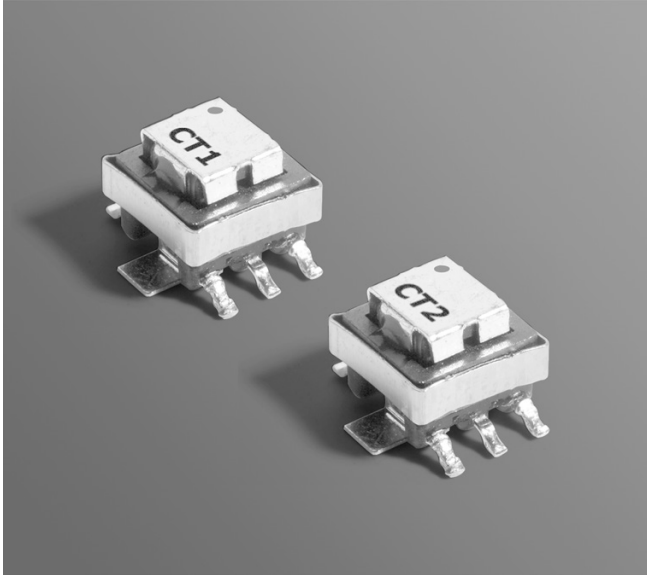




# Current Sense Transformers CST1, CST2



- 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 <sup>1</sup>		Turns (N) pri:sec	Inductance <sup>2</sup> min (µH)	DCR (Ohms)		Frequency range (kHz)	Volt-time product <sup>3</sup> (V-µsec)	Sensed current I <sub>in</sub> <sup>4</sup> max (A)	Terminating resistance R <sub>T</sub> <sup>5</sup> (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.

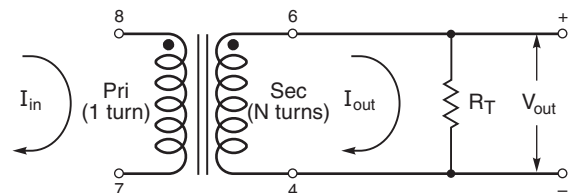
- Inductance measured between secondary pins at 100 kHz, 0.1 Vrms.
- Volt-time product is for the secondary, between pin 6 and 4 for CST1 and between pin 1 and 3 for CST2.
- Primary current of 20 A causes approximately 40°C temperature rise from 25°C ambient. Higher current causes a greater temperature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

5. Terminating resistance (R<sub>T</sub>) 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<sub>T</sub> (Ohms) = V<sub>out</sub> × N<sub>sec</sub>/I<sub>in</sub>.

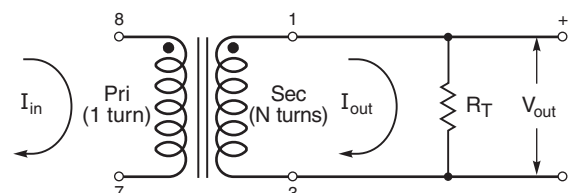
6. Electrical specifications at 25°C.

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

## CST1



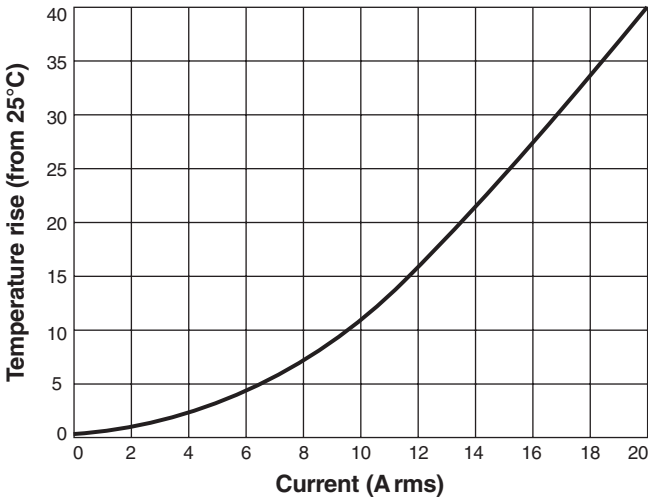
## CST2



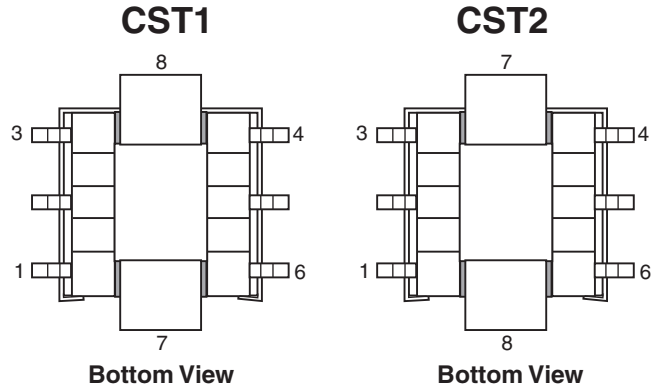


# CST Series Current Sense Transformers

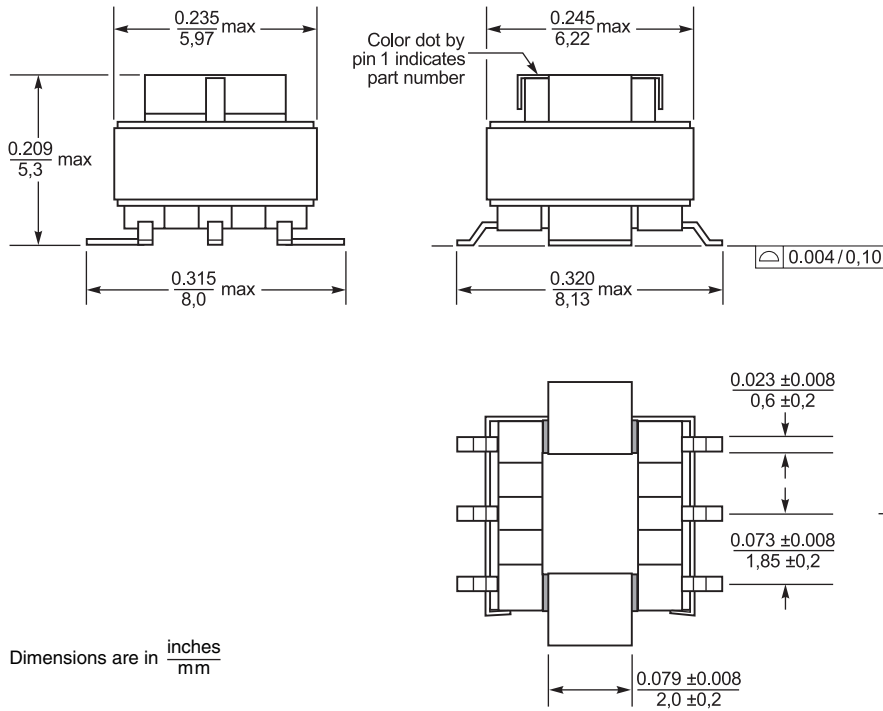
## Temperature Rise vs Current



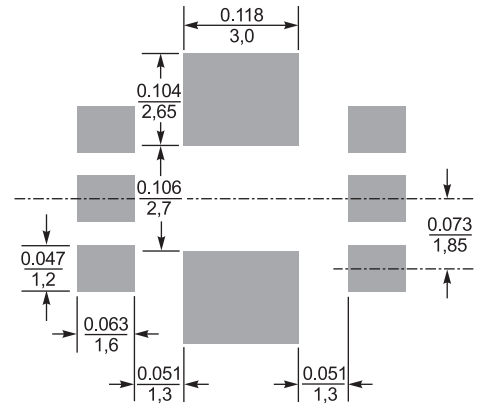
## Pinouts



## Dimensions



## Recommended Land Pattern



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