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.

### Specification

<table>
<thead>
<tr>
<th>Part number</th>
<th>Common mode impedance(^1) max (kOhms)</th>
<th>Common mode inductance(^1) typ (mH)</th>
<th>Differential mode inductance typ (µH)</th>
<th>Irms(^2) (A)</th>
<th>DCR max(^3) (Ohms)</th>
<th>Isolation(^4) (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.

### Technical Specifications

- **Core material**: Ferrite
- **Terminations**: RoHS compliant tin-silver over tin over copper.
- **Weight**: 100 – 113 g
- **Ambient temperature**: −40°C to +85°C
- **Storage temperature**: Component: −40°C to +85°C. Tray packaging: −40°C to +80°C
- **Moisture Sensitivity Level (MSL)**: 1 (unlimited floor life at <30°C / 85% relative humidity)
- **Packaging**: 30 per tray (after 5/09); 16 per tray (prior to 6/09)
- **PCB washing**: Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

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Document 144-1 Revised 07/06/22

This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.
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Typical Attenuation (Ref: 50 Ohms)

Typical Impedance

Recommended PC Board Layout

Dimensions are in inches

Dimensions are in mm