MAFL-010256-CB0AD0

MoCA Band Pass Filter
1125 - 1550 MHz

Rev. V3

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

Description
The MAFL-010256-CB0AD0 is a surface mount band-pass filter unit designed for MoCA applications.

Electrical Specifications: \( T_A = 25^\circ C, P_{IN} = 0 \text{ dBm, } Z_0 = 75 \Omega \)

<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>Insertion Loss</td>
<td>1125 - 1550</td>
<td>dB</td>
<td>1.7</td>
<td>—</td>
<td>2.0</td>
</tr>
<tr>
<td>Stop band Rejection</td>
<td>5 - 300 &lt;br&gt; 300 - 800 &lt;br&gt; 800 - 1002 &lt;br&gt; 2250 - 3000</td>
<td>dB</td>
<td>53</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>44</td>
<td>38</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>40</td>
<td>33</td>
<td>38</td>
</tr>
<tr>
<td>Input Port Return Loss</td>
<td>1125 - 1200 &lt;br&gt; 1200 - 1550</td>
<td>dB</td>
<td>12.5</td>
<td>11.0</td>
<td>10.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11.0</td>
<td>10.0</td>
<td>—</td>
</tr>
</tbody>
</table>

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAFL-010256-CB0AD0</td>
<td>500 piece reel</td>
</tr>
<tr>
<td>MAFL-010256-CB0ATB</td>
<td>customer evaluation board</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>
<tr>
<td>Operating &amp; Storage</td>
<td>-40°C to +85°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.

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

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DS-MAFL-010256-CB0AD0
Typical Performance Curves

**Insertion Loss**

![Insertion Loss Graph]

**Return Loss**

![Return Loss Graph]
Recommended PCB Configuration

- Track dimension = 1.1 mm
- Gap dimension = 1.2 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 6 mm above the filter

Dimensions in mm. Tolerance: \( \pm 0.1 \), unless otherwise specified

Component Dimensions (SM-173)
Tape & Reel Information

<table>
<thead>
<tr>
<th>Item</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ao</td>
<td>15.40 +/- 0.1</td>
</tr>
<tr>
<td>Bo</td>
<td>15.40 +/- 0.1</td>
</tr>
<tr>
<td>Ko</td>
<td>5.40 +/- 0.1</td>
</tr>
<tr>
<td>W</td>
<td>32.00 +/- 0.3</td>
</tr>
<tr>
<td>P1</td>
<td>20.00 +/- 0.1</td>
</tr>
</tbody>
</table>