MAPDCC0001

Low Cost Two-Way SMT Power Divider
824-960 MHz

Features
- Small Size and Low Profile
- Excellent Amplitude and Phase Balance
- Superior Repeatability
- Typical Insertion Loss 0.5 dB
- Typical Isolation 23 dB
- 1 Watt Power Handling
- Lead-Free SOIC-8 Package
- 100% Matte Tin Plating over Copper
- Halogen-Free “Green” Mold Compound
- 260°C Reflow Compatible
- RoHS* Compliant Version of DS52-0001

Description
M/A-COM’s MAPDCC0001 is an IC-based monolithic power divider in a low cost SOIC-8 plastic package. This 2-way power divider is ideally suited for applications where small size, low insertion loss, superior phase/amplitude tracking and low cost are required. Typical applications include base station switching networks and other communication applications where size and PCB real estate are a premium. Available in tape and reel.

The MAPDCC0001 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAPDCC0001</td>
<td>Bulk Packaging</td>
</tr>
<tr>
<td>MAPDCC0001TR</td>
<td>1000 piece reel</td>
</tr>
<tr>
<td>MAPDCC0001-TB</td>
<td>Sample Test Board</td>
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</tbody>
</table>

Note: Reference Application Note M513 for reel size information.


For further information and support please visit:
https://www.macom.com/support
Electrical Specifications\textsuperscript{1}: $T_A = +25^\circ C$

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|c|c|}
\hline
Parameter & Units & Min & Typ & Max \\
\hline
Insertion Loss & Above 3.0dB & dB & — & 0.5 & 0.6 \\
Isolation & & dB & 15 & 23 & — \\
VSWR & Input & — & — & 1.35:1 & 1.5:1 \\
 & Output & — & — & 1.25:1 & 1.4:1 \\
Amplitude Balance & dB & — & — & 0.05 & 0.15 \\
Phase Balance & Deg. & — & — & 0.5 & 1.5 \\
\hline
\end{tabular}
\end{table}

\textsuperscript{1} All specifications apply with a 50-Ohm source and load impedance.

Absolute Maximum Ratings\textsuperscript{2,3}

\begin{table}[h]
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\begin{tabular}{|l|l|}
\hline
Parameter & Absolute Maximum \\
\hline
Input Power\textsuperscript{4} & 1 W CW \\
Operating Temperature & -40°C to +85°C \\
Storage Temperature & -65°C to +150°C \\
\hline
\end{tabular}
\end{table}

\textsuperscript{2} Exceeding any one or combination of these limits may cause permanent damage to this device.

\textsuperscript{3} M/A-COM does not recommend sustained operation near these survivability limits.

\textsuperscript{4} With internal load dissipation of 0.125 W maximum.

Recommended PCB Configuration

Handling Procedures

Please observe the following precautions to avoid damage:

Static Sensitivity

GMIC Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.
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**Typical Performance @ +25°C**

- **Insertion Loss vs. Frequency**
- **Isolation vs. Frequency**
- **VSWR vs. Frequency**
- **Phase Balance vs. Frequency Relative to RF1**

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Lead-Free, SOIC-8†

† Reference Application Note M538 for lead-free solder reflow recommendations.