DIPLEXER

Available in either a connectorized or miniature surface mount package (0.240 inch x 0.150 inch), the DPX-4 is a low cost, high performance diplexer. The unique design offers high pass/low pass signal routing/multiplexing with excellent isolation. Passband insertion loss is less than 1.4 dB with rejection typically exceeding 25 dB. Besides being ideal for transmitter/receiver applications, the DPX-4 can also be used as an excellent non-reflective low pass (or high pass) filter for systems requiring broadband 50Ω impedance match (such as mixers).

Features

- Low Insertion Loss
- Superior Repeatability
- Low Profile Miniaturized, Reflow Solderable Package Option
- User defined cross over frequencies available

Electrical Specifications – Specifications guaranteed from -55 to +100°C, measured in a 50Ω system.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Frequency Range (GHz)</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low Pass Filter</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross Over Frequency</td>
<td>4.1</td>
<td>±5 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pass Band Insertion Loss (dB)</td>
<td>DC to 2.8</td>
<td>0.8</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Stop Band Rejection (dB)</td>
<td>5.5 to 6</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 to 12</td>
<td>15</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Pass Band Return Loss (dB)</td>
<td>&lt;2.7</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>High Pass Filter</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pass Band Insertion Loss (dB)</td>
<td>5.5 to 12</td>
<td>1.2</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>Stop Band Rejection (dB)</td>
<td>&lt;2</td>
<td>30</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;2.8</td>
<td></td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Pass Band Return Loss (dB)</td>
<td>5.5 to 12</td>
<td></td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Common Port Return Loss (dB)</td>
<td>&lt;2.8</td>
<td></td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.5 to 12</td>
<td></td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Isolation (dB)</td>
<td>&lt;2.8</td>
<td>20</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5.5 to 12</td>
<td>15</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>RF Power (W)</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

**Part Number Options**

<table>
<thead>
<tr>
<th>Package Style(s)¹</th>
<th>Example</th>
<th>S-Parameters²</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPX (Surface Mount)</td>
<td>DPX-4-1</td>
<td>DPX-4.S3P</td>
</tr>
<tr>
<td>DPXN (Connectorized)</td>
<td>DPXN-4</td>
<td></td>
</tr>
</tbody>
</table>

¹For surface mount package, specify port configuration by adding –1 or –2 suffix to model number. Default is –2 configuration when not specified.

²S-Parameters include test fixture.

215 Vineyard Court, Morgan Hill, CA 95037 | Ph: 408.778.4200 | Fax 408.778.4300 | info@markimicrowave.com
DIPLEXER

Fig. 1. Schematic Diagram

Typical Performance

Fig. 2. Insertion loss.

Fig. 3. Return loss.

Fig. 4. Isolation.

Fig. 5. Common port return loss.

Marki Microwave reserves the right to make changes to the product(s) or information contained herein without notice. Marki Microwave makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Marki Microwave assume any liability whatsoever arising out of the use of or application of any product.