Diplex Filters
For DOCSIS 1.0, 1.1, 2.0

These diplex filter modules provide both low pass and high pass filtering in low cost units that meet the requirements of the DOCSIS 1.0, 1.1 and 2.0 standards. They are intended for two-way broadcast applications like cable modems, set-top boxes and HFC cable network equipment.

The DPX-C parts are low-profile surface mount units that require a minimum of board space. The DPX-B are shielded and come with an integrated coaxial F connector.

In addition to the designs shown here, Coilcraft can custom-engineer diplexers for specific applications. For free evaluation samples, contact Coilcraft or order them on-line at www.coilcraft.com.

<table>
<thead>
<tr>
<th>Part number</th>
<th>DOCSIS standard</th>
<th>Low pass filter</th>
<th>High pass filter</th>
<th>1. Current that causes a 15°C temperature rise from 25°C ambient.</th>
<th>2. Operating temperature range -40°C to +85°C.</th>
<th>3. Electrical specifications at 25°C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPX4254-B</td>
<td>1.0</td>
<td>5 – 42 MHz</td>
<td>≤1.0 dB</td>
<td>≥15 dB</td>
<td>54 – 860 MHz</td>
<td>≤1.5 dB</td>
</tr>
<tr>
<td>DPX4254-C</td>
<td>1.0</td>
<td>5 – 42 MHz</td>
<td>≤1.5 dB</td>
<td>≥15 dB</td>
<td>54 – 860 MHz</td>
<td>≤1.5 dB</td>
</tr>
<tr>
<td>DPX4288-B</td>
<td>1.1, 2.0</td>
<td>5 – 42 MHz</td>
<td>≤1.5 dB</td>
<td>≥10 dB</td>
<td>88 – 860 MHz</td>
<td>≤1.5 dB</td>
</tr>
<tr>
<td>DPX4288-C</td>
<td>1.1, 2.0</td>
<td>5 – 42 MHz</td>
<td>≤1.5 dB</td>
<td>≥10 dB</td>
<td>88 – 860 MHz</td>
<td>≤1.5 dB</td>
</tr>
</tbody>
</table>

**Schematic – Shielded Filters (-B)**

**Schematic – Surface Mount Filters (-C)**

Impedance: 75 ohms all ports
Shielded Diplex Filter – DPX4254-B

Low pass response

High pass response

Return loss

Isolation

Unshielded Diplex Filter – DPX4254-C

Low pass response

High pass response

Return loss

Isolation
Shielded Diplex Filter – DPX4288-B

Low pass response

High pass response

Return loss

Isolation

Unshielded Diplex Filter – DPX4288-C

Low pass response

High pass response

Return loss

Isolation