IEEE 1394 Common Mode Choke

- Designed for IEEE 1394 and other high-speed twisted pair interfaces.
- Shielded 1812 size filter
- Provides over 21 dB attenuation of common mode noise at 400 MHz with a cutoff frequency of 1.2 GHz

Core material: Ferrite
Terminations: RoHS compliant gold over nickel over moly-manganese.
Weight: 30 mg
Ambient temperature: –40°C to +85°C with Irms current.
Maximum part temperature: +100°C (ambient + temp rise).
Storage temperature: Component: –40°C to +100°C.
Tape and reel packaging: –40°C to +80°C.

Resistance to soldering heat: Max three 40 second refloows at +260°C, parts cooled to room temperature between cycles.

Moisture Sensitivity Level (MSL): 1 (unlimited floor life at <30°C / 85% relative humidity)

Packaging: 600/7″ reel; 2200/13″ reel. Plastic tape: 12 mm wide, 0.25 mm thick, 8 mm pocket spacing, 3.9 mm pocket depth.


<table>
<thead>
<tr>
<th>Part number1</th>
<th>Common mode peak impedance (kOhms)</th>
<th>Cutoff frequency2 (GHz)</th>
<th>Common mode attenuation typ (dB)</th>
<th>Inductance3 min (µH)</th>
<th>DCR max4 (Ohms)</th>
<th>Isolation5 (Vrms)</th>
<th>Irms6 (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM1394L_</td>
<td>0.813 @ 660 MHz</td>
<td>1.2</td>
<td>11.1</td>
<td>21.1</td>
<td>22.7</td>
<td>0.22</td>
<td>0.105</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100 MHz</td>
<td>400 MHz</td>
<td>500 MHz</td>
<td></td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.5</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:

Packaging: CM1394L C = 7″ machine-ready reel. EIA-481 embossed plastic tape (600 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (525 charge).

D = 13″ machine-ready reel. EIA-481 embossed plastic tape (2200 parts per full reel).

B = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.

2. Frequency at which the differential mode attenuation equals –3 dB.

3. Inductance measured at 100 MHz.

4. DCR is specified per winding.

5. Winding to winding isolation (hipot) tested for one minute.

6. Current per winding that causes a 15°C rise from 25°C ambient.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

Recommended Land Pattern

<table>
<thead>
<tr>
<th>A max</th>
<th>B max</th>
<th>C max</th>
<th>D ref</th>
<th>E ref</th>
<th>F ref</th>
<th>G min</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.231</td>
<td>0.196</td>
<td>0.150</td>
<td>0.107</td>
<td>0.100</td>
<td>0.178</td>
<td>0.04</td>
<td>0.03</td>
</tr>
<tr>
<td>5.87</td>
<td>4.98</td>
<td>3.81</td>
<td>2.72</td>
<td>2.54</td>
<td>4.52</td>
<td>1.02</td>
<td>0.76</td>
</tr>
</tbody>
</table>

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Typical Attenuation (Ref: 50 Ohms)

![Typical Impedance vs Frequency Graph](image)

Typical Impedance vs Frequency