

HCTSM100308BAL

High Clearance and Creepage Transformer



***RoHS
AEC-Q200 COMPLIANT**

Features

- Working voltage up to 1000 Vrms
- Hi-Pot: 4000 VDC, 1 mA, 60 s or 4400 VDC, 1 mA, 2 s
- Reinforced insulation
- Clearance/creepage distance >10 mm
- Overvoltage Category II, Pollution Degree 2, up to 2 km above sea level
- Complies with IEC/UL 60950-1, 62368-1
- AEC-Q200 compliant
- RoHS compliant*

Applications

- Battery Management Systems (BMS)
- Energy Storage Systems (ESS)
- CAN interface digital input modules
- RS-485 and RS-232 isolation
- Designed for isolation power supplies using TI SN6501 & SN6505B

Sustainability

- Small size reduces material use
- ISO 14001, low-impact energy
- Responsibly sourced and produced
- Meets EU 94/62/EC standards

Product Overview

The Bourns® Model HCTSM100308BAL transformer provides reinforced insulation with a working voltage up to 1000 V, a creepage/clearance distance of 10 mm+, and 4000 VDC

General Specifications

Specification	Value
Primary Inductance (100 kHz/1 V)	300 µH min.
Leakage Inductance (100 kHz/0.1 V) with Pin 2, 3 Shorted and Pin 5, 6, 7, 8 Shorted	0.7 µH max.
DCR	
1-3, 2-4	0.2 Ω max.
5-7, 6-8	0.45 Ω max.
Turns Ratio & Polarity (1-4):(8-5)	0.38 ± 5 %
Hi-pot (PRI.-SEC.)	
4000 VDC	1 mA, 60 s
4400 VDC	1 mA, 2 s
Working Voltage	Up to 1000 Vrms
Operating Temperature	-40 °C to +125 °C
Storage Temperature	-25 °C to +85 °C
Moisture Sensitivity Level	1
ESD Classification (HBM)	N/A

How to Order

Model HCTSM100308B A L - E

AEC-Q200 Compliancy Designator _____

RoHS Compliancy Designator _____

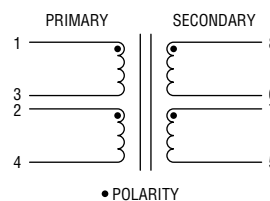
Packaging _____

E = 400 pcs. per 13-inch Reel, 5 Reels per Box

Packaging Specifications

Packaging	Pieces per 13-inch Reel
Tape & Reel	400

Electrical Schematic



Contact Information

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* 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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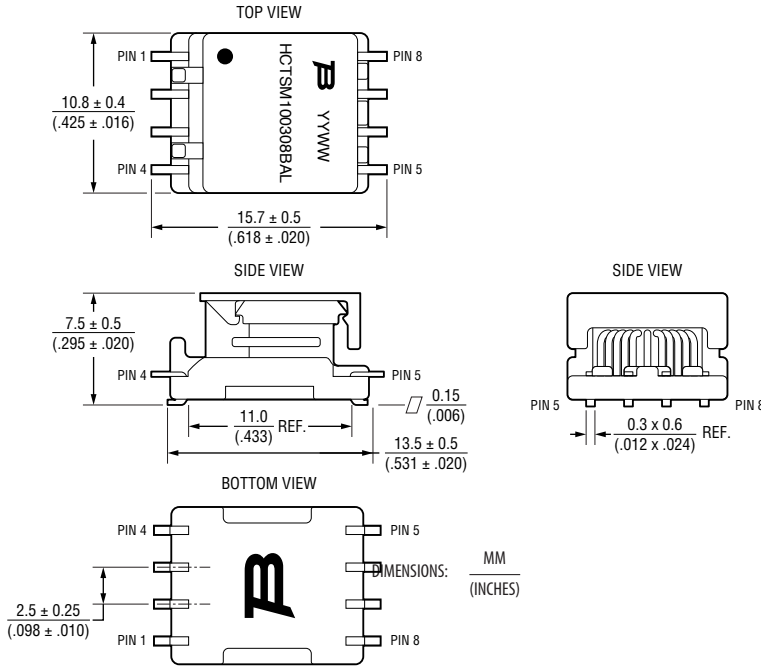
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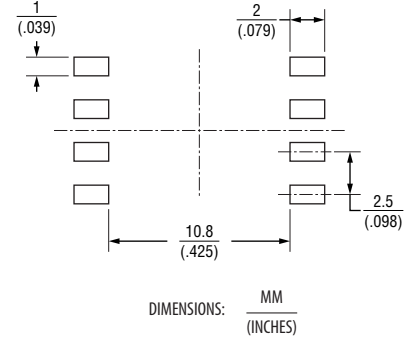


*RoHS
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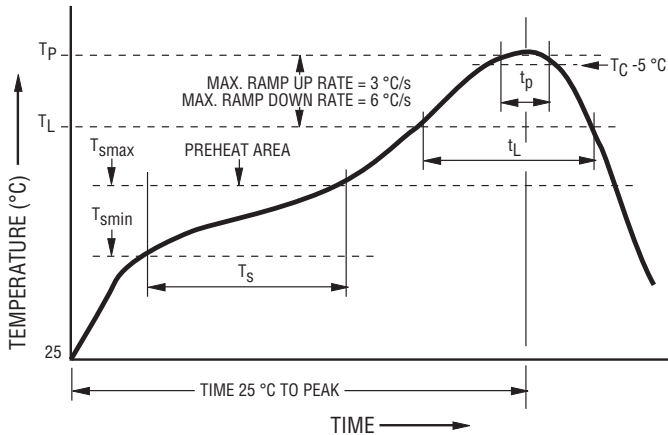
Product Dimensions



Recommended Layout



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 ³ < 350	Volume mm ³ 350 - 2000	Volume mm ³ > 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

HCTSM100308BAL

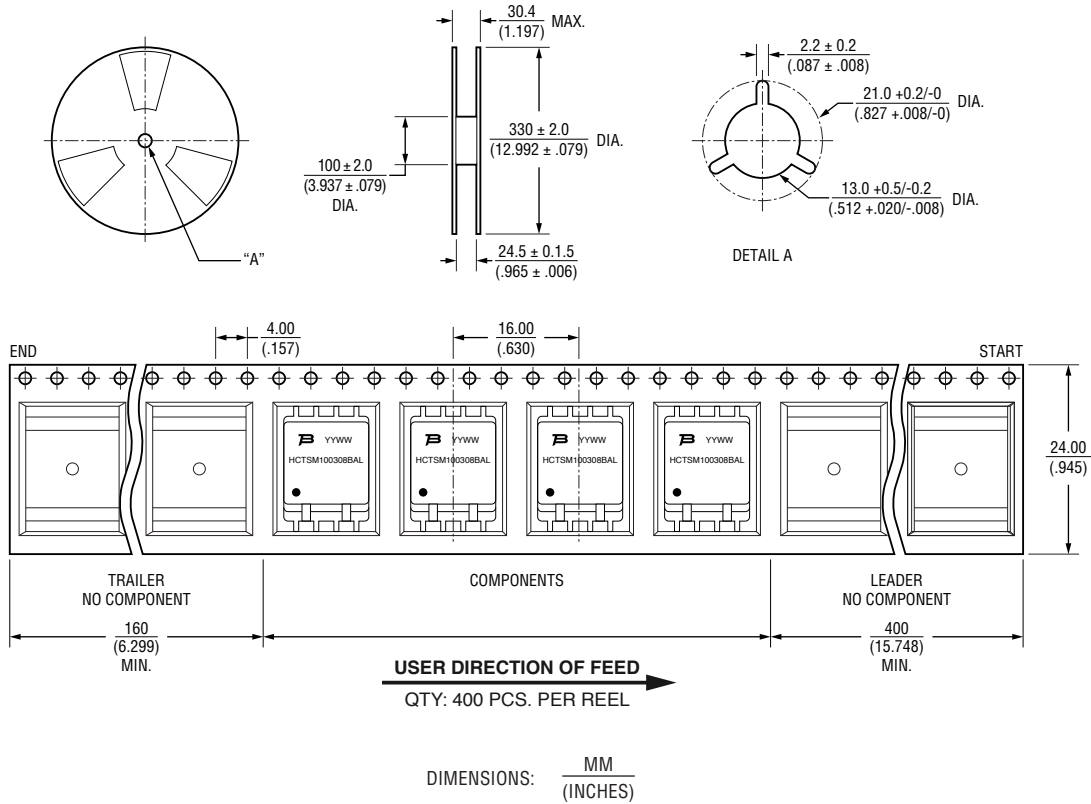
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Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.



REV. 01/26

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