Combination Line Filter Chokes

This series of chokes is intended for use in AC line filters for switching power supplies. They combine common and differential mode filtering in a single component.

By using these parts, designers can eliminate two extra filter chokes compared to a standard common mode choke. The unique combination of special windings and materials provides much better filtering performance than either a common mode choke or a single winding inductor alone.

The differential filtering frequency response is designed to provide filtering at higher frequencies while still allowing the AC line power to pass through without loss. This characteristic is demonstrated in the Differential Mode Attenuation curves.

<table>
<thead>
<tr>
<th>Part number</th>
<th>Common mode impedance max (kOhms)</th>
<th>Common mode inductance typ (mH)</th>
<th>Differential mode inductance typ (µH)</th>
<th>Irms (A)</th>
<th>DCR max (Ohms)</th>
<th>Isolation (VRms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P3717-AL</td>
<td>597.7 @ 0.19 MHz</td>
<td>25.0</td>
<td>1000</td>
<td>3.0</td>
<td>0.30</td>
<td>1500</td>
</tr>
<tr>
<td>Q4007-AL</td>
<td>301.9 @ 0.65 MHz</td>
<td>4.5</td>
<td>150</td>
<td>5.0</td>
<td>0.06</td>
<td>1500</td>
</tr>
<tr>
<td>Q4018-AL</td>
<td>43.32 @ 1.2 MHz</td>
<td>1.5</td>
<td>35</td>
<td>10</td>
<td>0.02</td>
<td>1500</td>
</tr>
</tbody>
</table>

1. Inductance measured at 15.75 kHz, 1.0 Vrms, 0 Adc.
2. Current that causes a 40°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.
3. DCR is specified per winding.
4. Isolation (hipot) measured for one minute.
5. Electrical specifications at 25°C.
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**Typical Attenuation** (Ref: 50 Ohms)

![Graph showing typical attenuation](image)

**Typical Impedance**

![Graph showing typical impedance](image)

**Recommended PC Board Layout**

![Recommendation for PC board layout](image)

Dimensions are in inches.