MAFL-010140-CT0C60

MoCA Triplex Filter
5 - 2000 MHz

Features
- 75 Ω
- Surface Mount Technology
- RoHS* Compliant & Lead-Free

Description
The MAFL-010140-CT0C60 is a surface mount triplex filter unit designed for MoCA applications.

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Pin Configuration

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MoCA Path Port</td>
</tr>
<tr>
<td>2,3,5,6,8,9,10,12,13,14</td>
<td>Ground</td>
</tr>
<tr>
<td>4</td>
<td>Forward Path Port</td>
</tr>
<tr>
<td>7</td>
<td>Return Path Port</td>
</tr>
<tr>
<td>11</td>
<td>RF Input (Common Port)</td>
</tr>
</tbody>
</table>

Functional Schematic

![Functional Schematic](image)

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions Frequency (MHz)</th>
<th>Units</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Port Return Loss</td>
<td>5 - 42 54 - 1002 1125 - 1525</td>
<td>dB</td>
<td>-15</td>
<td>-12</td>
<td>-10</td>
</tr>
<tr>
<td>Reverse Path Filter</td>
<td>5 - 42 54 - 64 64 - 210 210 - 450 450 - 1002</td>
<td>dB</td>
<td>-1.2</td>
<td>-62.0</td>
<td>-60.0</td>
</tr>
<tr>
<td>Forward Path Filter</td>
<td>5 - 40 40 - 42 54 - 88 88 - 800 800 - 1002 1125 - 1200 1200 - 1400 1400 - 1500 1500 - 2000</td>
<td>dB</td>
<td>-55.0</td>
<td>-50.0</td>
<td>-47.5</td>
</tr>
<tr>
<td>MoCA Path Filter</td>
<td>5 - 750 750 - 1002 1125 - 1525 2000</td>
<td>dB</td>
<td>-50.0</td>
<td>-45.0</td>
<td>-40.0</td>
</tr>
</tbody>
</table>

* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

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Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAFL-010140-CT0C60</td>
<td>960 per tray</td>
</tr>
</tbody>
</table>

Absolute Maximum Ratings\(^{1,2}\)

<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>
</tbody>
</table>
| Operating & Storage
  Temperature               | -40°C to +85°C    |

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.

Typical Performance Curves

**Common Port Return Loss**

**Common to Reverse Path Filter**

**Common to Forward Path Filter**

**Common to MoCA Path Filter**

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Recommended PCB Configuration

- Track dimension = 1.15 mm
- Gap dimension = 1.3 mm
- It is not recommended to run tracks under the filter unless they are greater than 1.6 mm below the base.
- Ground should be 1.6 mm below the base of the filter.
- Area directly under the filter should be free from copper.
- RF shield should be kept a minimum of 6mm above the filter.
- Recommended stack up as follows:

Component Dimensions (SM-198)
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