

Current Sense Transformers CST7030



- AEC-Q200 Grade 1 qualified (–40°C to +125°C ambient)
- Small surface mount current sensors
- Sensed current up to 20 A; Frequency range up to 1 MHz
- Very low primary DC resistance
- 500 Vrms, one minute isolation (hipot) between windings
- Designed for:
 - Continuous AC current monitoring in switched-mode power supply; Overload and short-circuit protection; Current measurement in traction motor and battery management systems in conventional and xEV (EV, HEV, FCEV) vehicles.
- Can also be used in 48 V vehicle electrical systems

Part number ¹	Turns (N) pri:sec	Inductance ² min (mH)	DCR max (Ohms)		Frequency range (kHz)	Volt-time product ³ (Vµsec)	Sensed current I_{in} ⁴ max (A)	Terminating resistance R_T ⁵ (Ohms)
			pri	sec				
CST7030-020L_	1:20	0.053	0.0015	0.420	78–1000	6.4	20	1.0
CST7030-050L_	1:50	0.333	0.0015	2.76	31–1000	16.0	20	2.5
CST7030-070L_	1:70	0.652	0.0015	5.04	22–1000	22.4	20	3.5
CST7030-100L_	1:100	1.330	0.0015	10.68	16–1000	32.0	20	5.0
CST7030-150L_	1:150	2.993	0.0015	22.30	10–1000	48.0	20	7.5

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

CST7030-150LC

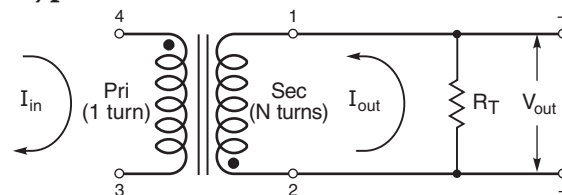
- Packaging:** **C** = 7" machine-ready reel. EIA-481 embossed plastic tape (600 parts per full reel).
B = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter C instead.
D = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (2500 parts per full reel).

2. Inductance measured between secondary pins at 100 kHz, 0.1 Vrms, 0 Adc.
 3. Maximum volt-time product is for the secondary, based on 2000 Gauss.
 4. Primary current of 20 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).
 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:

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

 6. Electrical specifications at 25°C.
 Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

Typical Circuit



Core material Ferrite

Terminations RoHS compliant tin-silver over tin over nickel over phos bronze

Weight 0.16 g

Ambient temperature –40°C to +125°C

Maximum part temperature +165°C (ambient + temp rise)

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 600/7" reel; 2500/13" reel Plastic tape: 16 mm wide, 0.35 mm thick, 8 mm pocket spacing, 3.0 mm pocket depth

PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).



www.coilcraft.com

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

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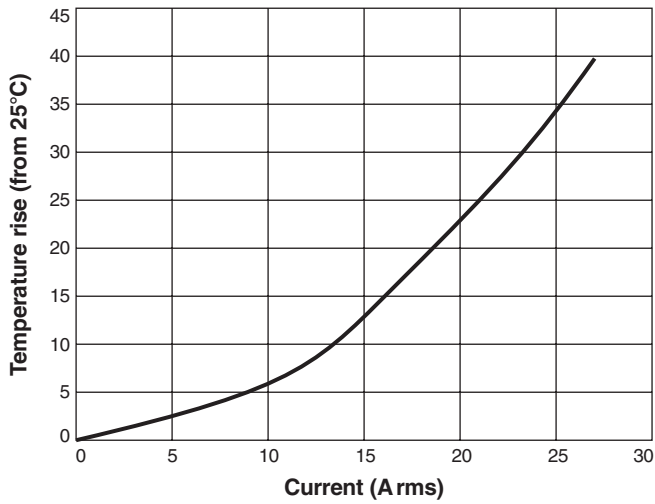
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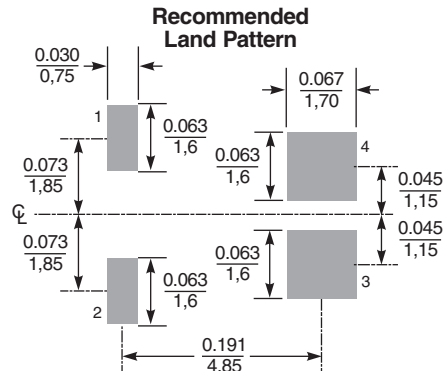
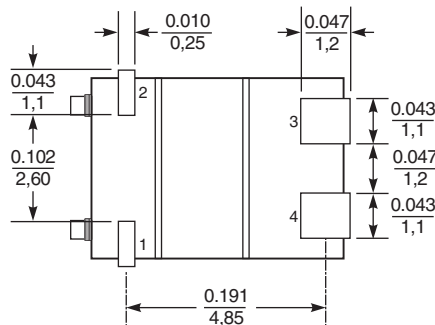
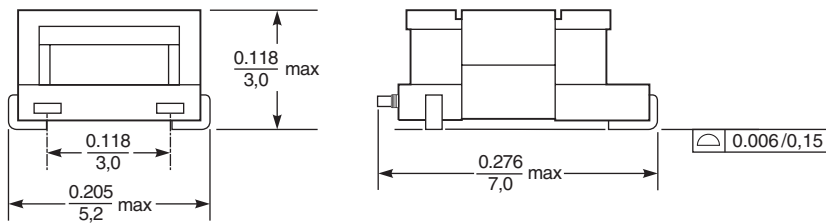


CST7030 SMT Current Sense Transformers

Temperature Rise vs Current



Dimensions



Dimensions are in $\frac{\text{inches}}{\text{mm}}$



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

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