

Current Sense Transformers AE475TCB



- Miniature SMT design, only 4.5 × 4.8 mm footprint
- 500 Vrms, one minute isolation (hipot) between windings
- Designed for use up to 1 MHz and above to sense continuous currents to 7 Amps
- Passes NASA low outgassing (Outgassing meets ASTM E595)

Core material Ferrite

Terminations Tin-lead (63/37) over tin over nickel over copper

Weight 115 – 122 mg

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: –55°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)

Packaging 500/7" reel; Plastic tape: 12 mm wide, 0.35 mm thick, 8 mm pocket spacing, 3.6 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 max (Ohms)		Frequency min ³ (kHz)	Volt-time product ⁴ (Vµsec)	Sensed current I _{in} ⁵ max (A)	Terminating resistance R _T ⁶ (Ohms)
			pri	sec				
AE475TCB1020SZ	1: 20	33	0.003	0.35	83 – >1000	6.0	7	2.9
AE475TCB1030SZ	1: 30	74	0.003	0.9	56 – >1000	9.0	7	4.3
AE475TCB1040SZ	1: 40	132	0.003	1.6	42 – >1000	12.0	7	5.7
AE475TCB1050SZ	1: 50	205	0.003	2.5	33 – >1000	15.0	7	7.1
AE475TCB1060SZ	1: 60	295	0.003	3.6	28 – >1000	18.0	7	8.6
AE475TCB1070SZ	1: 70	400	0.003	4.6	24 – >1000	21.0	7	10.0
AE475TCB1100SZ	1: 100	820	0.003	9.5	17 – >1000	30.0	7	14.3
AE475TCB1125SZ	1: 125	1280	0.003	13	13 – >1000	37.5	7	17.9
AE475TCB1150SZ	1: 150	1800	0.003	21	11 – >1000	45.0	7	21.4

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

AE475TCB1150SZ

Termination: **S** = Tin-lead (63/37) over tin over nickel over copper

T = Tin-silver-copper (95.5/4/0.5) over tin over nickel over copper

L = Tin-silver (96.5/3.5) over tin over nickel over copper

Screening: **Z** = Unscreened

H = Group A screening per Coilcraft CP-SA-10001

F = ESCC3201 (F4 operational life performed at 90°C)

1 = EEE-INST-002 (Family 1) Level 1

2 = EEE-INST-002 (Family 1) Level 2

3 = EEE-INST-002 (Family 1) Level 3

4 = MIL-STD-981 (Family 11) Class B

5 = MIL-STD-981 (Family 11) Class S

• Screening performed to the document's latest revision.

• Lot qualification (Group B) available.

• Custom testing also available.

2. Inductance measured between secondary pins at 100 kHz, 0.1 Vrms, 0 Adc.

3. For specific questions regarding frequency range, please contact us at cst@coilcraft.com.

4. Volt-time product is for the secondary, between pin 1 and 2.

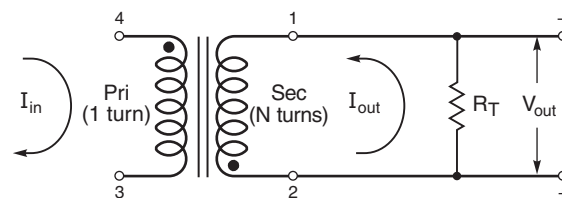
5. Primary current of 7 A causes less than 25°C temperature rise from 25°C ambient. Higher current causes a greater temperature rise (see Temperature Rise vs Current curve).

6. 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} × N_{sec}/I_{in}.

7. Electrical specifications at 25°C.

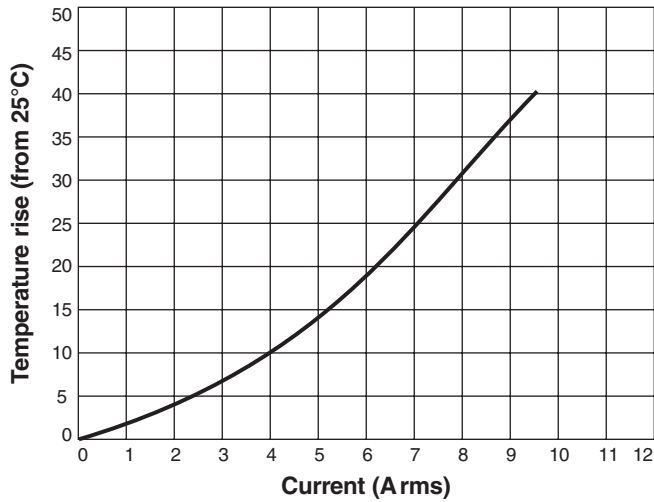
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

Typical Circuit

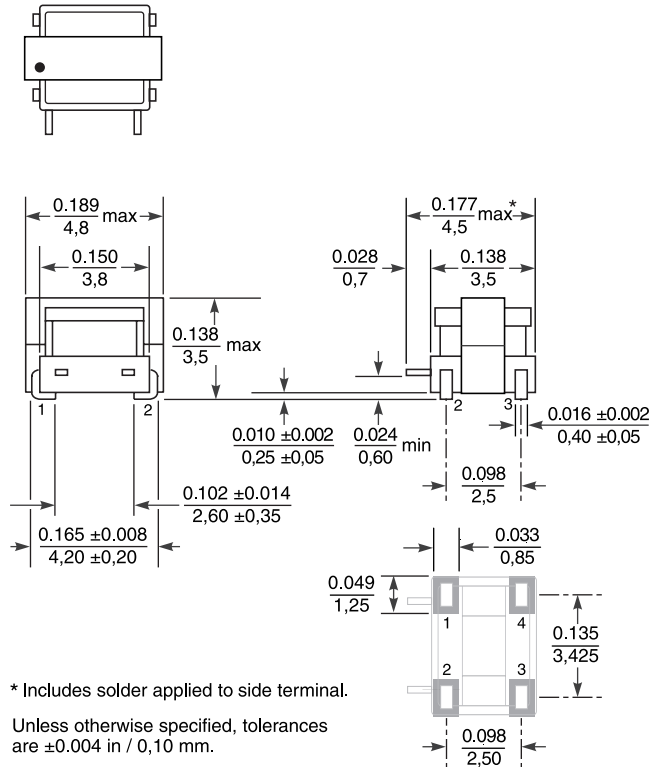


AE475TCB SMT Current Sense Transformers

Temperature Rise vs Current



Dimensions



* Includes solder applied to side terminal.

Unless otherwise specified, tolerances are ±0.004 in / 0.10 mm.

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

Suggested Land Pattern