



## Features

- Toroid core for high coupling and low radiation
- Complies with IEC/UL 60950-1 and IEC/UL 62368-1
- Reinforced insulation for working voltage up to 1200 V
- Hi-Pot: 5000 VAC
- Fully sealed and compact size
- Designed for isolation power supplies using TI SN6501 and SN6505B
- Partial discharge test based on IEC 60664-1: 2000 V
- AEC-Q200 compliant
- RoHS compliant\*

## HCTSM110103HAL HCT Transformer

### Additional Information

Click these links for more information:



### General Specifications

OCL (100 kHz / 1 V)  
with Pin 2 and Pin 3 tied..... 80  $\mu$ H min.  
Leakage Inductance (100 kHz / 0.1 V)  
..... 6.0  $\mu$ H max.  
DCR  
NP1 ..... 0.18  $\Omega$  max.  
NP2 ..... 0.18  $\Omega$  max.  
NS1 ..... 0.80  $\Omega$  max.  
NS2 ..... 0.80  $\Omega$  max.  
Turns Ratio (NS:NP).....3.0  $\pm$  3 %  
Hi-pot (1 mA, 60 S).....5000 VAC  
Operating Temperature  
..... -40  $^{\circ}$ C to +125  $^{\circ}$ C  
(Temperature rise included)  
Storage Temperature (Component)  
..... -25  $^{\circ}$ C to +85  $^{\circ}$ C  
Clearance/Creepage Distance of  
Primary to Secondary..... 11 mm min.  
Partial discharge test based on  
IEC 60664-1 ..... 2000 V  
Moisture Sensitivity Level ..... 1  
ESD Classification (HBM)..... N/A

### Packaging Specifications

Tape & Reel ..... 200 pcs./13-inch reel

**BOURNS**<sup>®</sup>

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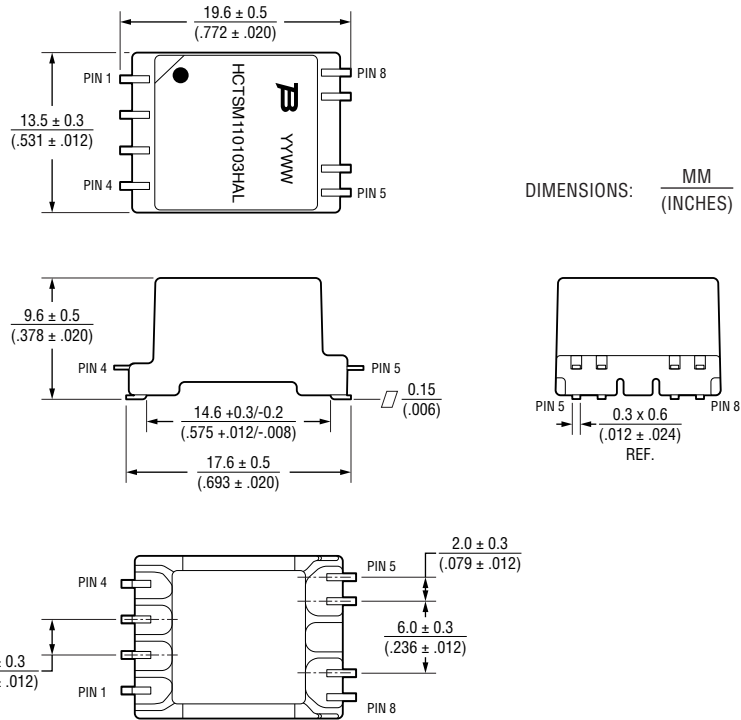
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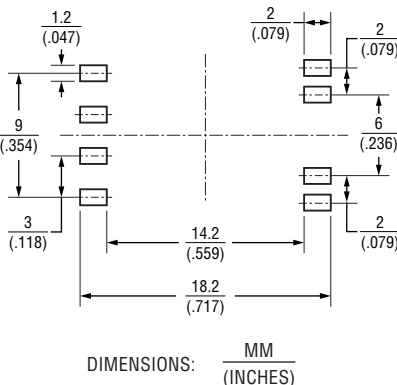
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### Product Dimensions



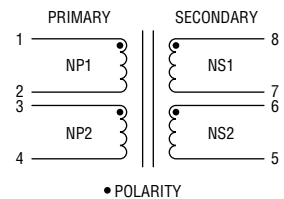
### Recommended Layout



### How To Order

**HCTSM110103H A L - E**  
 Model \_\_\_\_\_  
 AEC-Q200 Compliancy Designator \_\_\_\_\_  
 RoHS Compliancy Designator \_\_\_\_\_  
 Packaging \_\_\_\_\_  
 E = 200 pcs. per 13-inch Reel

### Electrical Schematic



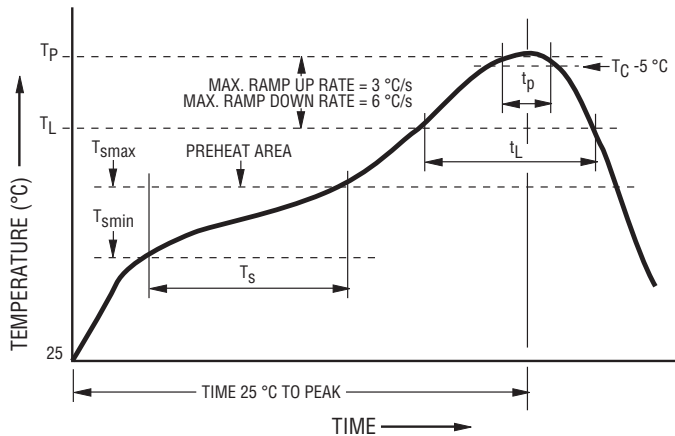
**CALIFORNIA WARNING:** Can expose you to lead, a carcinogen and reproductive toxicant.  
 See [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.  
 Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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## Reflow Solder Profile



Profile Feature	Pb-Free Assembly
Preheat / Soak: Temperature Min. ( $T_{smin}$ ) Temperature Max. ( $T_{smax}$ ) Time ( $t_s$ ) from ( $T_{smin}$ to $T_{smax}$ )	150 °C 200 °C 60~120 seconds
Ramp Up Rate ( $T_L$ to $T_p$ )	3 °C / second max.
Liquidous Temperature ( $T_L$ ) Time ( $t_L$ ) maintained above $T_L$	217 °C 60~150 seconds
Peak Package Body Temperature ( $T_p$ )	$T_p \leq T_c$ (see table below)
Time ( $t_p$ )* within 5 °C of the specified classification temperature ( $T_c$ )	< 30 seconds
Ramp Down Rate ( $T_p$ to $T_L$ )	6 °C / second max.
Time 25 °C to Peak Temperature	8 minutes max.

## Pb-Free Process Classification Temperatures ( $T_c$ )

Package Thickness	Volume mm <sup>3</sup> < 350	Volume mm <sup>3</sup> 350 - 2000	Volume mm <sup>3</sup> > 2000
< 1.6 mm	260 °C	260 °C	260 °C
1.6 mm - 2.5 mm	260 °C	250 °C	245 °C
> 2.5 mm	250 °C	245 °C	245 °C

**NOTE:**

The product has been tested under this reflow condition. Deviations from this, especially higher temperatures for longer duration, could impact performance.

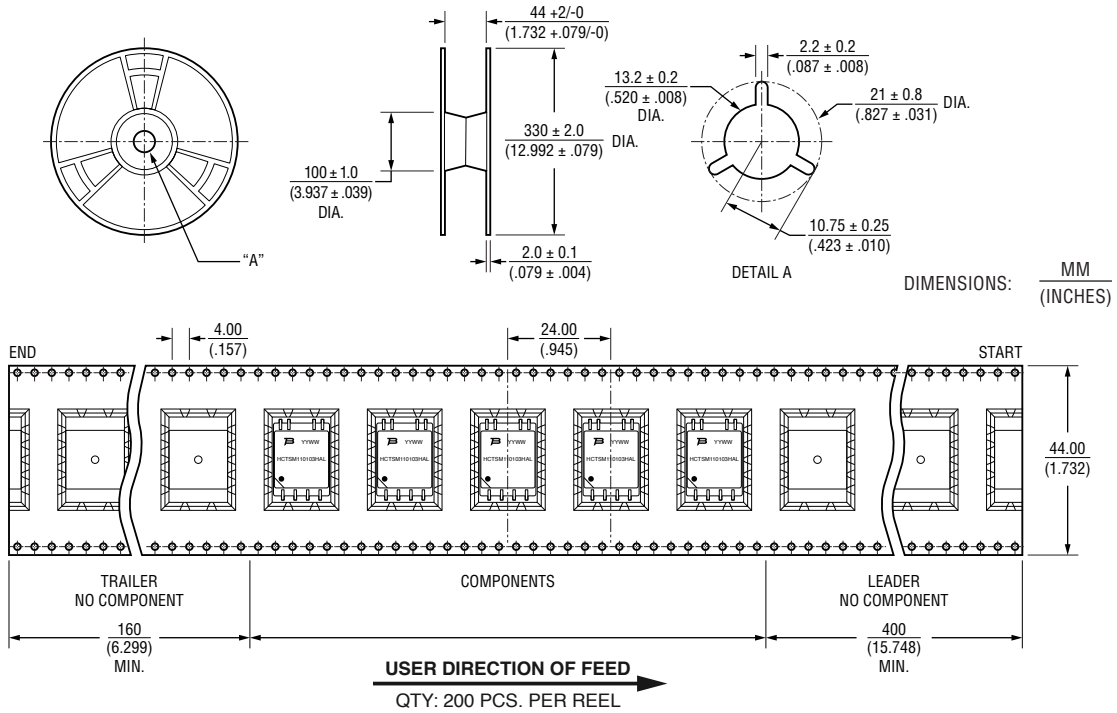
Refer to IPC/JEDEC J-STD-020

# HCTSM110103HAL HCT Transformer

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## Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.



REV. 04/26

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