MAFL-011049

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-011049 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-011049</td>
<td>200pcs per Box</td>
</tr>
</tbody>
</table>

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>5</td>
<td>Forward Path Port</td>
</tr>
<tr>
<td>3</td>
<td>Reverse Path Port</td>
</tr>
<tr>
<td>8</td>
<td>Common Port</td>
</tr>
</tbody>
</table>

For further information and support please visit: https://www.macom.com/support
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>Insertion loss</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reverse Path</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - 65 MHz</td>
<td>dB</td>
<td>—</td>
<td>1.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Forward Path</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>86 - 1218 MHz</td>
<td>dB</td>
<td>—</td>
<td>1.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Isolation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - 65 MHz</td>
<td>dB</td>
<td>48</td>
<td>51</td>
<td>—</td>
</tr>
<tr>
<td>65 - 86 MHz</td>
<td>dB</td>
<td>38</td>
<td>41</td>
<td>—</td>
</tr>
<tr>
<td>86 - 1002 MHz</td>
<td>dB</td>
<td>45</td>
<td>51</td>
<td>—</td>
</tr>
<tr>
<td>1002 - 1218 MHz</td>
<td>dB</td>
<td>40</td>
<td>45</td>
<td>—</td>
</tr>
<tr>
<td>Return Loss</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common Port</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - 65 MHz</td>
<td>dB</td>
<td>22</td>
<td>24</td>
<td>—</td>
</tr>
<tr>
<td>86 - 750 MHz</td>
<td>dB</td>
<td>22</td>
<td>24</td>
<td>—</td>
</tr>
<tr>
<td>750 - 1218 MHz</td>
<td>dB</td>
<td>19</td>
<td>21</td>
<td>—</td>
</tr>
<tr>
<td>Group Delay</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reverse Path</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62 - 63.5 MHz</td>
<td>nSec</td>
<td>—</td>
<td>10</td>
<td>—</td>
</tr>
<tr>
<td>63.5 - 65 MHz</td>
<td>nSec</td>
<td>—</td>
<td>17</td>
<td>—</td>
</tr>
<tr>
<td>Forward Path</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>112.25 - 116.68 MHz</td>
<td>nSec</td>
<td>—</td>
<td>17</td>
<td>—</td>
</tr>
<tr>
<td>120.25 - 124.68 MHz</td>
<td>nSec</td>
<td>—</td>
<td>10</td>
<td>—</td>
</tr>
</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 temp.</td>
<td>-40°C to +85°C</td>
</tr>
<tr>
<td>Storage temp.</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.
MAFL-011049

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

Outline Drawing

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

Tolerance on pin spacing +/- 0.1mm
Typical Performance Curves:

Low Pass Filter

High Pass Filter

Common Port Return Loss

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

<table>
<thead>
<tr>
<th>Rev. V1</th>
</tr>
</thead>
</table>

M/A-COM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with M/A-COM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.