# Current Sense Transformers – SCS Series

**NEW!**

## Specifications

- **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

---

**Table: Current Sensing Transformers – SCS Series**

<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 (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>
</tr>
<tr>
<td>SCS-200L_</td>
<td>1:200</td>
<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-200L

**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:

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

7. Electrical specifications at 25°C.

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

---

**Typical Circuit**

![Typical Circuit Diagram](image)

- **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

---

**Document 1103-1 Revised 10/30/14**

© Coilcraft Inc. 2015

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.
SCS Series Current Sense Transformers

Temperature Rise vs Current

Dimensions

Dimensions are in inches or mm.

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

Recommended Land Pattern

Dimensions are in inches or mm.

RoHS Compliant