SMT Common Mode Chokes for power line applications

- Solutions for use in a wide array of power line circuits
- Ideal for use in consumer electronics and industrial applications
- Suppression of high frequency common mode noise up to 100 MHz
- Excellent current ratings — up to 10 A
- Surface mount toroids
- Upon request, additional values may be available for particular applications

<table>
<thead>
<tr>
<th>Part number</th>
<th>Common mode peak impedance (kOhms)</th>
<th>Inductance (mH)</th>
<th>Irms (A)</th>
<th>DCR max (mOhms)</th>
<th>Isolation (Vrms)</th>
<th>Length max (mm)</th>
<th>Width max (mm)</th>
<th>Height max (mm)</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE1755-AL</td>
<td>3.32 @ 5.1 MHz</td>
<td>0.88</td>
<td>1.2</td>
<td>130</td>
<td>1000</td>
<td>13.00</td>
<td>13.00</td>
<td>5.46</td>
<td>2</td>
</tr>
<tr>
<td>CR7915-AL</td>
<td>3.10 @ 4.9 MHz</td>
<td>1.12</td>
<td>2.6</td>
<td>49.5</td>
<td>1500</td>
<td>13.00</td>
<td>13.00</td>
<td>5.60</td>
<td>3</td>
</tr>
<tr>
<td>CF3094-AL</td>
<td>7.93 @ 2.5 MHz</td>
<td>1.17</td>
<td>1.1</td>
<td>200</td>
<td>1000</td>
<td>13.00</td>
<td>13.00</td>
<td>5.46</td>
<td>4</td>
</tr>
<tr>
<td>CM6518-AL</td>
<td>4.17 @ 1.9 MHz</td>
<td>1.40</td>
<td>2.5</td>
<td>60.0</td>
<td>1500</td>
<td>16.38</td>
<td>14.22</td>
<td>8.90</td>
<td>5</td>
</tr>
<tr>
<td>CJ5094-CL</td>
<td>28.28 @ 0.26 MHz</td>
<td>10.0</td>
<td>1.2</td>
<td>180</td>
<td>1000</td>
<td>16.38</td>
<td>14.22</td>
<td>8.90</td>
<td>6</td>
</tr>
<tr>
<td>CV9172-AL</td>
<td>70.01 @ 0.21 MHz</td>
<td>22.0</td>
<td>0.57</td>
<td>850</td>
<td>1000</td>
<td>16.38</td>
<td>14.22</td>
<td>8.90</td>
<td>7</td>
</tr>
<tr>
<td>CF2638L</td>
<td>2.59 @ 4.3 MHz</td>
<td>0.22</td>
<td>2.9</td>
<td>60.0</td>
<td>1000</td>
<td>19.56</td>
<td>17.02</td>
<td>9.91</td>
<td>8</td>
</tr>
<tr>
<td>CD1479-AL</td>
<td>4.19 @ 3.0 MHz</td>
<td>0.59</td>
<td>4.2</td>
<td>20.0</td>
<td>1000</td>
<td>19.56</td>
<td>17.02</td>
<td>9.91</td>
<td>9</td>
</tr>
<tr>
<td>CH4659-AL</td>
<td>4.56 @ 2.5 MHz</td>
<td>0.77</td>
<td>4.7</td>
<td>40.0</td>
<td>1000</td>
<td>19.56</td>
<td>17.02</td>
<td>9.91</td>
<td>10</td>
</tr>
<tr>
<td>CD1480-BL</td>
<td>4.53 @ 2.2 MHz</td>
<td>1.32</td>
<td>3.5</td>
<td>60.0</td>
<td>1000</td>
<td>19.56</td>
<td>17.02</td>
<td>9.91</td>
<td>11</td>
</tr>
<tr>
<td>CE2439L</td>
<td>9.42 @ 1.1 MHz</td>
<td>1.47</td>
<td>2.5</td>
<td>80.0</td>
<td>1000</td>
<td>19.56</td>
<td>17.02</td>
<td>9.91</td>
<td>12</td>
</tr>
<tr>
<td>CG3333-AL</td>
<td>2.27 @ 2.9 MHz</td>
<td>0.90</td>
<td>3.7</td>
<td>50.0</td>
<td>1000</td>
<td>19.56</td>
<td>17.02</td>
<td>9.90</td>
<td>13</td>
</tr>
<tr>
<td>CG3528-AL</td>
<td>6.23 @ 0.72 MHz</td>
<td>3.00</td>
<td>3.1</td>
<td>42.0</td>
<td>1000</td>
<td>19.56</td>
<td>17.02</td>
<td>9.91</td>
<td>14</td>
</tr>
<tr>
<td>CE1759-AL</td>
<td>4.82 @ 0.99 MHz</td>
<td>0.81</td>
<td>6.0</td>
<td>14.0</td>
<td>1000</td>
<td>31.0</td>
<td>26.0</td>
<td>13.0</td>
<td>15</td>
</tr>
<tr>
<td>CG3885-AL</td>
<td>3.11 @ 1.8 MHz</td>
<td>0.47</td>
<td>10.0</td>
<td>8.0</td>
<td>1000</td>
<td>31.0</td>
<td>26.0</td>
<td>12.7</td>
<td>16</td>
</tr>
<tr>
<td>CF2805-AL</td>
<td>3.64 @ 1.9 MHz</td>
<td>0.63</td>
<td>6.8</td>
<td>14.0</td>
<td>1000</td>
<td>31.0</td>
<td>26.0</td>
<td>12.7</td>
<td>17</td>
</tr>
</tbody>
</table>
Common Mode Choke – CE1755-AL

Part number1 Common mode impedance max (kOhms) Inductance (mH)2

<table>
<thead>
<tr>
<th>Part number</th>
<th>nominal</th>
<th>min</th>
<th>I rms3 (A)</th>
<th>DCR max4 (mOhms)</th>
<th>Isolation5 (VRms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE1755-AL_</td>
<td>3.32 @ 5.1 MHz</td>
<td>0.88</td>
<td>0.57</td>
<td>1.2</td>
<td>130</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:

**CE1755-ALD**

**Packaging:**
- **D** = 13” 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 D instead.

2. Inductance shown for each winding, measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.

3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

4. DCR is specified per winding.

5. Isolation (hipot) measured for two seconds.

6. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

---

**Typical Attenuation**

**Typical Impedance versus Frequency**

---

**Dimensions are in inches mm**

---

**Core material** Ferrite  
**Terminations** RoHS compliant tin-silver-copper over copper  
**Weight** 0.92 g  
**Ambient temperature** –40°C to +85°C with 1rms current  
**Maximum part temperature** +125°C (ambient + temp rise)  
**Storage temperature** Component: –40°C to +125°C. Tape and reel packaging: –40°C to +80°C  
**Resistance to soldering heat** Max three 40 second refows 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  
**Packaging** 600/13” reel Plastic tape: 24 mm wide, 0.4 mm thick, 16 mm pocket spacing, 5.5 mm pocket depth  
**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.
Common Mode Choke – CR7915-AL

<table>
<thead>
<tr>
<th>Part number¹</th>
<th>Common mode impedance (kOhms)</th>
<th>Inductance (mH)²</th>
<th>Irms³</th>
<th>DCR max⁴</th>
<th>Isolation⁵ (Vrms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR7915-AL</td>
<td>3.10 @ 4.9 MHz</td>
<td>1.12</td>
<td>0.73</td>
<td>2.6</td>
<td>49.5</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:

   CR7915-ALD

   Packaging:  
   D = 13″ 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 D instead.

2. Inductance shown for each winding, measured at 10 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.

3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

4. DCR is specified per winding.

5. Isolation (hipot) measured for two seconds.

6. Electrical specifications at 25°C.

   Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

Typical Attenuation

Typical Impedance versus Frequency

Core material: Ferrite
Terminations: RoHS compliant tin-silver-copper over copper
Weight: 1.53 g
Ambient temperature: –40°C to +85°C with Irms current
Maximum part temperature: +125°C (ambient + temp rise)
Storage temperature: Component: –40°C to +125°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 / 26,315,788 hours, calculated per Telcordia SR-332
Packaging: 600/13″ reel Plastic tape: 24 mm wide, 0.4 mm thick, 16 mm pocket spacing, 5.5 mm pocket depth
Common Mode Chokes – CF3094-AL

<table>
<thead>
<tr>
<th>Part number</th>
<th>Common mode impedance max (kOhms)</th>
<th>Inductance (mH)</th>
<th>I rms (A)</th>
<th>DCR max (mOhms)</th>
<th>Isolation (Vrms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF3094-AL_</td>
<td>7.93 @ 2.5 MHz</td>
<td>1.17</td>
<td>0.76</td>
<td>1.1</td>
<td>200</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:

   **CF3094-ALD**

   **Packaging:**
   - **D** = 13” 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 D instead.

2. Inductance shown for each winding, measured at 10 kHz, 0.1 Vrms, 0 A dc on an Agilent/HP 4263B LCR meter or equivalent.

3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

4. DCR is specified per winding.

5. Isolation (hipot) measured for two seconds.

6. Electrical specifications at 25°C.

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

**Dimensions are in inches/mm**

**Core material** Ferrite

**Terminations** RoHS compliant tin-silver-copper over copper

**Weight** 1.38 g

**Ambient temperature** –40°C to +85°C with Irms current

**Maximum part temperature** +125°C (ambient + temp rise)

**Storage temperature** Component: –40°C to +125°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

**Packaging** 600/13” reel Plastic tape: 24 mm wide, 0.4 mm thick, 16 mm pocket spacing, 5.5 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.
## Common Mode Choke – CM6518-AL

1. When ordering, please specify **packaging** code:

<table>
<thead>
<tr>
<th>Packaging Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>13&quot; machine-ready reel. EIA-481 embossed plastic tape (350 parts per full reel).</td>
</tr>
<tr>
<td>B</td>
<td>Less than full reel. In tape, but not machine ready. To have a leader and trailer added ($25 charge), use code letter D instead.</td>
</tr>
</tbody>
</table>

2. Inductance shown for each winding, measured at 10 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.

3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

4. DCR is specified per winding.

5. Isolation (hiplt) measured for two seconds.

6. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

### Specifications

**Part number**: CM6518-AL

<table>
<thead>
<tr>
<th>Common mode impedance (max kOhms)</th>
<th>Inductance (mH)</th>
<th>Irms (A)</th>
<th>DCR max (mOhms)</th>
<th>Isolation (Vrms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM6518-AL_</td>
<td>4.17 @ 1.9 MHz</td>
<td>1.40</td>
<td>2.5</td>
<td>60.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Typical Impedance versus Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimensions</strong></td>
</tr>
<tr>
<td>0.01</td>
</tr>
<tr>
<td>0.1</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>10</td>
</tr>
</tbody>
</table>

**Core material**: Ferrite

**Terminals**: RoHS compliant tin-silver-copper over copper

**Weight**: 2.48 g

**Ambient temperature**: –40°C to +85°C with Irms current

**Maximum part temperature**: +125°C (ambient + temp rise)

**Storage temperature**: Component: –40°C to +125°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

**Packaging**: 350/13" reel. Plastic tape: 24 mm wide, 0.4 mm thick, 20 mm pocket spacing, 9.1 mm pocket depth

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

**Recommended Land Pattern**
Common Mode Choke – CJ5094-CL

Part number | Common mode impedance max (kOhms) | Inductance (mH) | Irms | DCR max | Isolation (Vrms)
--- | --- | --- | --- | --- | ---
CJ5094-CL_ | 28.28 @ 0.26 MHz | 10.0 | 6.5 | 1.2 | 180 | 1000

1. When ordering, please specify packaging code:

   **CJ5094-CL**

   **Packaging:**
   - **D** = 13" machine-ready reel. EIA-481 embossed plastic tape (350 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 D instead.

2. Inductance shown for each winding, measured at 10 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.

3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

4. DCR is specified per winding.

5. Isolation (hipot) measured for two seconds.

6. Electrical specifications at 25°C.

   Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

---

**Typical Attenuation**

**Typical Impedance versus Frequency**

---

**Core material**: Ferrite

**Terminations**: RoHS compliant tin-silver-copper over copper

**Weight**: 2.9 g

**Ambient temperature**: –40°C to +85°C with Irms current

**Maximum part temperature**: +125°C (ambient + temp rise)

**Storage temperature**: Component: –40°C to +125°C. Tape and reel packaging: –40°C to +80°C

**Resistance to soldering heat**: Max three 40 second reflo ws 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

**Packaging**: 350/13" reel Plastic tape: 24 mm wide, 0.4 mm thick, 24 mm pocket spacing, 8.6 mm pocket depth

**PCB washing**: Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc 787_PCB_Washing.pdf
### Common Mode Choke – CV9172-AL

<table>
<thead>
<tr>
<th>Part number</th>
<th>Common mode impedance max (kOhms)</th>
<th>Inductance (mH)</th>
<th>Irms</th>
<th>DCR max</th>
<th>Isolation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV9172-AL</td>
<td>70.01 @ 0.21 MHz</td>
<td>22.0</td>
<td>14.3</td>
<td>0.57</td>
<td>850</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:

- **D** = 13” machine-ready reel. EIA-481 embossed plastic tape (350 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 D instead.

2. Inductance shown for each winding, measured at 10 kHz, 1.0 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.

3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

4. DCR is specified per winding.

5. Isolation (hi-pot) measured for two seconds.

6. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

#### Typical Attenuation

![Typical Attenuation Graph](attachment:typical_attenuation_graph.png)

#### Typical Impedance versus Frequency

![Typical Impedance Graph](attachment:typical_impedance_graph.png)

Core material: Ferrite

Terminations: RoHS compliant tin-silver-copper over copper

Weight: 2.4 g

Ambient temperature: -40°C to +85°C with Irms current

Maximum part temperature: +125°C (ambient + temp rise)

Storage temperature: Component: -40°C to +125°C. Tape and reel packaging: -40°C to +80°C

Resistance to soldering heat: Max three 40 second reflo ws 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

Packaging: 350/13” reel Plastic tape: 24 mm wide, 0.4 mm thick, 20 mm pocket spacing, 9.1 mm pocket depth

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

**Note:** 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.
### Common Mode Choke – CF2638L

<table>
<thead>
<tr>
<th>Part number1</th>
<th>Common mode impedance max (kOhms)</th>
<th>Inductance (mH)2</th>
<th>Irms3</th>
<th>DCR max4</th>
<th>Isolation5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF2638LD</td>
<td>2.59 @ 4.3 MHz</td>
<td>0.22 0.14</td>
<td>2.9</td>
<td>60.0</td>
<td>1000</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:

Packaging:
- **D** = 13” machine-ready reel. EIA-481 embossed plastic tape (250 parts per full reel).
- **B** = Less than full reel. In tape, but not machine ready.

2. Inductance shown for each winding, measured at 10 kHz, 1.0 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.
3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.
4. DCR is specified per winding.
5. Isolation (hipot) measured for two seconds.
6. Electrical specifications at 25°C.

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

---

**Typical Attenuation**

**Typical Impedance versus Frequency**

### Core material
- Ferrite

### Terminations
- RoHS compliant tin-silver-copper over copper

### Weight
- 3.2 g

### Ambient temperature
- –40°C to +85°C with Irms current

### Maximum part temperature
- +125°C (ambient + temp rise)

### Storage temperature
- Component: –40°C to +125°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

### Packaging
- 250/13” reel
- Plastic tape: 32 mm wide, 0.5 mm thick, 24 mm pocket spacing, 10.1 mm pocket depth

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

---

[www.coilcraft.com](http://www.coilcraft.com)
Common Mode Choke – CD1479-AL

<table>
<thead>
<tr>
<th>Part number</th>
<th>Common mode impedance max (kOhms)</th>
<th>Inductance (mH)</th>
<th>Irms (A)</th>
<th>DCR max (mOhms)</th>
<th>Isolation (Vrms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD1479-AL</td>
<td>4.19 @ 3.0 MHz</td>
<td>0.59</td>
<td>4.2</td>
<td>20.0</td>
<td>1000</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:

**Packaging:**
- **D** = 13” machine-ready reel. EIA-481 embossed plastic tape (250 parts per reel).
- **B** = Less than full reel. In tape, but not machine ready. To have a leader and trailer added ($25 charge), use code letter D instead.

2. Inductance shown for each winding, measured at 10 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.

3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

4. DCR is specified per winding.

5. Isolation (hipot) measured for two seconds.

6. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**Core material:** Ferrite

**Terminations:** RoHS compliant tin-silver-copper over copper

**Weight:** 4.9 g

**Ambient temperature:** -40°C to +85°C with Irms current

**Maximum part temperature:** +125°C (ambient + temp rise)

**Storage temperature:** Component: -40°C to +125°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

**Packaging:** 250/13” reel. Plastic tape: 32 mm wide, 0.5 mm thick, 24 mm pocket spacing, 10.1 mm pocket depth

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

Dimensions are in **inches** mm

---

© Coilcraft Inc. 2018

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.
Common Mode Choke – CH4659-AL

<table>
<thead>
<tr>
<th>Part number1</th>
<th>Common mode impedance max (kOhms)</th>
<th>Inductance (mH)2</th>
<th>Irms3</th>
<th>DCR max4</th>
<th>Isolation5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH4659-AL_</td>
<td>4.56 @ 2.5 MHz</td>
<td>0.77</td>
<td>0.50</td>
<td>4.7</td>
<td>40.0</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:

Packaging: D = 13” machine-ready reel. EIA-481 embossed plastic tape (250 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 D instead.

2. Inductance shown for each winding, measured at 10 kHz, 1.0 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.
3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.
4. DCR is specified per winding.
5. Isolation (hipot) measured for two seconds.
6. Electrical specifications at 25°C.

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

Typical Attenuation

Typical Impedance versus Frequency

Core material: Ferrite
Terminations: RoHS compliant tin-silver-copper over copper
Weight: 4.8 g
Ambient temperature: –40°C to +85°C with Irms current
Maximum part temperature: +125°C (ambient + temp rise)
Storage temperature: Component: –40°C to +125°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
Packaging: 250/13” reel Plastic tape: 32 mm wide, 0.5 mm thick, 24 mm pocket spacing, 10.1 mm pocket depth
PCB washing: Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf

Dimensions are in inches

Recommended Land Pattern

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

Document 1194P-10  Revised 08/09/18
© Coilcraft Inc. 2018
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.
# Common Mode Choke – CD1480-BL

<table>
<thead>
<tr>
<th>Part number</th>
<th>Common mode impedance max (kOhms)</th>
<th>Inductance (mH)</th>
<th>Irms</th>
<th>DCR max</th>
<th>Isolation (Vrms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD1480-BL</td>
<td>4.53 @ 2.2 MHz</td>
<td>1.32</td>
<td>3.5</td>
<td>60.0</td>
<td>1000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.85</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code: CD1480-BLD

**Packaging:**
- **D** = 13” machine-ready reel. EIA-481 embossed plastic tape (250 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 D instead.

2. Inductance shown for each winding, measured at 1 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.
3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.
4. DCR is specified per winding.
5. Isolation (hipot) measured for two seconds.

---

### Typical Impedance versus Frequency

**Core material:** Ferrite  
**Terminations:** RoHS compliant tin-silver-copper over copper  
**Weight:** 4.5 g  
**Ambient temperature:** –40°C to +85°C with Irms current  
**Maximum part temperature:** +125°C (ambient + temp rise)  
**Storage temperature:** Component: –40°C to +125°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  
**Packaging:** 250/13″ reel  
**PCB washing:** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf

---

**Internal code**

<table>
<thead>
<tr>
<th>CD1480-BL</th>
<th>XXXX Y</th>
</tr>
</thead>
</table>

**Recommended Land Pattern**

Dimensions are in inches (mm):

- 0.660 (16.76) mm
- 0.060 (1.52) mm
- 0.445 (11.30) mm

1 2 3 4

---

**Typical Attenuation**

- **Differential mode**
- **Common mode**
Common Mode Choke – CE2439L

<table>
<thead>
<tr>
<th>Part number</th>
<th>Impedance max (kOhms)</th>
<th>Inductance (mH)</th>
<th>Irms (A)</th>
<th>DCR max (mOhms)</th>
<th>Isolation (Vrms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE2439L</td>
<td>9.42 @ 1.1 MHz</td>
<td>1.47 nom, 0.96 min</td>
<td>2.5</td>
<td>80.0</td>
<td>1000</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:

- **Packaging:**
  - D = 13″ machine-ready reel. EIA-481 embossed plastic tape (250 parts per reel).
  - B = Less than full reel. In tape, but not machine ready.
  - To have a leader and trailer added ($25 charge), use code letter D instead.

2. Inductance shown for each winding, measured at 1 kHz, 0.1 Vrms, 0 A dc on an Agilent/HP 4263B LCR meter or equivalent.

3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

4. DCR is specified per winding.

5. Isolation (hipot) measured for two seconds.

6. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

**Typical Attenuation**

**Typical Impedance versus Frequency**

**Core material:** Ferrite

**Terminations:** RoHS compliant tin-silver-copper over copper

**Weight:** 4.3 g

**Ambient temperature:** –40°C to +85°C with Irms current

**Maximum part temperature:** +125°C (ambient + temp rise)

**Storage temperature:** Component: –40°C to +125°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

**Packaging:** 250/13″ reel

Plastic tape: 32 mm wide, 0.5 mm thick, 24 mm pocket spacing, 10.1 mm pocket depth

**PCB washing:** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.
Common Mode Chokes – CG3333-AL

<table>
<thead>
<tr>
<th>Part number1</th>
<th>Common mode impedance max (kOhms)</th>
<th>Inductance (mH)2</th>
<th>IRms5</th>
<th>DCR max4</th>
<th>Isolation5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CG3333-AL_</td>
<td>2.27 @ 2.9 MHz</td>
<td>0.90 min 0.59</td>
<td>3.7</td>
<td>50.0</td>
<td>1000</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:

   CG3333-ALD

   Packaging:  
   D = 13" machine-ready reel. EIA-481 embossed plastic tape (250 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 D instead.

2. Inductance shown for each winding, measured at 10 kHz, 0.1 Vrms, 0 A dc on an Agilent/HP 4263B LCR meter or equivalent.

3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

4. DCR is specified per winding.

5. Isolation (hipot) measured for two seconds.

6. Electrical specifications at 25°C.

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

---

Typical Attenuation

![Typical Attenuation Graph](image)

Typical Impedance versus Frequency

![Typical Impedance Graph](image)

---

Core material  Ferrite
Terminations  RoHS compliant tin-silver-copper over copper
Weight  4.2 g
Ambient temperature  –40°C to +85°C with Irms current
Maximum part temperature  +125°C (ambient + temp rise)
Storage temperature  Component: –40°C to +125°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)
Failures in Time (FIT) / Mean Time Between Failures (MTBF)  38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332
Packaging  250/13” reel Plastic tape: 32 mm wide, 0.5 mm thick, 24 mm pocket spacing, 10.1 mm pocket depth
PCB washing  Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

Dimensions are in inches/mm

---

Recommended Land Pattern

![Recommended Land Pattern](image)
## Common Mode Chokes – CG3528-AL

<table>
<thead>
<tr>
<th>Part number</th>
<th>Common mode impedance max (kOhms)</th>
<th>Inductance (mH)</th>
<th>Irms (A)</th>
<th>DCR max (mOhms)</th>
<th>Isolation (Vrms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CG3528-AL_</td>
<td>6.23 @ 0.72 MHz</td>
<td>3.00 / 1.95</td>
<td>3.1</td>
<td>42.0</td>
<td>1000</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:

**Packaging:**
- **D** = 13" machine-ready reel. EIA-481 embossed plastic tape (250 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 D instead.

2. Inductance shown for each winding, measured at 10 kHz, 1.0 Vrms, 0.1 Adc on an Agilent/HP 4263B LCR meter or equivalent.

3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

4. DCR is specified per winding.

5. Isolation (hipot) measured for two seconds.


### Typical Attenuation

- **Differential mode**
- **Common mode**

### Typical Impedance versus Frequency

Core material: Ferrite  
Terminations: RoHS compliant tin-silver-copper over copper  
Weight: 5.1 g  
Ambient temperature: -40°C to +85°C with Irms current  
Maximum part temperature: +125°C (ambient + temp rise)  
Storage temperature: Component: -40°C to +125°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  
Packaging: 250/13" reel  
# Common Mode Choke – CE1759-AL

<table>
<thead>
<tr>
<th>Part number</th>
<th>Common mode impedance max (kOhms)</th>
<th>Inductance (mH)$^1$</th>
<th>Irms$^3$ (A)</th>
<th>DCR max$^4$ (mOhms)</th>
<th>Isolation$^5$ (Vrms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE1759-AL</td>
<td>4.82 @ 0.99 MHz</td>
<td>0.81 – 0.52</td>
<td>6.0</td>
<td>14.0</td>
<td>1000</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:

**CE1759-AL**

Packaging:  
- **D** = 13" machine-ready reel. EIA-481 embossed plastic tape (120 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 D instead.

2. Inductance shown for each winding, measured at 10 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.

3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

4. DCR is specified per winding.

5. Isolation (hipot) measured for two seconds.

6. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

## Typical Attenuation

![Typical Attenuation Graph](image1)

## Typical Impedance versus Frequency

![Typical Impedance Graph](image2)

### Specifications
- **Core material**: Ferrite  
- **Terminations**: RoHS compliant tin-silver-copper over copper  
- **Weight**: 12.9 g  
- **Ambient temperature**: –40°C to +85°C with Irms current  
- **Maximum part temperature**: +125°C (ambient + temp rise)  
- **Storage temperature**: Component: –40°C to +125°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  
- **Packaging**: 120/13” reel. Plastic tape: 44 mm wide, 0.5 mm thick, 32 mm pocket spacing, 12.4 mm pocket depth  
- **PCB washing**: Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.
Common Mode Choke – CG3885-AL

1. When ordering, please specify packaging code:
   - **D**: 13″ machine-ready reel. EIA-481 embossed plastic tape (120 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 D instead.

2. Inductance shown for each winding, measured at 10 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.

3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

4. DCR is specified per winding.

5. Isolation (hipot) measured for two seconds.

6. Electrical specifications at 25°C.

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

---

**Typical Attenuation**

---

**Typical Impedance versus Frequency**

---

**Core material**: Ferrite  
**Terminations**: RoHS compliant tin-silver-copper over copper  
**Weight**: 15.3 g  
**Ambient temperature**: –40°C to +85°C with Irms current  
**Maximum part temperature**: +125°C (ambient + temp rise)  
**Storage temperature**: Component: –40°C to +125°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  
**Packaging**: 120/13″ reel Plastic tape: 44 mm wide, 0.5 mm thick, 32 mm pocket spacing, 12.4 mm pocket depth  
**PCB washing**: Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf
Common Mode Choke – CF2805-AL

1. When ordering, please specify packaging code:

   **CF2805-AL**

   **Packaging:**
   - D = 13” machine-ready reel. EIA-481 embossed plastic tape (120 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 D instead.

2. Inductance shown for each winding, measured at 10 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4263B LCR meter or equivalent.

3. Current per winding that causes a 40°C rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

4. DCR is specified per winding.

5. Isolation (hipot) measured for two seconds.

6. Electrical specifications at 25°C.

   Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

### Typical Attenuation

**Differential mode**

**Common mode**

### Typical Impedance versus Frequency

Core material: Ferrite

Terminations: RoHS compliant tin-silver-copper over copper

Weight: 14.6 g

Ambient temperature: –40°C to +85°C with Irms current

Maximum part temperature: +125°C (ambient + temp rise)

Storage temperature: Component: –40°C to +125°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

Packaging: 120/13” reel. Plastic tape: 44 mm wide, 0.5 mm thick, 32 mm pocket spacing, 12.4 mm pocket depth


Dimensions are in inches mm

**Recommended Land Pattern**

1. Recommended values for use with soldermask.

2. Dimensions are for reference only and are not to be used for the purpose of reflow designs.

3. The values are based on using a 4 layer board with a 0.004" thick soldermask.

4. The values are based on using a 6 layer board with a 0.005" thick soldermask.

5. The values are based on using a 8 layer board with a 0.005" thick soldermask.

6. The values are based on using a 10 layer board with a 0.005" thick soldermask.

7. The values are based on using a 12 layer board with a 0.005" thick soldermask.

8. The values are based on using a 14 layer board with a 0.005" thick soldermask.

9. The values are based on using a 16 layer board with a 0.005" thick soldermask.

10. The values are based on using a 18 layer board with a 0.005" thick soldermask.

11. The values are based on using a 20 layer board with a 0.005" thick soldermask.

12. The values are based on using a 22 layer board with a 0.005" thick soldermask.

13. The values are based on using a 24 layer board with a 0.005" thick soldermask.

14. The values are based on using a 26 layer board with a 0.005" thick soldermask.

15. The values are based on using a 28 layer board with a 0.005" thick soldermask.

16. The values are based on using a 30 layer board with a 0.005" thick soldermask.