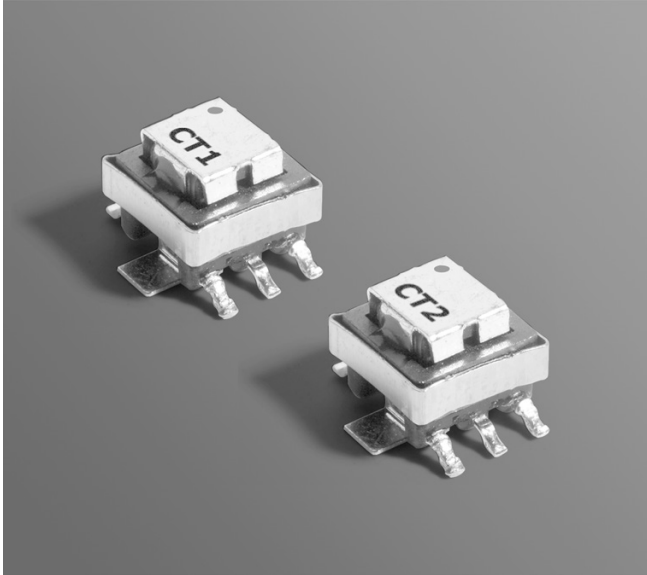




Current Sense Transformers CST1, CST2



- For use up to 1 MHz
- 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 (hipot) between windings.

Designer's Kit C389 contains 2 each of each part

Core material Ferrite

Terminations See Note 1.

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)

Failures in Time (FIT) / Mean Time Between Failures (MTBF)

10.06 per billion hours / 9.940E+07 hours, calculated per Telcordia SR-332

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](#).

| Part number ¹ | | Turns (N) pri:sec | Inductance ² min (µH) | DCR (Ohms) | | Frequency range (kHz) | Volt-time product ³ (V-µsec) | Sensed current I _{in} ⁴ max (A) | Terminating resistance R _T ⁵ (Ohms) | Color dot |
|--------------------------|-----------|----------------------|-------------------------------------|------------|---------|-----------------------|--|--|--|-----------|
| CST1 | CST2 | | | Pri ref | Sec max | | | | | |
| CST1-020L | CST2-020L | 1:20 | 81 | 0.0007 | 0.400 | 46 – 1000 | 10.8 | 20 | 1.0 | Red |
| CST1-030L | CST2-030L | 1:30 | 180 | 0.0007 | 0.870 | 31 – 1000 | 16.2 | 20 | 1.5 | Orange |
| CST1-040L | CST2-040L | 1:40 | 320 | 0.0007 | 1.14 | 23 – 1000 | 21.6 | 20 | 2.0 | Yellow |
| CST1-050L | CST2-050L | 1:50 | 500 | 0.0007 | 1.50 | 19 – 1000 | 27.0 | 20 | 2.5 | Green |
| CST1-060L | CST2-060L | 1:60 | 730 | 0.0007 | 1.98 | 15 – 1000 | 32.4 | 20 | 3.0 | Blue |
| CST1-070L | CST2-070L | 1:70 | 980 | 0.0007 | 4.75 | 13 – 1000 | 37.8 | 20 | 3.5 | Violet |
| CST1-100L | CST2-100L | 1:100 | 2000 | 0.0007 | 5.50 | 9 – 1000 | 54.0 | 20 | 5.0 | Gray |
| CST1-125L | CST2-125L | 1:125 | 3000 | 0.0007 | 6.50 | 7 – 1000 | 67.5 | 20 | 6.3 | Black |

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

CSTX-125LC

Termination: **L** = RoHS compliant tin-silver over tin over nickel over phos bronze (pins 1 – 6); RoHS compliant matte tin over nickel over copper (pins 7 – 8)

Special order: **S** = non-RoHS tin-lead (63/37) over tin over nickel over phos bronze (pins 1 – 6); non-RoHS tin-lead over gold over nickel over copper (pins 7 – 8).

Packaging: **C** = 7" machine-ready reel. EIA-481 embossed plastic tape (250 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

D = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (1000 parts per full reel).

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 C.

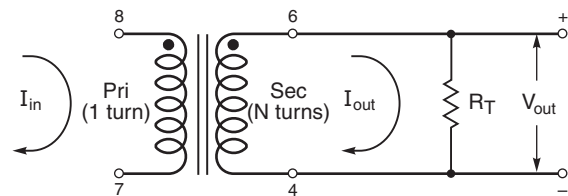
- Inductance measured between secondary pins at 100 kHz, 0.1 Vrms.
- Volt-time product is for the secondary, between pin 6 and 4 for CST1 and between pin 1 and 3 for CST2.
- Primary current of 20 A causes approximately 40°C temperature rise from 25°C ambient. Higher current causes a greater temperature rise (see Temperature Rise vs Current curve).

5. Terminating resistance (R_T) value is based on 1 Volt output with 20 Amps flowing through the primary. Varying terminating resistance increases or decreases output Voltage/Ampere according to the following equation: R_T (Ohms) = V_{out} × N_{sec}/I_{in}.

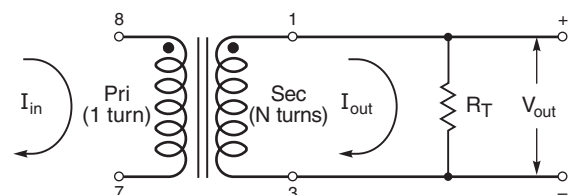
6. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

CST1



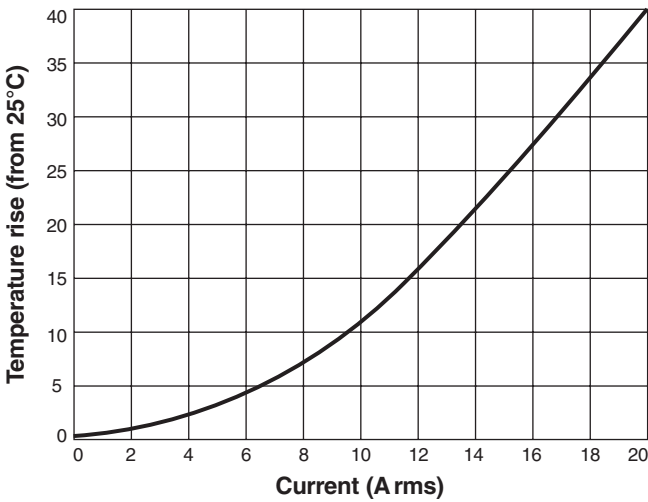
CST2



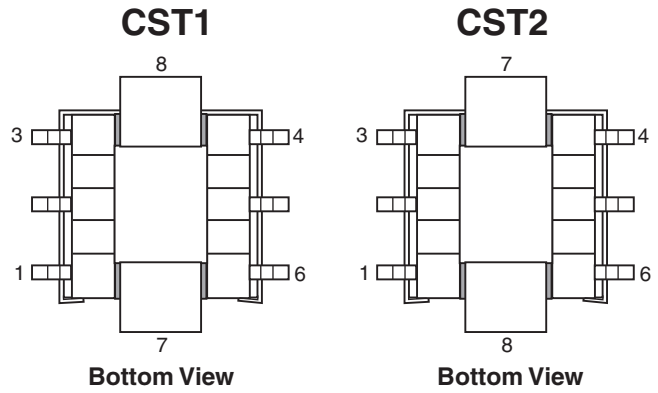


CST Series Current Sense Transformers

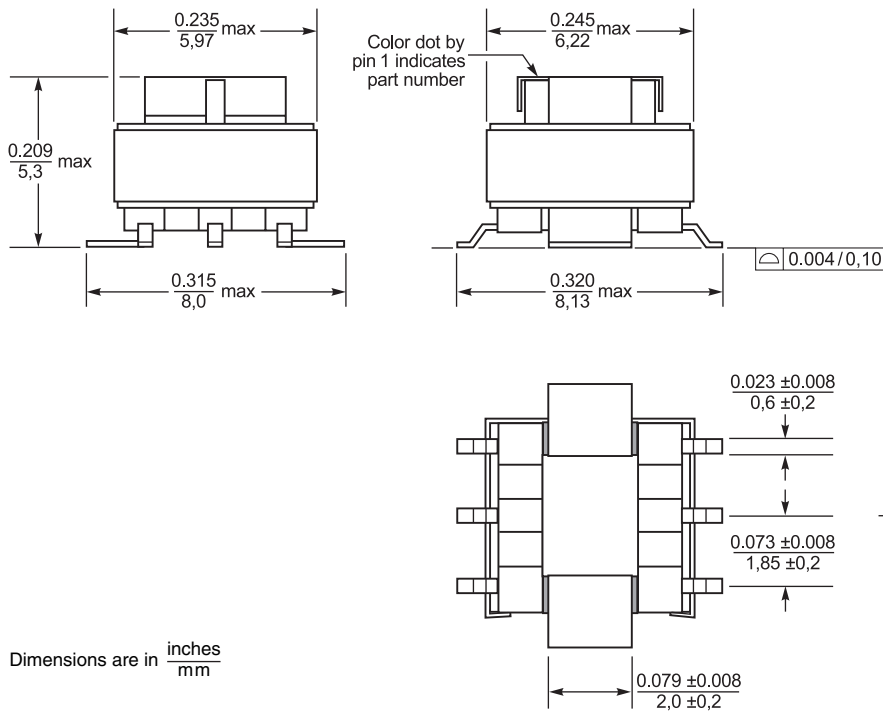
Temperature Rise vs Current



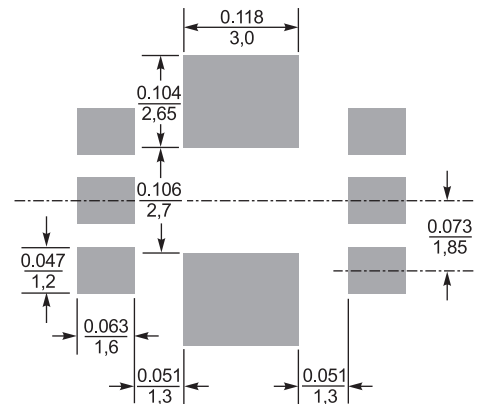
Pinouts



Dimensions



Recommended Land Pattern



US +1-847-639-6400 sales@coilcraft.com
UK +44-1236-730595 sales@coilcraft-europe.com
Taiwan +886-2-2264 3646 sales@coilcraft.com.tw
China +86-21-6218 8074 sales@coilcraft.com.cn
Singapore + 65-6484 8412 sales@coilcraft.com.sg

Document 385-2 Revised 04/29/21

© 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.