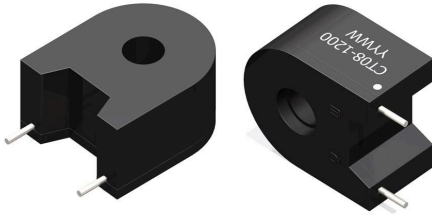


# CT08 Series

## Tombstone THT Current Sense Transformers



- Current rating <sup>2</sup>: Up to 50 A<sub>RMS</sub>
- ET product <sup>3</sup>: 3000 V-μs
- Frequency range <sup>9-10</sup>: 40 Hz to 4.7 kHz
- Isolation voltage: 3750 V<sub>AC</sub>
- Nanocrystalline cores ensure high accuracy and lower core loss
- High current density
- PCB Mount

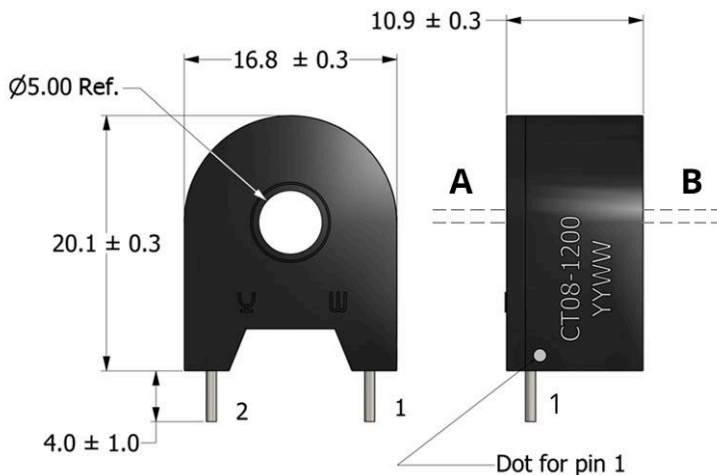
### APPLICATIONS

- High-current monitoring
- Motor-drive sensing
- Low-frequency AC measurement
- Battery/UPS/inverter outputs
- Over-current protection
- Pulsed DC sensing

### ELECTRICAL SPECIFICATIONS @ 25°C

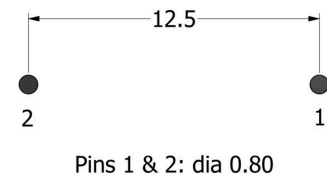
Part Number	Turns Ratio (TR)	Secondary Inductance <sup>1</sup> (H, Min)	Secondary DCR (Ω, Max)	Current Rating <sup>2</sup> (A <sub>RMS</sub> Max)	ET Product <sup>3</sup> (V-μs, Max)	Terminating Resistance (Ω, Ref)	Accuracy Range <sup>10</sup> (kHz, Ref)	SRF <sup>11</sup> (kHz, Ref)
CT08-1200	1 : 1200	10	40	50	3000	See Note 4	0.04 – 1.00	4.7

### MECHANICAL DRAWING

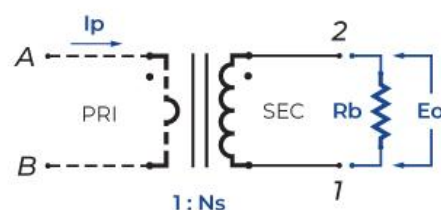


Note: All dimensions are in mm

### RECOMMENDED PCB LAYOUT



### SCHEMATIC



### GENERAL DATA

Operating Temperature <sup>5-6</sup> (Class A)	-40°C to +105°C	Isolation Voltage (Hi-Pot) <sup>8</sup>	3750 V <sub>AC</sub>
Storage Temperature <sup>7</sup>	-20°C to +60°C	Frequency Range <sup>9-10</sup>	40 Hz to 4.7 kHz
Environmental & Safety	REACH 253, RoHS	Flammability Rating	UL-94 V-0
Material Group	UL CTI 2		

Specifications subject to change without prior notice.

# CT08 Series

## Tombstone THT Current Sense Transformers



- Secondary Inductance:** Tested @ 1 kHz, 1 V<sub>RMS</sub>, 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 3125 Gauss at 25°C. Suitable for bipolar applications only.

$$ET = E_0/2f; \quad E_0 = I_p R_B / TR$$

Where:  $E_0$  = Output Voltage (V),  $f$  = Frequency (Hz),  $I_p$  = Primary Current (A),  $R_B$  = Terminating Resistor ( $\Omega$ ),  $TR$  = Turns Ratio

- Terminating Resistor ( $R_B$ ):** To calculate the value use the formula,  $R_B = E_0 TR / I_p$

$I_p$	Terminating Resistor, $R_B$	$E_0$
10	80	0.667
20	40	0.667
30	16	0.667

- Operating Temperature:** The combination of ambient temperature and temperature rise.
- Material Rating:** Meets requirements for UL Class A temperature rating. Ambient + Temp. Rise + HotSpot Allowance < 105°C.
- 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.  
[Contact ICE](#) for specific questions about frequency ranges.
- Accuracy Range:** Optimized for precision current detection within the defined usable bandwidth.
- Self-Resonant Frequency:** The value is for reference only.

### 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	
Pieces/Tray	66	<a href="#">AutoCAD 3D Model</a>	<a href="#">SPICE Parameters</a>
Trays/Box	10	<a href="#">LTSpice</a>	<a href="#">PSPICE</a>
Pieces/Box	660	<a href="#">Altium</a>	<a href="#">Cadence</a>
		<a href="#">EagleCAD</a>	
<b>PCB Washing</b>	See <a href="#">ICE Washability Information</a> .		
<b>App Note</b>	See <a href="#">Applying Current Sense Transformers in Isolated DC-DC Converters</a> .		
<b>Webpage</b>	See <a href="https://www.icecomponents.com/product/ct08-series/">https://www.icecomponents.com/product/ct08-series/</a> .		

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