SMT Current Sense Transformer  

**SCS Series**

- Sensed current up to 30 A
- Frequency range up to 1 MHz
- 500 Vrms, one minute isolation (hipot) between windings.

**Core material**  Ferrite  
**Terminations**  RoHS compliant matte tin over nickel over phos bronze  
**Weight**  3.4 – 3.7 g

**Ambient temperature**  −40°C to +125°C  
**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**  200/13” reel Plastic tape: 32 mm wide, 0.5 mm thick, 24 mm pocket spacing, 3.0 mm pocket depth

**PCB washing**  Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf

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

<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 (V usec)</th>
<th>Sensed current (max. A)</th>
<th>Terminating resistance (Ohms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCS-050L</td>
<td>1:50</td>
<td>3.8</td>
<td>0.0024</td>
<td>6 – 1000</td>
<td>80</td>
<td>30</td>
<td>1.7</td>
</tr>
<tr>
<td>SCS-100L</td>
<td>1:100</td>
<td>14.8</td>
<td>0.0024</td>
<td>3 – 1000</td>
<td>160</td>
<td>30</td>
<td>3.3</td>
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<tr>
<td>SCS-200L</td>
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<td>59.2</td>
<td>0.0024</td>
<td>2 – 1000</td>
<td>320</td>
<td>30</td>
<td>6.7</td>
</tr>
</tbody>
</table>

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

- **SCS-200LD**  
  **Packaging**:  
  - **D** = 13” machine-ready reel. EIA-481 embossed plastic tape (200 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.

2. Inductance measured between secondary pins at 10 kHz, 0.06 Vrms, 0 Adc.

3. Primary DCR is measured with the windings connected in parallel.


5. Primary current of 30 A causes less than 25°C temperature rise from 25°C ambient. Higher current causes a greater temperature rise (see Temperature Rise vs Current curve).

6. Terminating resistance ($R_T$) value is based on 1 Volt output with 30 Amps flowing through the primary. Varying terminating resistance increases or decreases output Voltage/Ampere according to the following equation:  

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

7. Electrical specifications at 25°C.

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

**Typical Circuit**

![Typical Circuit Diagram]
SCS Series Current Sense Transformers

Temperature Rise vs Current

Dimensions

Note: Primary windings to be connected in parallel on the PC board.

Recommended Land Pattern

Dimensions are in inches and mm.