

Features

- Toroid core for high coupling and low radiation
- Complies with IEC 60950-1, IEC 62368-1 and IEC 60664-1
- c **Tu**s 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, SN6505B and Nexperia NXF6501-Q100
- AEC-Q200 compliant
- RoHS compliant*

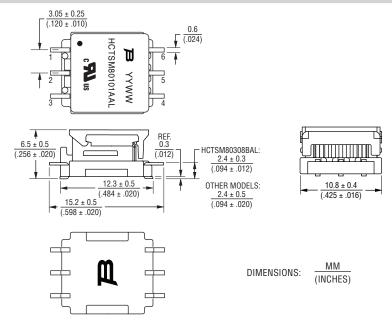
HCTSM8 Series – High Clearance and Creepage Distance Transformers

Electrical Specifications @ 25 °C

	Primary Inductance @ 100 kHz/ 1 V	Leakage Inductance @ 100 kHz / 0.1 V (All Sec. Pins Shorted)	Turns Ratio	Pri. (1-3)	Sec. (6-4)		
Bourns Part Number**	L 1-3 (µH) Min.	Lk 1-3 (µH) Max.	P(1-3) : S(6-4)	DCR (Ω) Max.	DCR (Ω) Max.	UL Recognition	
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.

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/Secondary5K Vdc, 60 seconds Operating Temperature-40 °C to +125 °C (Temperature rise included) Storage Temperature (Component)-25 °C to +85 °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

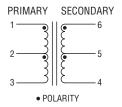
degree 2, Altitude 2000 m

Materials

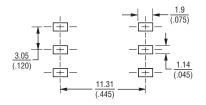
Core.....Ferrite Wire ... Enameled/triple-insulated copper Terminal FinishSn Packaging...... 500 pcs. per 13-inch reel

Moisture Sensitivity Level......1 ESD Classification (HBM).....N/A

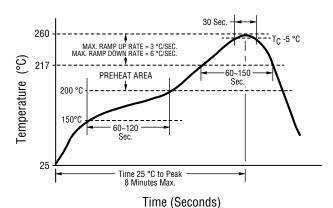
Electrical Schematic



Recommended Layout



Solder Profile



REFLOW TIMES: 3 TIMES MAX.

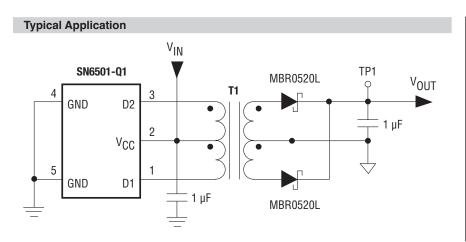
Profile Feature	Pb Free Assembly
Preheat - Temperature Min. (T _{Smin}) - Temperature Max. (T _{smax}) - Time(t _S) from T _{Smin} to T _{smax}	150 °C 200 °C 60-120 seconds
Ramp-up Rate (T _L to T _p)	3 °C/second max.
Liquidous temperature (T _L) Time (t _L) maintained above T _L	217 °C 60-150 seconds
Peak package body temperature (Tp)	T _p ≤ T _c (see table below)
Time within 5 °C of Actual Peak Temperature (t _p)	30 seconds
Ramp-Down Rate (Tp to TL)	6 °C/second max.
Time 25 °C to Peak Temperature	8 minutes max.

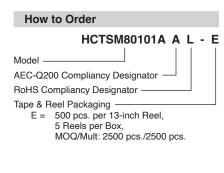
Pb-free Process Classification Temperatures (T_C)

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 ~ 2.5 mm	260 °C	250 °C	245 °C
>2.5 mm	250 °C	245 °C	245 °C

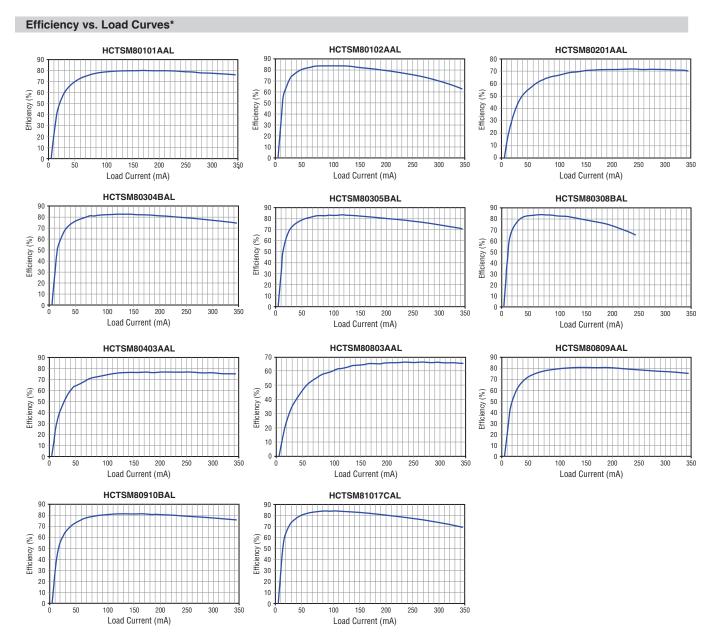
Refer to IPC/JEDEC J-STD-020

This product has been tested under this reflow condition. Deviations from this, especially higher temperature or longer durations, could impact performance.



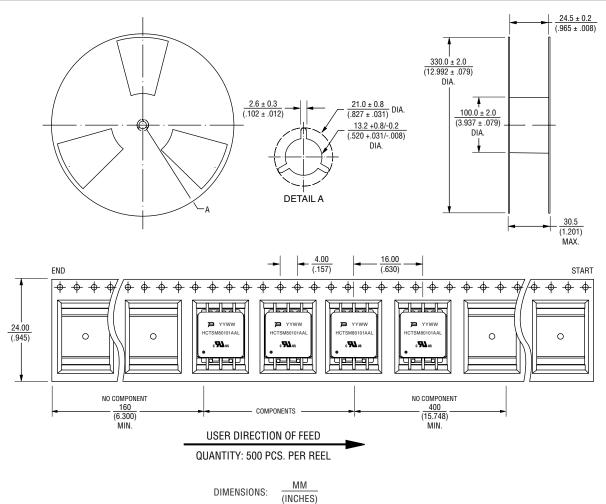






*Measured with circuit in Typical Application, 5 VDC input, 0-350 mA DC load, $T_a = 20 \, ^{\circ}\text{C}$

Packaging Specifications



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