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 reflows at +260°C, parts cooled to room temperature between cycles

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

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

1. When ordering, please specify **packaging** code:
   - CM1394L_ C = 7” machine-ready reel. EIA-481 embossed plastic tape (600 parts per full reel).
   - B = Less than full reel. In tape, but not machine ready. To have a leader and trailer added ($25 charge), use code letter C instead.
   - D = 13” machine-ready reel. EIA-481 embossed plastic tape (2200 parts per full reel).

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.

7. Electrical specifications at 25°C. Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

<table>
<thead>
<tr>
<th>Part number</th>
<th>Common mode peak impedance (kOhms)</th>
<th>Cutoff frequency (GHz)</th>
<th>Common mode attenuation typ (dB) 100 MHz 400 MHz 500 MHz</th>
<th>Inductance (µH)</th>
<th>DCR max (Ohms)</th>
<th>Isolation (Vrms)</th>
<th>Irms (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM1394L_</td>
<td>0.813 @ 660 MHz</td>
<td>1.2</td>
<td>11.1 21.1 22.7</td>
<td>0.22</td>
<td>0.105</td>
<td>50</td>
<td>1.5</td>
</tr>
</tbody>
</table>

1-7. Please refer to the online tool for complete specifications.

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**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>
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<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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Please check web site for latest information.
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Typical Attenuation (Ref: 50 Ohms)

![Typical Impedance vs Frequency Graph](image1)

Typical Impedance vs Frequency

![Typical Impedance vs Frequency Graph](image2)