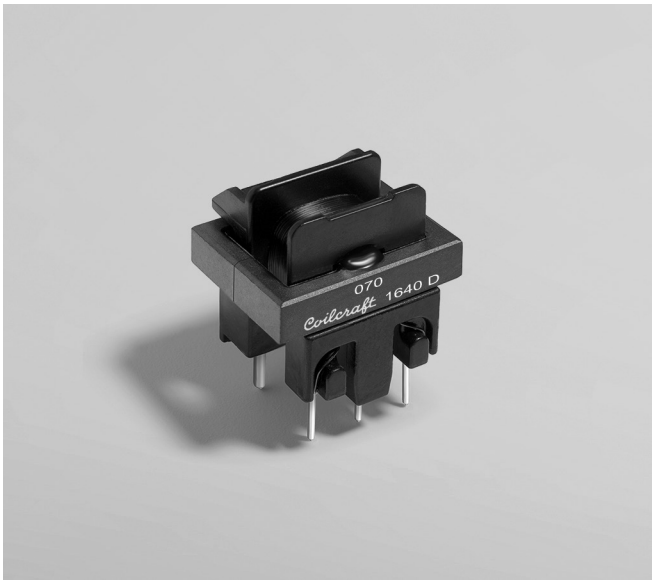
Current Sense Transformers CST2020



- AEC-Q200 Grade 1 (–40°C to +125°C)
- Sensed current up to 40 A
- Frequency range 400 Hz – to 1 MHz and above
- Very low primary DC resistance
- Meets Reinforced Insulation per UL 60950-1
- 4000 Vrms, one minute isolation (hipot) between windings

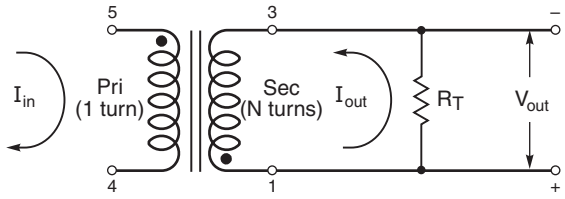
Core material Ferrite
Terminations Tin-silver-copper over tin over copper over steel (pins 1 – 3); Tin-silver-copper over tin over nickel over copper (pins 4 – 5)
Weight 7 – 8.5 g
Ambient temperature –40°C to +125°C
Maximum part temperature +165°C (ambient + temp rise)
Storage temperature Component: –40°C to +165°C.
Tray packaging: –40°C to +80°C
Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)
Packaging 100 per tray
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

Part number	Turns (N) pri:sec	Inductance[1] min (mH)	DCR max (Ohms) pri	DCR max (Ohms) sec	Frequency range[2] (kHz)	Volt-time product[3] (Vµsec)	Sensed current I_{in}[4] max (A)	Terminating resistance R_T[5] (Ohms)
CST2020-070L	1:70	3.46	0.00084	0.83	1.8 – >1000	277	40	1.75
CST2020-100L	1:100	7.07	0.00084	1.23	1.3 – >1000	395	40	2.5
CST2020-200L	1:200	28.28	0.00084	3.95	0.60 – >1000	791	40	5.0
CST2020-300L	1:300	63.63	0.00084	7.84	0.40 – >1000	1186	40	7.5

1. Inductance measured between secondary pins at 10 kHz, 0.1 Vrms, 0 Adc.
2. For specific questions regarding frequency range, please contact us at cst@coilcraft.com.
3. Volt-time product is for the secondary, between pin 3 and 1.
4. Primary current of 40 A causes less than 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 40 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



Coilcraft
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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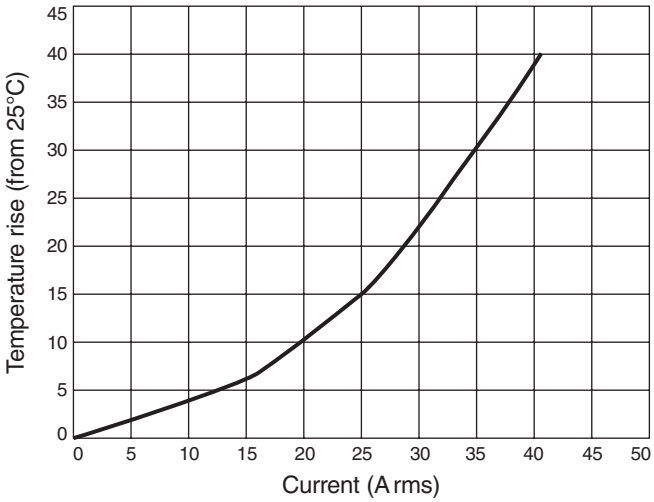
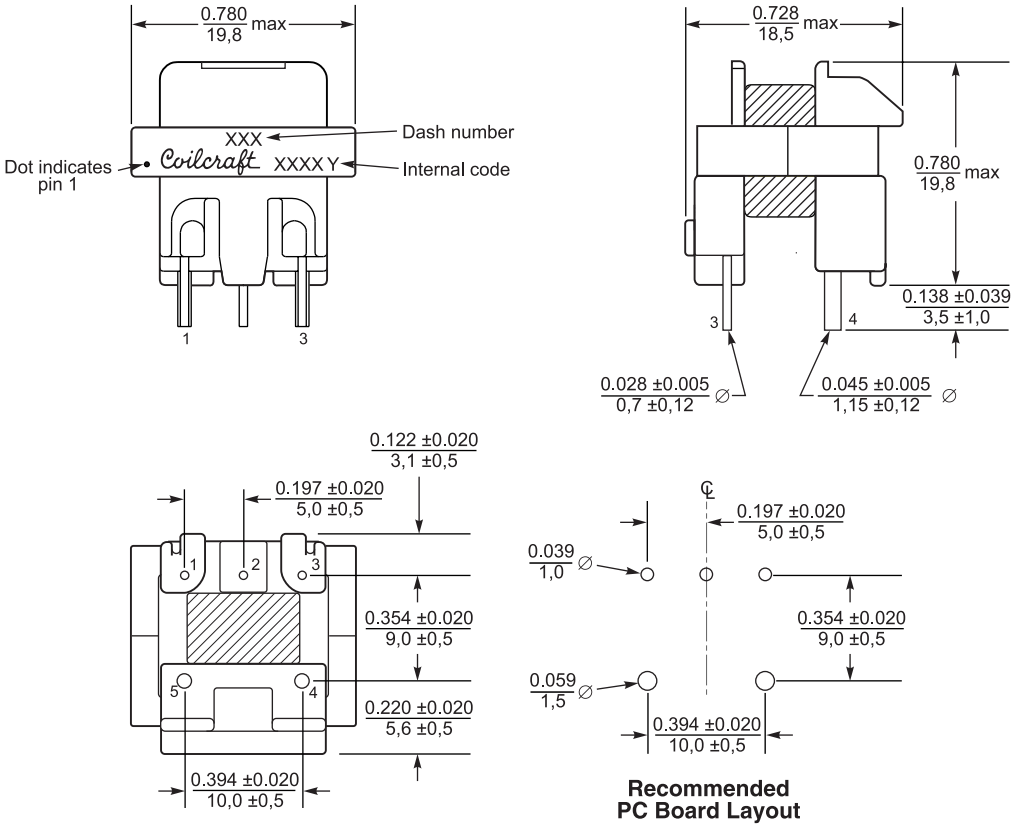
CST2020 Current Sense Transformers

Temperature Rise vs Current





Dimensions are in inches / mm

Coilcraft
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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