MAPDCT0027

2 Way 0° Power Divider
5 - 1000 MHz

Features
- SMT unit
- 2 Way 0 degree
- 260°C Reflow Compatible
- RoHS Compliant and Pb free
- Available on Tape and Reel

Description
The MAPDCT0027 is 2 way 0 degree RF power divider in a low cost, surface mount package. An external 180 Ohm resistor is required between the two outputs ports. Ideally suited for high volume CATV/Broadband applications.

Functional Schematic

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAPDCT0027</td>
<td>900 piece reel</td>
</tr>
</tbody>
</table>

Pin Configuration

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ground</td>
</tr>
<tr>
<td>2</td>
<td>Not connected (ground)</td>
</tr>
<tr>
<td>3</td>
<td>Output 2</td>
</tr>
<tr>
<td>4</td>
<td>Output 1</td>
</tr>
<tr>
<td>5</td>
<td>Not connected (ground)</td>
</tr>
<tr>
<td>6</td>
<td>Input</td>
</tr>
</tbody>
</table>

Electrical Specifications: $T_A = 25°C$, $Z_0 = 75 \Omega$

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Conditions</th>
<th>Units</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
</table>
| Insertion Loss                  | 5 - 500 MHz  
500 - 1000 MHz | dB    | 0.4  | 0.7  | 1.0  |
| Amplitude Unbalance             | 5 - 500 MHz  
500 - 1000 MHz | dB    | 0.28 | 0.32 | ±0.4 | ±0.6 |
| Phase Unbalance                 | 5 - 1000 MHz                         | °     | 1.0  |      | ±3.0 |
| Input Return Loss               | 5 - 700 MHz  
700 - 870 MHz  
870 - 1000 MHz | dB    | 25   | 33   |      |
| Output Return Loss              | 5 - 40 MHz  
40 - 1000 MHz | dB    | 15   | 24   |      |
| Isolation                       | 5 - 500 MHz  
500 - 1000 MHz | dB    | 20   | 27   |      |

Recommended Maximum Ratings$^{1,2}$

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Power</td>
<td>1 W</td>
</tr>
<tr>
<td>DC Current</td>
<td>240 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>

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.
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5 - 1000 MHz

Typical Performance Curves: $T_A = 25°C$, $Z_0 = 75 \, \Omega$, $P_{in} = 0 \, $dBm

- **Insertion Loss**
  - Frequency (MHz) vs. dB
  - $-1$ to $0$ dB

- **Isolation**
  - Frequency (MHz) vs. dB
  - $25$ to $35$ dB

- **Amplitude Unbalance**
  - Frequency (MHz) vs. dB
  - $-1$ to $1$ dB

- **Phase Unbalance**
  - Frequency (MHz) vs. degrees
  - $-20$ to $0$ degrees

- **Return Loss: Input**
  - Frequency (MHz) vs. dB
  - $5$ to $40$ dB

- **Return Loss: Output**
  - Frequency (MHz) vs. dB
  - $5$ to $40$ dB

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Outline Drawing

Dimensions in inches (mm).
Tolerance where not specified: .xx ± .02, .xxx ± .010.

Carrier Tape Orientation

Footprint for PCB

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