</td>
<td>3.3</td>
</tr>
<tr>
<td>Input Return Loss</td>
<td>5 - 8 MHz</td>
<td>dB</td>
<td>26</td>
<td>28</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>8 - 46 MHz</td>
<td>dB</td>
<td>27</td>
<td>31</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>46 - 405 MHz</td>
<td>dB</td>
<td>20</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>405 - 1002 MHz</td>
<td>dB</td>
<td>17.5</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1002 - 1200 MHz</td>
<td>dB</td>
<td>11</td>
<td>18</td>
<td>-</td>
</tr>
<tr>
<td>Output Return Loss 1&amp;2 (Pin1, Pin4)</td>
<td>5 - 46 MHz</td>
<td>dB</td>
<td>11</td>
<td>18</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>46 - 1200 MHz</td>
<td>dB</td>
<td>20</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>Output Return Loss 3 (Pin5)</td>
<td>5 - 46 MHz</td>
<td>dB</td>
<td>11</td>
<td>18</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>46 - 740 MHz</td>
<td>dB</td>
<td>20</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>740 - 1002 MHz</td>
<td>dB</td>
<td>17</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1002 - 1200 MHz</td>
<td>dB</td>
<td>14</td>
<td>18</td>
<td>-</td>
</tr>
<tr>
<td>Isolation Between all Outputs</td>
<td>5 - 46 MHz</td>
<td>dB</td>
<td>18</td>
<td>28</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>46 - 1002 MHz</td>
<td>dB</td>
<td>20</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>1002 - 1200 MHz</td>
<td>dB</td>
<td>18</td>
<td>24</td>
<td>-</td>
</tr>
<tr>
<td>Amplitude Unbalance, Output 1 to Output 2 (pin 1, 4)</td>
<td>5 - 46 MHz</td>
<td>dB</td>
<td>-</td>
<td>0.0</td>
<td>-0.1</td>
</tr>
<tr>
<td></td>
<td>46 - 1002 MHz</td>
<td>dB</td>
<td>-</td>
<td>0.3</td>
<td>0.5</td>
</tr>
<tr>
<td>Amplitude Unbalance, Output 1 to Output 2 (pin 1, 5) &amp; Output 2 to Output 3 (pin 4, 5)</td>
<td>5 - 46 MHz</td>
<td>dB</td>
<td>-</td>
<td>-0.1</td>
<td>-0.2</td>
</tr>
<tr>
<td></td>
<td>46 - 1002 MHz</td>
<td>dB</td>
<td>-</td>
<td>-0.3</td>
<td>-0.5</td>
</tr>
<tr>
<td>Phase Unbalance between all Outputs</td>
<td>5 - 50 MHz</td>
<td>°</td>
<td>-</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>50 - 1200 MHz</td>
<td>°</td>
<td>-</td>
<td>3.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>
Typical Performance Curves @ $T_A = 25^\circ C$, $Z_0 = 75\Omega$

Insertion Loss

Isolation

Amplitude Balance

Phase Balance

Return Loss: Input

Return Loss: Output
MAPDCT0032

3 Way 0 Degree Power Divider
5 to 1200 MHz

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ao</td>
<td>10.26mm +/-0.1mm</td>
</tr>
<tr>
<td>Bo</td>
<td>13.46mm +/-0.1mm</td>
</tr>
<tr>
<td>Ko</td>
<td>6.10mm +/-0.1mm</td>
</tr>
<tr>
<td>W</td>
<td>24.00mm +/-0.3mm</td>
</tr>
<tr>
<td>P1</td>
<td>16.00mm +/-0.1mm</td>
</tr>
</tbody>
</table>

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAPDCT0032</td>
<td>500</td>
</tr>
</tbody>
</table>

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