MACOM’s MAFL-011048 is a high performance horizontal plug-in diplex filter designed specifically for the CATV infrastructure market.

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

**Description**

<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>

Dimensions in mm (Tolerance +/-0.2mm unless stated otherwise)
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 - 42 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>54 - 1218 MHz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Isolation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 - 42 MHz</td>
<td>dB</td>
<td>48</td>
<td>51</td>
<td>—</td>
</tr>
<tr>
<td>42 - 54 MHz</td>
<td>dB</td>
<td>38</td>
<td>41</td>
<td>—</td>
</tr>
<tr>
<td>54 - 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><strong>Return Loss</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Common Port</td>
<td>dB</td>
<td>22</td>
<td>24</td>
<td>—</td>
</tr>
<tr>
<td>5 - 42 MHz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54 - 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><strong>Group Delay</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reverse Path</td>
<td>nSec</td>
<td>—</td>
<td>10</td>
<td>—</td>
</tr>
<tr>
<td>39.0 - 40.5 MHz</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>40.5 - 42.0 MHz</td>
<td>nSec</td>
<td>—</td>
<td>17</td>
<td>—</td>
</tr>
<tr>
<td>Forward Path</td>
<td>nSec</td>
<td>—</td>
<td>16.5</td>
<td>—</td>
</tr>
<tr>
<td>55.25 - 58.825 MHz</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>61.25 - 64.825 MHz</td>
<td>nSec</td>
<td>—</td>
<td>10</td>
<td>—</td>
</tr>
<tr>
<td>67.25 - 70.825 MHz</td>
<td>nSec</td>
<td>—</td>
<td>6</td>
<td>—</td>
</tr>
</tbody>
</table>

**Recommended Maximum Ratings**

<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

For further information and support please visit: https://www.macom.com/support
Typical Performance Curves:

Low Pass Filter

High Pass Filter

Common Port Return Loss

Isolation
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