

Features

- Toroid core for high coupling and low radiation
- Complies with IEC 60950-1, IEC 62368-1 and IEC 60664-1
- cULus UL 62368-1 recognized, File No. [E515965](#) (six models)
- Reinforced insulation for working voltage of 800 Vrms, 1000 Vpeak

- Designed for isolation power supplies using TI SN6501 and SN6505B
- AEC-Q200 compliant
- RoHS compliant*

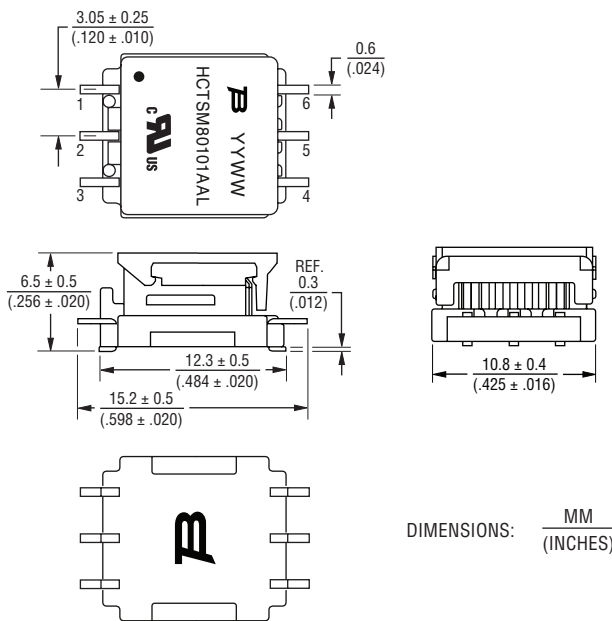
HCTSM8 Series - High Clearance and Creepage Distance Transformers

Electrical Specifications @ 25 °C

Bourns Part Number**	Primary Inductance @ 100 kHz/ 1 V	Leakage Inductance @ 100 kHz/ 0.1 V (All Sec. Pins Shorted)	Turns Ratio P(1-3) : S(6-4)	Pri. (1-3) DCR (Ω) Max.	Sec. (6-4) DCR (Ω) Max.	UL Recognition
	L 1-3 (μH) Min.	Lk 1-3 (μH) Max.				
HCTSM80101AAL	250	0.8	1 : 1	0.30	0.20	✓
HCTSM80102AAL	250	0.6	1 : 2	0.30	0.35	✓
HCTSM80201AAL	250	1.2	2 : 1	0.30	0.15	✓
HCTSM80304BAL	300	0.6	3 : 4	0.30	0.30	
HCTSM80305BAL	300	0.6	3 : 5	0.30	0.30	
HCTSM80308BAL	300	0.7	3 : 8	0.50	0.85	
HCTSM80403AAL	250	0.8	4 : 3	0.30	0.20	✓
HCTSM80803AAL	250	1.8	8 : 3	0.30	0.15	✓
HCTSM80809AAL	250	0.6	8 : 9	0.30	0.25	✓
HCTSM80910BAL	300	0.9	9 : 10	0.30	0.25	
HCTSM81017CAL	350	0.9	10 : 17	0.42	0.48	

**Add -E part number suffix - See How to Order.

Product Dimensions



WARNING Cancer and Reproductive Harm - 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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Additional Information

Click these links for more information:



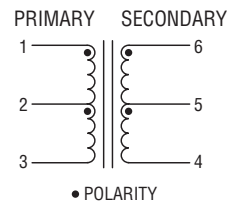
General Specifications

Primary (1-3) E*T Constant..11 V-μS min.
 Rated Current.....350 mA AC
 Hi-Pot: Primary/Secondary
5K Vdc, 60 seconds
 Operating Temperature
-40 °C to +125 °C
 (Temperature rise included)
 Storage Temperature (Component)
-40 °C to +125 °C
 Clearance/Creepage Distance
 of Primary to Secondary 8 mm min.
 Level of Insulation..... Reinforced for a
 working voltage of 800 Vrms,
 1000 Vpeak, Material Group 1,
 Overvoltage Category II, Pollution
 degree 2, Altitude 2000 m
 Moisture Sensivity Level..... 1
 ESD Classification (HBM)..... N/A

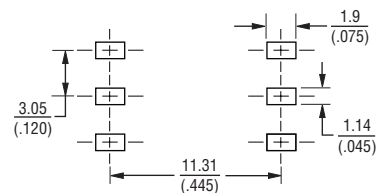
Materials

Core.....Ferrite
 Wire ... Enameled/triple-insulated copper
 Terminal FinishSn
 Packaging..... 500 pcs. per 13-inch reel

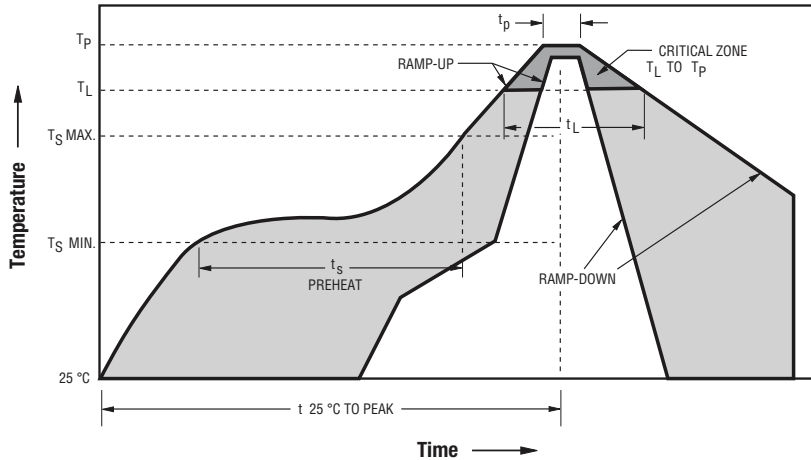
Electrical Schematic



Recommended Layout

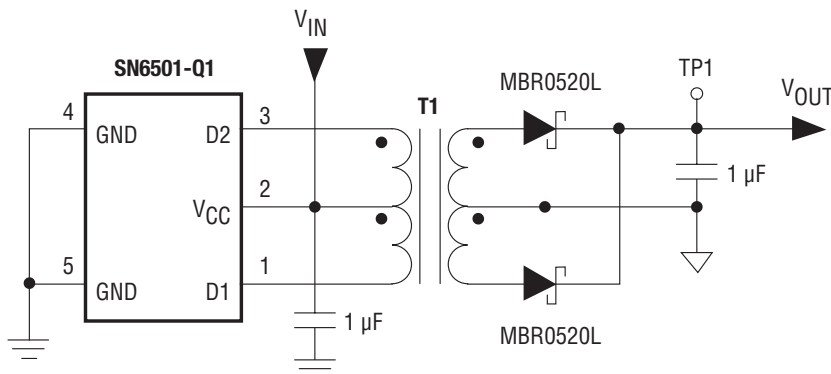


Reflow Solder Profile



Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate ($T_{S_{max}}$ to T_p)	3 °C / second max.
PREHEAT: Temperature Min. ($T_{S_{min}}$) Temperature Max. ($T_{S_{max}}$) Time ($T_{S_{min}}$ to $T_{S_{max}}$) (t_s)	150 °C 200 °C 60~180 seconds
TIME MAINTAINED ABOVE: Temperature (T_L) Time (t_L)	217 °C 60~150 seconds
Peak Temperature (T_p)	245-250 °C
Time within 5 °C of Actual Peak Temperature (t_p)	20~40 seconds
Ramp-Down Rate	6 °C / second max.
Time 25 °C to Peak Temperature	8 minutes max.

Typical Application



How to Order

HCTSM80101A A L - E

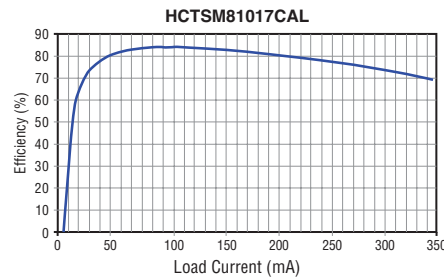
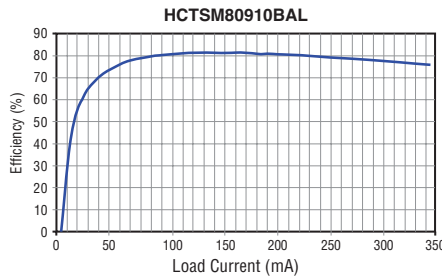
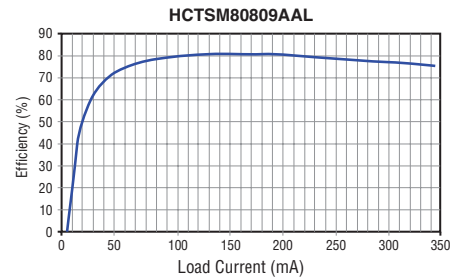
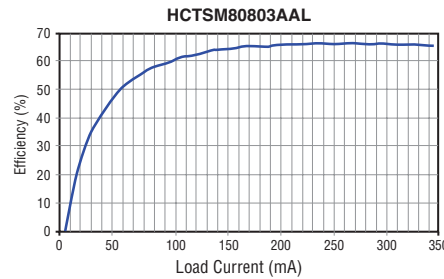
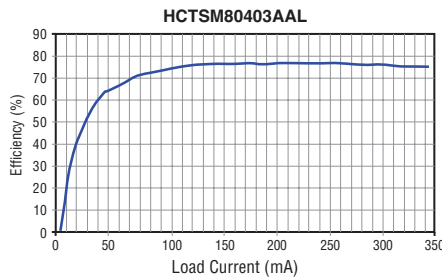
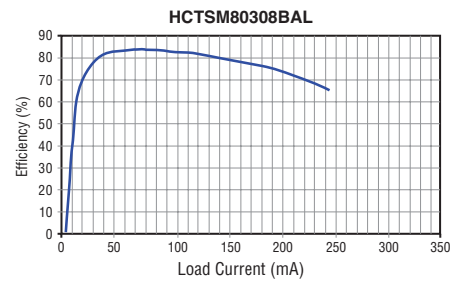
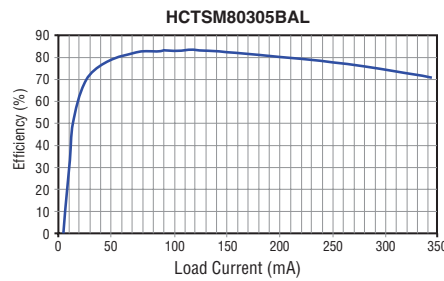
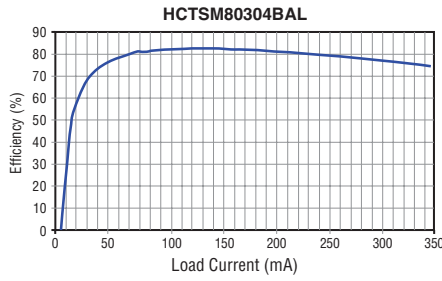
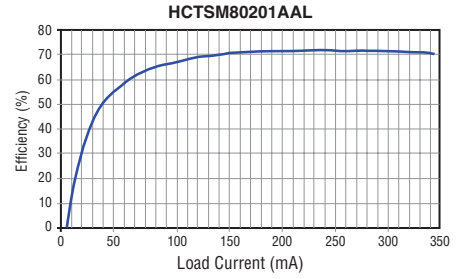
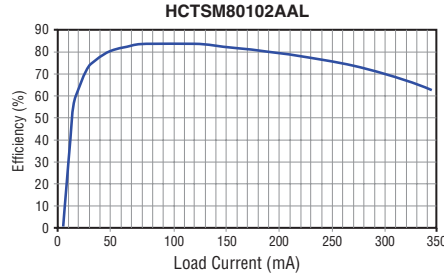
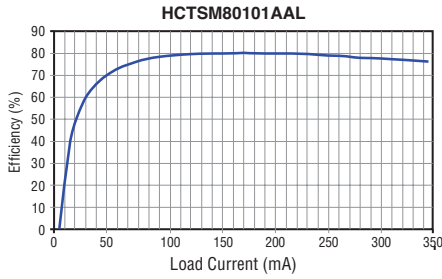
Model _____
 AEC-Q200 Compliancy Designator _____
 RoHS Compliancy Designator _____
 Tape & Reel Packaging
 E = 500 pcs. per 13-inch Reel,
 5 Reels per Box,
 MOQ/Mult: 2500 pcs./2500 pcs.

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Users should verify actual device performance in their specific applications.

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Efficiency vs. Load Curves*



*Measured with circuit in Typical Application, 5 VDC input, 0-350 mA DC load, $T_a = 20\text{ }^\circ\text{C}$

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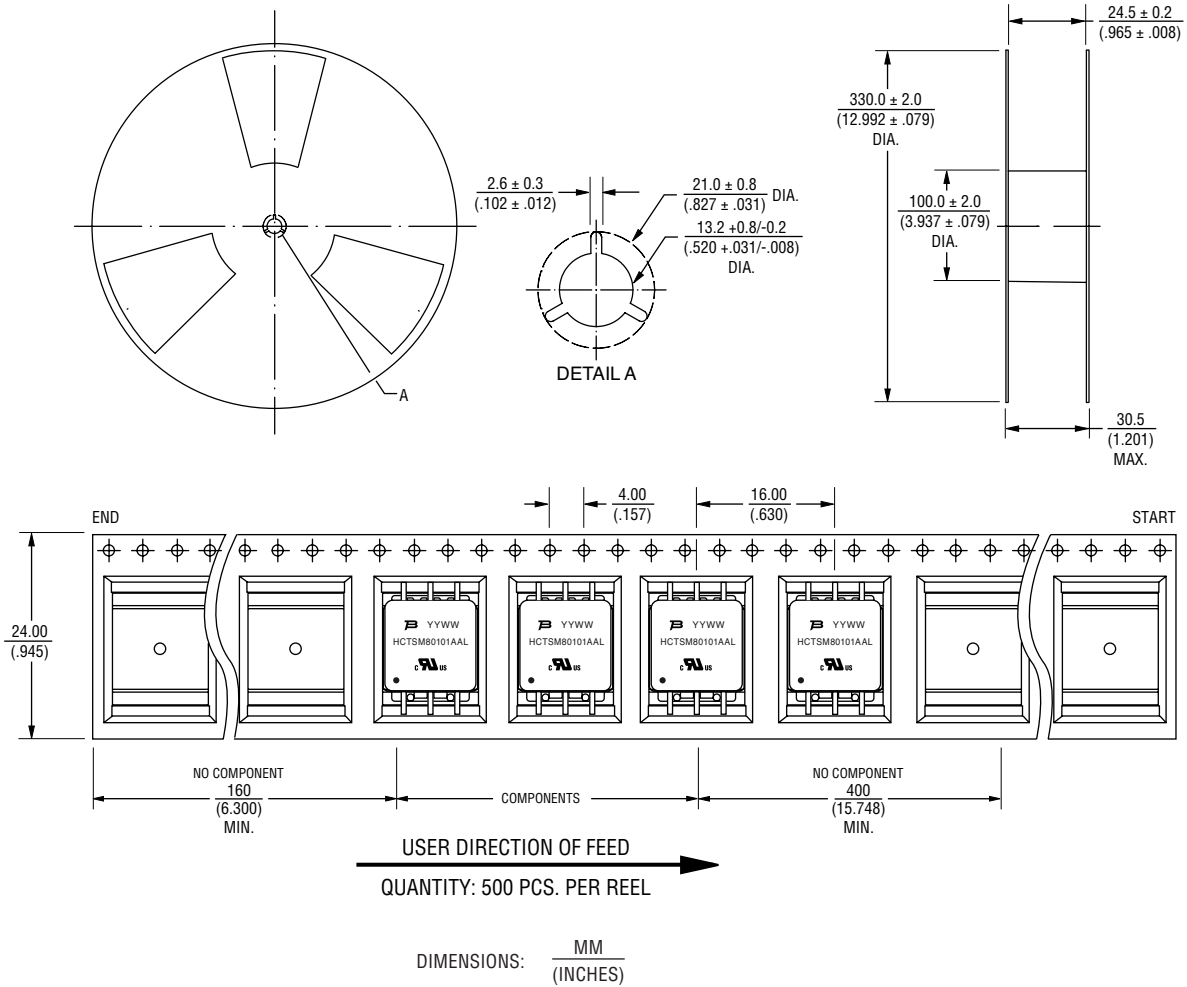
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HCTSM8 Series - High Clearance and Creepage Distance Transformers

BOURNS®

Packaging Specifications



REV. 01/22/24

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