Common Mode Chokes – MSD1583

- Only 8.6 mm high and 15 mm square
- Ideal for use in both power line and signal line applications
- Common- and differential-mode filtering in a single device
- Up to 38 MHz differential mode cutoff frequency
- Can be used as coupled inductors for SEPIC applications

Core material: Ferrite
Weight: 3.7 – 4.4 g
Environmental: RoHS compliant, halogen free
Terminations: RoHS compliant matte tin over nickel over phosphorous bronze. Other terminations available at additional cost.
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.
Winding-to-winding isolation: 500 Vrms, one minute.
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:
- 300/13” reel; Plastic tape: 32 mm wide, 0.5 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 Doc787_PCB_Washing.pdf.
# Common Mode Chokes – MSD1583 Series

<table>
<thead>
<tr>
<th>Partnumber</th>
<th>Common mode impedance max (kOhms)</th>
<th>Cutoff frequency (MHz)</th>
<th>Inductance (µH) min</th>
<th>Inductance (µH) nom</th>
<th>DCR max (Ohms)</th>
<th>Isolation (Vrms)</th>
<th>I rms (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSD1583-103ME</td>
<td>10.86 @ 17 MHz</td>
<td>38</td>
<td>8.0</td>
<td>10</td>
<td>0.031</td>
<td>500</td>
<td>3.68</td>
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<tr>
<td>MSD1583-123ME</td>
<td>12.11 @ 16 MHz</td>
<td>30</td>
<td>9.6</td>
<td>12</td>
<td>0.037</td>
<td>500</td>
<td>3.54</td>
</tr>
<tr>
<td>MSD1583-153ME</td>
<td>12.31 @ 14 MHz</td>
<td>25</td>
<td>12.0</td>
<td>15</td>
<td>0.045</td>
<td>500</td>
<td>3.18</td>
</tr>
<tr>
<td>MSD1583-183ME</td>
<td>15.77 @ 13 MHz</td>
<td>25</td>
<td>14.4</td>
<td>18</td>
<td>0.048</td>
<td>500</td>
<td>3.04</td>
</tr>
<tr>
<td>MSD1583-223ME</td>
<td>14.47 @ 12 MHz</td>
<td>28</td>
<td>17.6</td>
<td>22</td>
<td>0.065</td>
<td>500</td>
<td>2.44</td>
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<tr>
<td>MSD1583-333ME</td>
<td>33.82 @ 9 MHz</td>
<td>28</td>
<td>26.4</td>
<td>33</td>
<td>0.095</td>
<td>500</td>
<td>2.16</td>
</tr>
<tr>
<td>MSD1583-473ME</td>
<td>39.79 @ 7.6 MHz</td>
<td>23</td>
<td>37.6</td>
<td>47</td>
<td>0.115</td>
<td>500</td>
<td>1.98</td>
</tr>
<tr>
<td>MSD1583-683ME</td>
<td>49.24 @ 5.9 MHz</td>
<td>17</td>
<td>54.4</td>
<td>68</td>
<td>0.165</td>
<td>500</td>
<td>1.56</td>
</tr>
<tr>
<td>MSD1583-104KE</td>
<td>69.83 @ 5 MHz</td>
<td>16</td>
<td>90.0</td>
<td>100</td>
<td>0.260</td>
<td>500</td>
<td>1.24</td>
</tr>
<tr>
<td>MSD1583-154KE</td>
<td>73.09 @ 3.9 MHz</td>
<td>12</td>
<td>135</td>
<td>150</td>
<td>0.380</td>
<td>500</td>
<td>1.06</td>
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<tr>
<td>MSD1583-224KE</td>
<td>78.91 @ 3.3 MHz</td>
<td>9.7</td>
<td>198</td>
<td>220</td>
<td>0.460</td>
<td>500</td>
<td>0.92</td>
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<tr>
<td>MSD1583-474KE</td>
<td>104.9 @ 2.2 MHz</td>
<td>7.4</td>
<td>423</td>
<td>470</td>
<td>1.04</td>
<td>500</td>
<td>0.65</td>
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<tr>
<td>MSD1583-105KE</td>
<td>129.0 @ 1.5 MHz</td>
<td>5.8</td>
<td>900</td>
<td>1000</td>
<td>2.40</td>
<td>500</td>
<td>0.42</td>
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</tbody>
</table>

1. When ordering, please specify termination and packaging codes:

   **MSD1583-105KED**
   
   **Termination:** E = RoHS compliant matte tin over nickel over phos bronze.
   Special order: Q = RoHS tin-silver-copper (95.5/4/0.5) or P = non-RoHS tin-lead (63/37).
   **Packaging:** D = 13” machine-ready reel. EIA-481 embossed plastic tape (300 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. Frequency at which the differential mode attenuation equals 3 dB

3. Inductance shown for each winding, measured at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4284A LCR meter or equivalent.

4. DCR is for each winding.

5. Interwinding isolation (hipot) tested for one minute.

6. 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.

9. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.
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Typical Attenuation (Ref: 50 Ohms)

Typical Impedance vs Frequency

This product may not be used in medical or high-risk applications without prior Coilcraft approval.

Specifications subject to change without notice.
Please check our website for latest information.