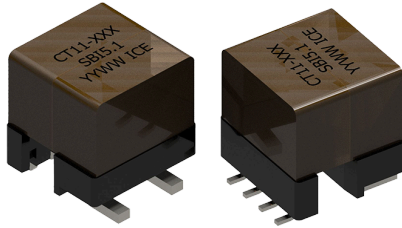


CT11 Series

High Isolation Current Sense Transformers



- Current rating ² : Up to 30 A
- ET product ³ : Up to 1627 V- μ s
- Frequency range ⁸ : 200 Hz to 1 MHz
- Isolation voltage : 3000 V_{AC}
- Turn ratios: 1:50 to 1:200
- Meets updated IEC insulation system
- Suitable for switching or line frequency applications

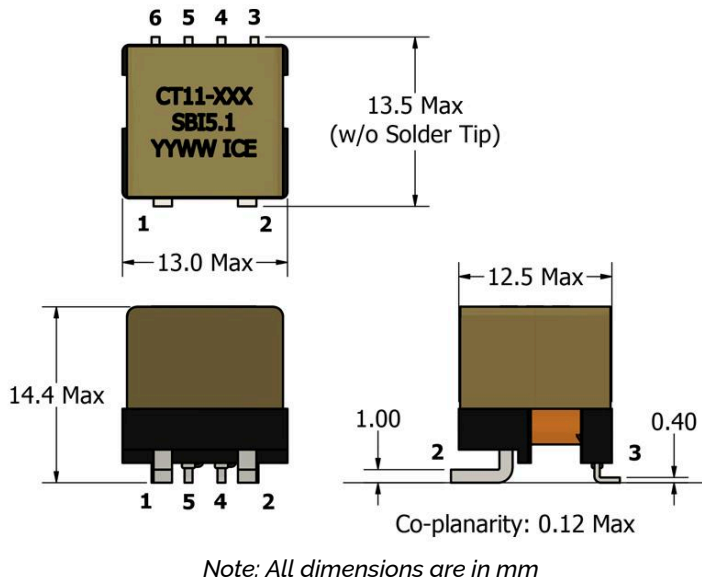
APPLICATIONS

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

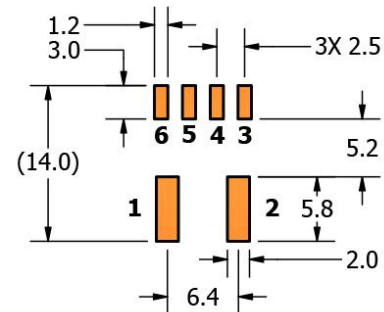
ELECTRICAL SPECIFICATIONS @ 25°C

Part Number	Turns Ratio (TR)	Secondary Inductance ¹ (mH, Min)	DCR (Pri : Sec) (m Ω , Max)	Current Rating (A, Max)	ET Product ² (V- μ s, Max)	Terminating Resistance ⁴ (Ω , Ref)	Accuracy Range ⁹ (kHz, Ref)	SRF ³ (5-4) (kHz, Typ)
CT11-050	1 : 50	2.0	0.500 : 400	30	407	0.8	3 – 300	1008
CT11-070	1 : 70	3.9	0.500 : 900	30	569	1.2	2 – 250	752
CT11-100	1 : 100	8.0	0.500 : 1500	30	813	1.7	1.5 – 150	511
CT11-125	1 : 125	12.5	0.500 : 2400	30	1017	2.1	1.25 – 125	424
CT11-200	1 : 200	32.0	0.500 : 6200	30	1627	3.3	1 – 80	254

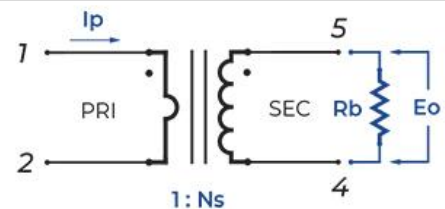
MECHANICAL DRAWING



RECOMMENDED PCB LAYOUT



SCHEMATIC



GENERAL DATA

Operating Temperature ⁵	-40°C to +130°C	Isolation Voltage (Pri-Sec) ⁷	3000 V _{AC}
Storage Temperature ⁶	-20°C to +60°C	Frequency Range ⁸	200 Hz to 1 MHz

Specifications subject to change without prior notice.

CT11 Series

High Isolation Current Sense Transformers



- Secondary Inductance:** Tested at 10kHz, 1 V_{RMS}
- Current Rating:** Peak current (50% duty cycle) through primary (1-2) to cause 40°C temperature rise at 25°C ambient.
- ET Product:** The maximum ET is based upon a flux density of 3700 Gauss at 25°C. Suitable for bipolar applications only.

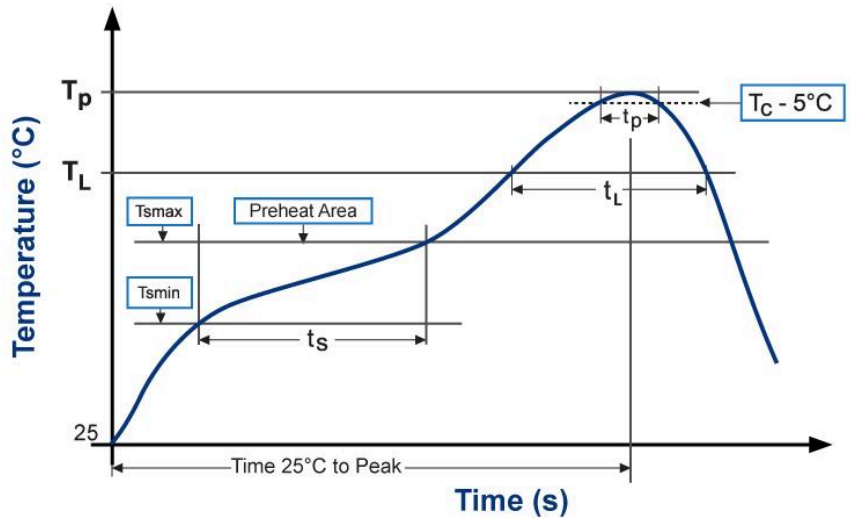
$$ET = E_o/2f; \quad E_o = I_p R_B / TR$$
- Terminating Resistor (R_B):** Based on 0.5 V output voltage with 30 A current flowing through the primary. Varying terminating resistance increases or decreases output Voltage/Ampere.
- Operating Temperature:** The combination of ambient temperature and temperature rise.
- Storage Temperature:** Applies to parts removed from original packaging.
- Hi-Pot Rating:** Tested @ 60Hz, 1mA, 1 min.
- 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.

COMPLIANCE			
Creepage Distance	5.3 mm	Insulation System	SBI5.1(Class F)
Clearance Distance	---	Environmental & Safety	REACH, RoHS
Material Group (CTI)	CTI IIIa (175V ≤ CTI < 400V)	Flammability Rating	UL-94 V-0
Standard		Condition	
Designed to comply with	IEC 61558-1	For a working voltage of up to 530 V _{RMS} for Basic Insulation and 265 V _{RMS} for Reinforced insulation ; with Creepage 5.3 mm, Overvoltage Category II, Pollution Degree 2, and Material Group IIIa.	
	IEC 62368-1	For a working voltage of up to 530 V _{RMS} (2.31 kV_{PEAK}) for Basic Insulation and 265 V _{RMS} (1.88 kV_{PEAK}) for Reinforced insulation; with Creepage 5.3 mm, Overvoltage Category II, Pollution Degree 2, and Material Group IIIa.	

Note: For working voltages over 750 V peak, partial discharge testing may be required.

RELIABILITY TESTING	
<p style="text-align: center;">ICE Reliability Standard;</p> <p>Dry Heat Test, Low Temp Test, Damp Heat Test, High Temp Operational Life, Thermal Shock, Solderability, and Resistance to Soldering Heat</p>	Passed All Tests

REFLOW SOLDERING PROFILE (Lead-Free)	
Preheat/Soak:	
Temperature Min (T _{SMIN})	150 °C
Temperature Max (T _{SMAX})	200 °C
Time (t _s) from T _{SMIN} to T _{SMAX}	60 - 120 sec
Ramp-Up Rate (T _L to T _P)	3 °C/sec max
Liquidous Temperature (T _L)	217°C
Time (t _L) maintained above T _L	60 - 150 sec
Peak Package Body Temp (T _P)	245°C
Time (t _p) within 5°C of the specified classification temperature (T _C)	< 30 sec
Ramp-Down Rate (T _P to T _L)	6 °C/sec max
Time 25°C to peak temperature	8 min max



Specifications subject to change without prior notice.

CT11 Series

High Isolation Current Sense Transformers



PACKAGING		COMPONENT LIBRARY	
Reel Diameter	330 mm	AutoCAD 3D Model	SPICE Parameters
Reel Width	32 mm	LTSpice	PSPICE
Pieces/Reel	150	Altium	Cadence
Reel/Carton	8	EagleCAD	
Pieces/Carton	1200		
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/ct11-series/		

For questions or additional information, [contact ICE Components](#).