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 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)  10.06 per billion hours / 9.940E+07 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

Part number1  Turns (N)  pri : sec  Inductance2 (mH)  DCR max3 (Ohms)  Frequency range (kHz)  Volt-time product4 (Vµsec)  Sensed current I5, max (A)  Terminating resistance R6 (Ohms)

<table>
<thead>
<tr>
<th>Part number</th>
<th>Turns (N) pri : sec</th>
<th>Inductance2 (mH)</th>
<th>DCR max3 (Ohms)</th>
<th>Frequency range (kHz)</th>
<th>Volt-time product4 (Vµsec)</th>
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<th>Terminating resistance R6 (Ohms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCS-050L_</td>
<td>1:50</td>
<td>3.8</td>
<td>0.0024</td>
<td>0.90</td>
<td>6 – 1000</td>
<td>80</td>
<td>30</td>
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<tr>
<td>SCS-100L_</td>
<td>1:100</td>
<td>14.8</td>
<td>0.0024</td>
<td>1.80</td>
<td>3 – 1000</td>
<td>160</td>
<td>30</td>
</tr>
<tr>
<td>SCS-200L_</td>
<td>1:200</td>
<td>59.2</td>
<td>0.0024</td>
<td>3.90</td>
<td>2 – 1000</td>
<td>320</td>
<td>30</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). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).
  B = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to D.

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.

4. Volt-time product is for the secondary, between pin 5 and 6.

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

[Diagram of SMT Current Sense Transformer]

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

Temperature Rise vs Current

Dimensions

Dimensions are in inches (mm).

Recommended Land Pattern

0.118 ±0.020 (6 places)
3.00 ±0.05

0.459 ±0.020
11.67 ±0.50

0.230 ±0.020
5.83 ±0.50

0.459 ±0.020
11.67 ±0.50

0.159 ±0.020
4.03 ±0.50

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