MAFL-011050

Horizontal Plug-in Diplex Filter
5 - 65 / 86 - 1218 MHz

Features
- Plug in Design
- Low Insertion Loss
- Excellent Cross over Isolation
- Excellent Return loss
- RoHS compliant
- Lead Free

Description
MAFL-011050 is a high performance horizontal plug-in diplex filter designed specifically for the CATV infrastructure market.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAFL-011050</td>
<td>200pcs per Box</td>
</tr>
</tbody>
</table>

Functional Schematic

Pin Configuration

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,4,6,7,9</td>
<td>Ground</td>
</tr>
<tr>
<td>3</td>
<td>Forward Path Port</td>
</tr>
<tr>
<td>5</td>
<td>Reverse Path Port</td>
</tr>
<tr>
<td>8</td>
<td>Common Port</td>
</tr>
</tbody>
</table>
Target Electrical Specifications: \( T_A = 25^\circ C, Z_0 = 75 \, \Omega \)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Units</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Insertion loss</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reverse Path</td>
<td>dB</td>
<td></td>
<td>1.0</td>
<td>1.2</td>
</tr>
<tr>
<td>5 - 65 MHz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward Path</td>
<td>dB</td>
<td></td>
<td>1.0</td>
<td>1.2</td>
</tr>
<tr>
<td>750 - 1218 MHz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Isolation</strong></td>
<td>dB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - 65 MHz</td>
<td>48</td>
<td>51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 - 750 MHz</td>
<td>38</td>
<td>41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>86 - 1002 MHz</td>
<td>45</td>
<td>51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1002 - 1218 MHz</td>
<td>40</td>
<td>45</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Return Loss</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common Port</td>
<td>dB</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - 65 MHz</td>
<td>22</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>86 - 1218 MHz</td>
<td>22</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1000 - 1218 MHz</td>
<td>19</td>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Group Delay</strong></td>
<td></td>
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</tr>
<tr>
<td>Reverse Path</td>
<td>nSec</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>62 - 63.5 MHz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63.5 - 65 MHz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward Path</td>
<td>nSec</td>
<td></td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>112.25 - 116.68 MHz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120.25 - 124.68 MHz</td>
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</tbody>
</table>

**Recommended Maximum Ratings**\(^1,2\)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF power</td>
<td>250mW</td>
</tr>
<tr>
<td>DC current</td>
<td>30mA</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td>Storage temperature</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.
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Outline Drawing

Dimensions in mm [inches] (Tolerance +/-0.3mm unless stated otherwise)
Typical Performance Curves:

**Low Pass Filter**

![Low Pass Filter Graph](image)

**High Pass Filter**

![High Pass Filter Graph](image)

**Common Port Return Loss**

![Common Port Return Loss Graph](image)

**Isolation**

![Isolation Graph](image)
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