Current Sense Transformers  CST1, CST2

- Designed for up to 1 MHz and above
- AEC-Q200 Grade 1 (−40°C to +125°C)
- Two pinouts to meet the requirements of different applications.
- Low primary DC resistance
- 500 Vrms, one minute isolation (hitop) between windings.

Designer’s Kit C389 contains 2 each of each part

Core material  Ferrite

Terminations  RoHS compliant tin-silver over tin over nickel over phosphorous bronze (pins 1 – 6); RoHS compliant matte tin over nickel over copper (pins 7 – 8)

Weight  0.4 g

Ambient temperature  −40°C to +125°C

Maximum part temperature  165°C (ambient + temp rise)

Storage temperature  Component: −40°C to +165°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)

Packaging  250/7“ reel; 1000/13” reel; Plastic tape: 16 mm wide, 0.35 mm thick, 12 mm pocket spacing, 5.6 mm pocket depth

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

<table>
<thead>
<tr>
<th>Turn</th>
<th>Inductance</th>
<th>DCR (Ohms)</th>
<th>Frequency range (kHz)</th>
<th>Volt-time product (V-μsec)</th>
<th>Sensed current I_s (A)</th>
<th>Terminating resistance R_T (Ohms)</th>
<th>Color dot</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST1</td>
<td>CST2</td>
<td>(N)</td>
<td>Pri:sec</td>
<td>min (μH)</td>
<td>Pri ref</td>
<td>Sec max</td>
<td>46 – &gt;1000</td>
</tr>
<tr>
<td>CST1-020L</td>
<td>CST2-020L</td>
<td>1:20</td>
<td>81</td>
<td>0.0007</td>
<td>0.400</td>
<td>31 – &gt;1000</td>
<td>16.2</td>
</tr>
<tr>
<td>CST1-030L</td>
<td>CST2-030L</td>
<td>1:30</td>
<td>180</td>
<td>0.0007</td>
<td>0.870</td>
<td>23 – &gt;1000</td>
<td>21.6</td>
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<tr>
<td>CST1-040L</td>
<td>CST2-040L</td>
<td>1:40</td>
<td>320</td>
<td>0.0007</td>
<td>1.14</td>
<td>19 – &gt;1000</td>
<td>27.0</td>
</tr>
<tr>
<td>CST1-050L</td>
<td>CST2-050L</td>
<td>1:50</td>
<td>500</td>
<td>0.0007</td>
<td>1.50</td>
<td>15 – &gt;1000</td>
<td>32.4</td>
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<tr>
<td>CST1-060L</td>
<td>CST2-060L</td>
<td>1:60</td>
<td>730</td>
<td>0.0007</td>
<td>1.98</td>
<td>13 – &gt;1000</td>
<td>37.8</td>
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<tr>
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<td>CST2-070L</td>
<td>1:70</td>
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<td>0.0007</td>
<td>4.75</td>
<td>9 – &gt;1000</td>
<td>54.0</td>
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<tr>
<td>CST1-100L</td>
<td>CST2-100L</td>
<td>1:100</td>
<td>2000</td>
<td>0.0007</td>
<td>5.50</td>
<td>7 – &gt;1000</td>
<td>67.5</td>
</tr>
</tbody>
</table>

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

   CST-125LC

2. Inductance measured between secondary pins at 100 kHz, 0.1 Vrms.
3. For specific questions regarding frequency range, please contact us at cst@coilcraft.com.
4. Volt-time product is for the secondary, between pin 6 and 4 for CST1 and between pin 3 and 3 for CST2.
5. Primary current of 20 A causes approximately 40°C temperature rise from 25°C ambient. Higher current causes a greater temperature rise (see Temperature Rise vs Current curve).

- Document 385-1 Revised 06/08/21
- © Coilcraft Inc. 2021
- 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

CST1

CST2

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CST Series Current Sense Transformers

Temperature Rise vs Current

Pinouts

Dimensions

Temperature rise (from 25°C)

Current (Arms)

CST1

CST2

Bottom View

Bottom View

Recommended Land Pattern

Dimensions are in inches / mm

Dimensions