Features
- 4:1 Impedance ratio
- Surface mount
- Can be used in both 50Ω and 75Ω systems
- Available on tape and reel
- Lead-Free open package
- RoHS* Compliant and 260°C Reflow Compatible

Description
MABA-009232-CT4A4B is a 4:1 RF transmission line transformer in a low cost, surface mount package.

Ideally suited for broadband CATV applications.

Functional Schematic

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MABA-009232-CT4A4B</td>
<td>2000 piece reel</td>
</tr>
<tr>
<td>MABA-009232-CT4ATB</td>
<td>Sample Board</td>
</tr>
</tbody>
</table>

1. Reference Application Note M513 for reel size information.
2. MACOM recommends connecting unused package pins to ground.

Pin Configuration

<table>
<thead>
<tr>
<th>Pin no.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Secondary dot (Output 1)</td>
</tr>
<tr>
<td>2</td>
<td>Centre tap (Ground)</td>
</tr>
<tr>
<td>3</td>
<td>Secondary (Output 2)</td>
</tr>
<tr>
<td>4</td>
<td>Primary (Ground)</td>
</tr>
<tr>
<td>6</td>
<td>Primary dot (Input)</td>
</tr>
</tbody>
</table>

Transformer, 4:1 Transmission Line Balun
5 to 1200 MHz

Electrical Specifications: $T_A = 25°C$, $Z_0 = 50 \, \Omega$

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions</th>
<th>Units</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
</tr>
</thead>
</table>
| Insertion Loss 1  
(Pin 6 to 1)                  | 5 - 450 MHz  
450 - 1200 MHz | dB    | 0.8  | 1.3  | 2.6  |
| Insertion Loss 2  
(Pin 6 to 3)                  | 5 - 450 MHz  
450 - 870 MHz  
870 - 1200 MHz | dB    | 0.8  | 1.3  | 2.5  |
| Amplitude Unbalance  
(Nominal 0dB)                | 5 - 750 MHz  
750 - 1200 MHz | dB    | 0.05 | 0.6  | ±1.0 |
| Phase Unbalance  
(Nominal 180º)               | 5 - 50 MHz  
50 - 870 MHz  
870 - 1200 MHz | º      | 0.4  | 3.8  | ±2   |
| Input Return Loss              | 5 - 50 MHz  
50 - 650 MHz  
650 - 1200 MHz | dB    | 15   | 17   | 11   |

Absolute maximum ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max input power</td>
<td>250 mW</td>
</tr>
<tr>
<td>DC current</td>
<td>200 mA</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C to +105°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40°C to +85°C</td>
</tr>
</tbody>
</table>

Case style: SM-187

Dimensions in inches [mm] Tolerance: .xx ± .02, .xxx ± .010, unless otherwise stated
Transformer, 4:1 Transmission Line Balun
5 to 1200 MHz

Typical Performance Curves: $T_A = 25^\circ$C, $Z_0 = 50$ $\Omega$

**Insertion Loss 1:** through pin 6 to pin 1

**Insertion Loss 2:** coupled pin 6 to pin 3

**Amplitude Balance**

**Phase Balance**

**Return Loss: Input**
Transformer, 4:1 Transmission Line Balun
5 to 1200 MHz

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