# Current Sense Transformers CST1211

**NEW!**

- Designed for use from 1.18 kHz to 1 MHz to sense continuous currents to 28 Amps
- AEC-Q200 Grade 1 qualified (−40°C to +125°C ambient)
- 3000 Vrms, one minute isolation (hipot) between windings
- 3.6 mm creepage and clearance
- UL Class 180 (H) insulating materials

**Core material** Ferrite

**Environmental** RoHS compliant

**Terminations** Tin-silver-copper over tin over nickel over copper

**Weight** 2.6 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** 38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

**Resisting 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

**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**

1. Packaging: D = 13” machine-ready reel. EIA-481 embossed plastic tape (350 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).

2. Inductance measured between secondary pins at 100 kHz, 0.1 Vrms, 0 Adc.


4. Primary current of 28 A causes less than 40°C temperature rise from 25°C ambient. Higher current causes a greater temperature rise (see Temperature Rise vs Current curve).

5. Terminating resistance ($R_T$) value is based on 1 Volt output with 28 Amps flowing through the primary. Varying terminating resistance increases or decreases output Voltage/Ampere according to the following equation:

   $$ R_T = V_{out} \times N_{sec}/I_{in} $$

6. Electrical specifications at 25°C.

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

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## CST1211 Specifications

<table>
<thead>
<tr>
<th>Part number</th>
<th>Turns (N)</th>
<th>Inductance (mH)</th>
<th>DCR max (Ohms)</th>
<th>Frequency range (kHz)</th>
<th>Volt-time product (Vµsec)</th>
<th>Sensed current $I_{in}$ (A)</th>
<th>Terminating resistance $R_T$ (Ohms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CST1211-050LD</td>
<td>1:50</td>
<td>1.7</td>
<td>0.00153</td>
<td>33 – 1000</td>
<td>106.0</td>
<td>28</td>
<td>1.8</td>
</tr>
<tr>
<td>CST1211-070LD</td>
<td>1:70</td>
<td>3.0</td>
<td>0.00153</td>
<td>24 – 1000</td>
<td>148.4</td>
<td>28</td>
<td>2.5</td>
</tr>
<tr>
<td>CST1211-100LD</td>
<td>1:100</td>
<td>7.0</td>
<td>0.00153</td>
<td>17 – 1000</td>
<td>212.0</td>
<td>28</td>
<td>3.6</td>
</tr>
<tr>
<td>CST1211-125LD</td>
<td>1:125</td>
<td>11.0</td>
<td>0.00153</td>
<td>13 – 1000</td>
<td>265.0</td>
<td>28</td>
<td>4.5</td>
</tr>
<tr>
<td>CST1211-200LD</td>
<td>1:200</td>
<td>32.0</td>
<td>0.00153</td>
<td>11 – 1000</td>
<td>424.0</td>
<td>28</td>
<td>7.1</td>
</tr>
</tbody>
</table>

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1. Electrical specifications at 25°C.

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

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**Diagram:**

![Diagram of Current Sense Transformers](image)

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**Notes:**

- Parts shown are preproduction products available for evaluation only.
CST1211 Series SMT Current Sense Transformers

Temperature Rise vs Current

![Diagram of temperature rise vs current](image)

- Temperature rise (from 25°C)
- Current (A rms)

**Recommended Land Pattern**

Dimensions are in **inches** or **mm**

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