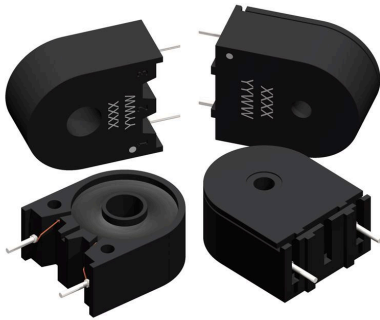


CT03 Series

Tombstone THT Current Sense Transformers



- Current rating ²: Up to 25 A
- ET product ³: Up to 3,502 V-μs
- Frequency range ⁹⁻¹⁰: 100 Hz to 500 kHz
- Isolation voltage: 3750 V_{AC}
- Turn ratios: 1:50 to 1:1000
- Meets UL1950 and EN60950 creepage and clearance spacing requirements
- PCB mount

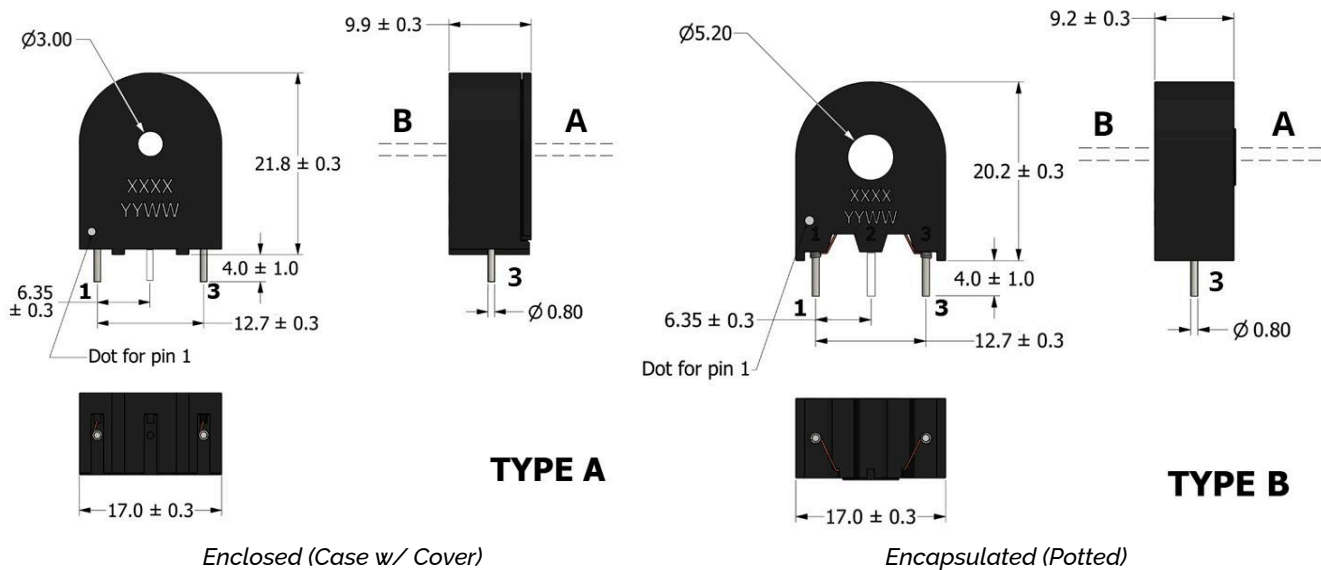
APPLICATIONS

- DC/DC & AC/DC converters
- Feedback & control systems
- Point-of-Load (POL) regulation
- Overload protection, load-drop and power-fault monitoring

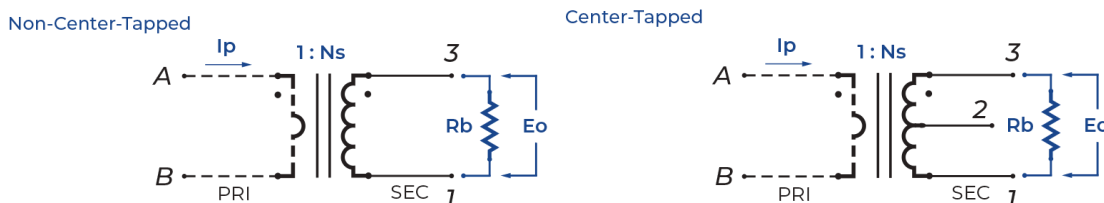
ELECTRICAL SPECIFICATIONS @ 25°C

Part Number ⁵	Turns Ratio (TR)	Secondary Inductance ¹ (mH, Min)	Secondary DCR (Ω, Max)	Current Rating ² (A, Max)	ET Product ³ (V-μs, Max)	Terminating Resistance ⁴ (Ω, Ref)	Accuracy Range ¹⁰ (kHz, Ref)	SRF ¹¹ (MHz, Ref)
CT03-050-B_	1 : 50	5	0.6	25	175	1.0	10 – 150	517
CT03-100-B_	1 : 100	20	1.3	25	350	2.0	5 – 70	225
CT03-200-B_	1 : 200	80	4.5	25	700	4.0	2.5 – 20	52
CT03-1000-A_	1 : 1000	1500	57.0	25	3502	20.0	0.5 – 5	10

MECHANICAL DRAWING



SCHEMATIC



Specifications subject to change without prior notice.

CT03 Series

Tombstone THT Current Sense Transformers



GENERAL DATA			
Operating Temperature ⁶ (Class B)	-40°C to +130°C	Isolation Voltage (Hi-Pot) ⁸	3750 V _{AC}
Storage Temperature ⁷	-20°C to +60°C	Frequency Range ⁹⁻¹⁰	100 Hz to 500 kHz
Environmental & Safety ¹²	REACH 253, RoHS	Flammability Rating	UL-94 V-0
Material Group	UL CTI 2		

- Secondary Inductance:** (-A) 1 kHz, 1 V_{RMS}, Series; (-B) 17.5 kHz, 1 V_{RMS}, Series
- Current Rating:** The primary current rating is for reference only and is limited by the current capacity of the customer-supplied primary conductor
- ET Product:** The maximum ET is based upon a flux density of 1175 Gauss at 25°C. Suitable for bipolar applications only.

$$ET = E_o/2f; \quad E_o = I_p R_B / TR$$

Where: E_o = Output Voltage (V), f = Frequency (Hz), I_p = Primary Current (A), R_B = Terminating Resistor (Ω), TR = Turns Ratio
- Terminating Resistor (R_B):** Based on 0.5 V output voltage with 25 A current flowing through the primary. Varying terminating resistance increases or decreases output Voltage/Ampere according to the following equation: $R_B = E_o TR / I_p$
- P/N Designator Suffix for Secondary Winding:**
C - Center Tapped **N** - Non-Center Tapped
- Operating Temperature:** The combination of ambient temperature and temperature rise.
- Storage Temperature:** Applies to parts removed from original packaging.
- Hi-Pot Rating:** Tested @ 60Hz, 1mA.
- Usable Frequency Range:** Effective detection bandwidth, extending beyond the SRF when appropriately burdened.
- Accuracy Range:** Optimized for precision current detection within the defined usable bandwidth, from (Min. Frequency x 5) to (30% SRF).
[Contact ICE](#) for specific questions about frequency ranges.
- Self-Resonant Frequency:** The value is for reference only.
- Type B models are not compliant with REACH 253.

WAVE SOLDERING PROFILE (Lead-Free)	
Max. Preheat Ramp Rate	1 - 4 °C/sec
Max. Preheat Temp. (T2)	80 -140 °C
Bottom Side Contact Time	< 9 sec
Cooling Rate	< 6 °C/sec
Time from T1 to T2	60 - 180 sec
Ambient Temperature (T1)	25 - 40 °C
Peak Wave Temp. (T3)	270 ± 5°C

PACKAGING			COMPONENT LIBRARY	
	Type A	Type B	AutoCAD 3D Type-A	SPICE Parameters
Pieces/Tray	105	270	Type-B	LTSpice
Trays/Box	8	5	Altium	P Spice
Pieces/Box	840	1350	EagleCAD	Cadence
PCB Washing	See ICE Washability Information .			
App Note	See Applying Current Sense Transformers in Isolated DC-DC Converters .			
Webpage	See https://www.icecomponents.com/product/ct03-series/ .			

Specifications subject to change without prior notice.