MAFL-011082

Reflection-less Low Pass Filter
5 - 684 MHz

Features
- 75 Ω
- Surface Mount 18 mm device
- Low Insertion Loss to 684 MHz
- Matched to 1218 MHz
- RoHS Compliant and Pb free

Description
MAFL-011082 is a reflection less low pass filter with a pass band from 5 - 684 MHz with low insertion loss in the pass band and excellent matched return loss to 1218 MHz.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAFL-011082</td>
<td>300 piece reel</td>
</tr>
<tr>
<td>MAFL-011082-TB</td>
<td>Sample Board</td>
</tr>
</tbody>
</table>

1. Reference Application Note M513 for reel size information.
2. All sample boards include 5 loose parts.

Functional Schematic

Pin Configuration

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16</td>
<td>Ground</td>
</tr>
<tr>
<td>3</td>
<td>Input Port</td>
</tr>
<tr>
<td>10</td>
<td>Output Port</td>
</tr>
</tbody>
</table>

3. MACOM recommends connecting unused package pins to ground.
4. The exposed pad centered on the package bottom must be connected to RF, DC and thermal ground.

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions Frequency (MHz)</th>
<th>Units</th>
<th>Min</th>
<th>Typical</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insertion Loss</td>
<td>5 - 684</td>
<td>dB</td>
<td>—</td>
<td>0.75</td>
<td>1.0</td>
</tr>
<tr>
<td>Filter Rejection</td>
<td>1000</td>
<td>dB</td>
<td>22</td>
<td>24</td>
<td>—</td>
</tr>
<tr>
<td>1218</td>
<td>35</td>
<td></td>
<td>45</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Filter Input Port Return Loss</td>
<td>5 - 1218</td>
<td>dB</td>
<td>18</td>
<td>22</td>
<td>—</td>
</tr>
</tbody>
</table>

* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.
Reflection-less Low Pass Filter
5 - 684 MHz

Absolute Maximum Ratings\(^5,6\)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</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></td>
</tr>
<tr>
<td>Temperature</td>
<td>-40°C to +85°C</td>
</tr>
</tbody>
</table>

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

Handling Procedures

Please observe the following precautions to avoid damage:

Static Sensitivity

These electronic devices are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

Typical Performance Curves

Low Pass Filter

Input Port Return Loss
Recommended PCB Configuration

Dimensions in mm. Tolerance: .x ± 0.1, .xx ± 0.05

Filter Outline Drawing
Reflection-less Low Pass Filter
5 - 684 MHz
Rev. V2

Tape & Reel Information

Parameter | Units | Value
--- | --- | ---
Qty per reel | — | 300
Reel Size | mm | 330
Tape Width | mm | 32.00
Pitch | mm | 24.00
Ao | mm | 18.5
Bo | mm | 18.5
Ko | mm | 7.0
Orientation | — | F30

Reference Application Note ANI-019 for orientation
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