NEW!

Current Sense Transformers ST511TCB

- 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) pri	DCR max (Ohms) sec	Frequency min (kHz)	Volt-time product[3] (Vµsec)	Sensed current I_{in}[4] max (A)	Terminating resistance R_T[5] (Ohms)
ST511TCB1020L_	1:20	0.053	0.0015	0.420	78	6.4	20	1.0
ST511TCB1050L_	1:50	0.333	0.0015	2.76	31	16.0	20	2.5
ST511TCB1070L_	1:70	0.652	0.0015	5.04	22	22.4	20	3.5
ST511TCB1100L_	1:100	1.330	0.0015	10.68	16	32.0	20	5.0
ST511TCB1150L_	1:150	2.993	0.0015	22.30	10	48.0	20	7.5

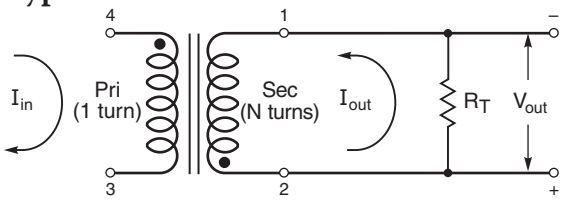
1. When ordering, please specify **screening** code:

   ST511TCB1150LZ

   Screening: **Z** = Unscreened
   H = Group A screening per Coilcraft CP-SA-10001
   - Screening performed to the document's latest revision.
   - Lot qualification (Group B) available.
   - Custom testing also available.
   - Country of origin restrictions available; prefix option G.
2. Inductance measured between secondary pins at 100 kHz, 0.1 Vrms, 0 Adc.
3. Volt-time product is for the secondary, between pin 1 and 2.
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 Tin-silver-copper 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: –55°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 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.

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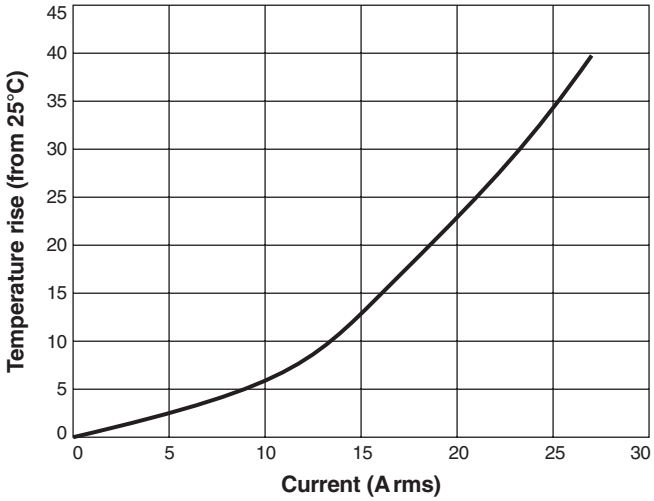
Document ST1101-1 Revised 05/06/21

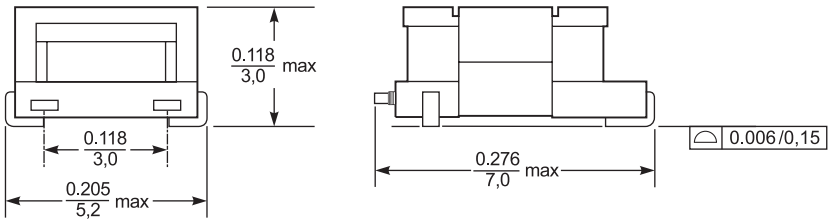
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

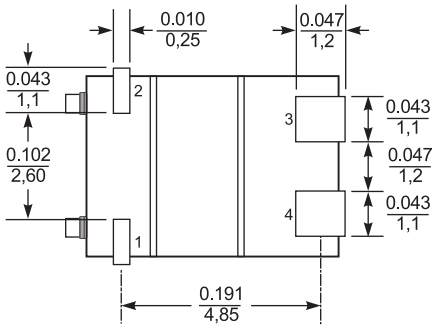
ST511TCB SMT Current Sense Transformers

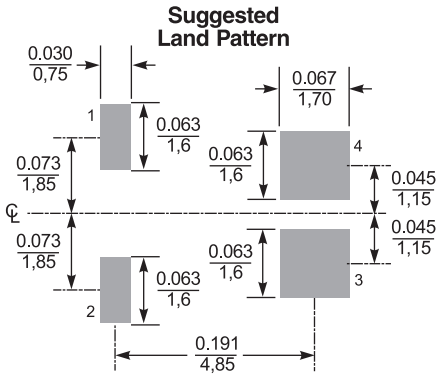
Temperature Rise vs Current



Dimensions







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

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Document ST1101-2 Revised 05/06/21

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Specifications subject to change without notice.
Please check our web site for latest information.