

AEC-Q200 COMPLIANT (Pending)  
\*RoHS and



**BOURNS®**

**Features**

- Toroid core for high coupling and low radiation
- Complies with IEC 60950-1, IEC 62368-1 and IEC 60664-1
- Reinforced insulation for working voltage of 800 V
- Designed for isolation power supplies using TI SN6501 and SN6505B

- AEC-Q200 compliant
- RoHS compliant\*

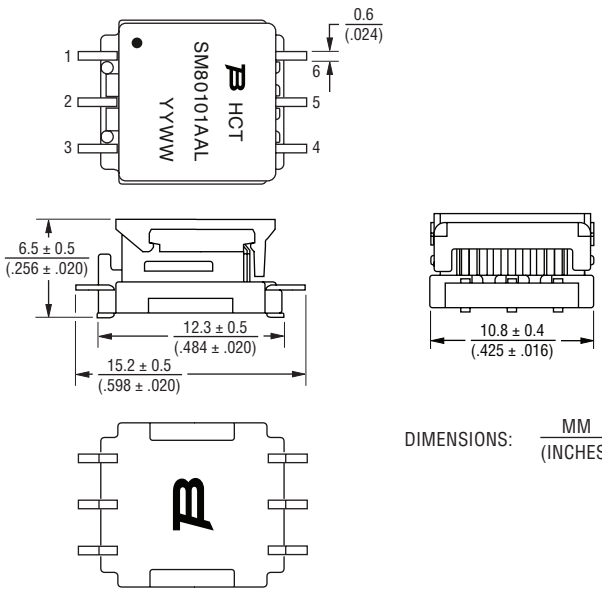
**HCT Series - High Clearance and Creepage Distance Transformers**

**Electrical Specifications @ 25 °C**

Bourns Part Number**	Primary Inductance @ 100 kHz	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.
	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 or E1 part number suffix - See How to Order.

**Product Dimensions**



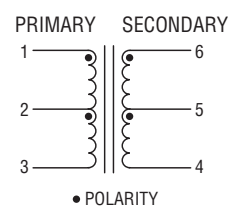
**General Specifications**

Primary (1-3) E\*T Constant...11 V-μS min.  
 Rated Current.....350 mA AC  
 Hi-Pot: Primary/Secondary ..... 4.2k VAC for 1 minute  
 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 Vac,  
 Material Group 1, Pollution degree 2, Altitude 2000 m  
 Moisture Sensitivity Level..... 1  
 ESD Classification (HBM)..... N/A

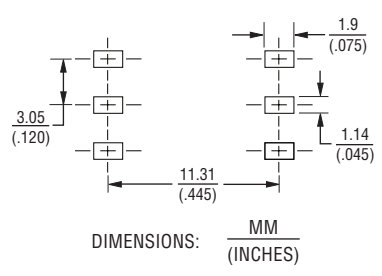
**Materials**

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

**Electrical Schematic**



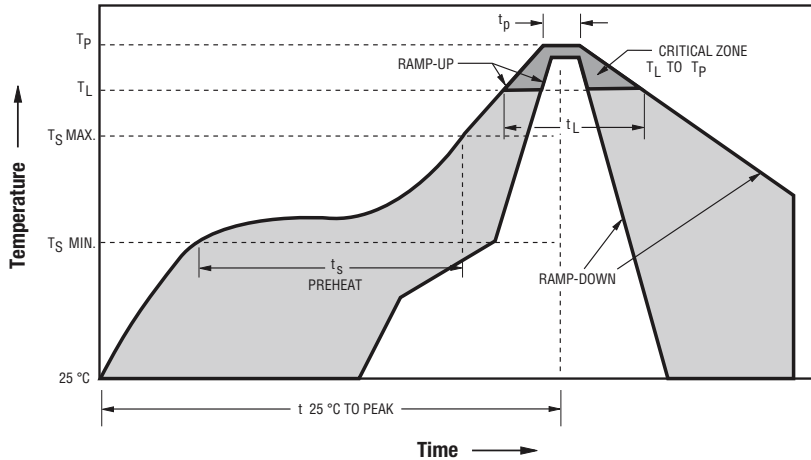
**Recommended Layout**



**WARNING Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

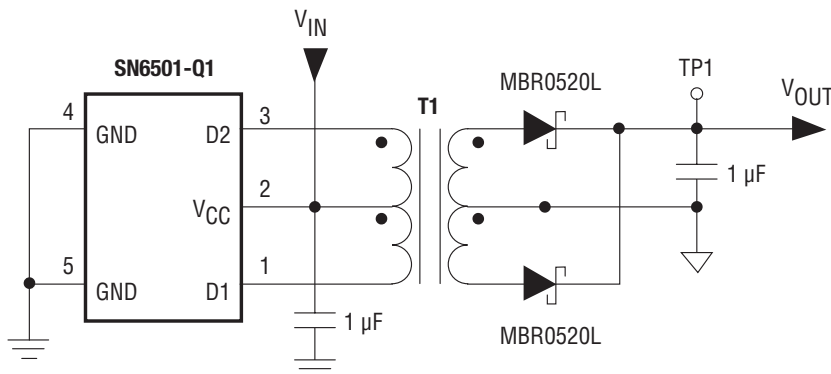
\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.  
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 Users should verify actual device performance in their specific applications.  
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## Reflow Solder Profile



Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (TS <sub>max</sub> to TP)	3 °C / second max.
PREHEAT:	
Temperature Min. (TS <sub>min</sub> )	150 °C
Temperature Max. (TS <sub>max</sub> )	200 °C
Time (TS <sub>min</sub> to TS <sub>max</sub> ) (ts)	60~180 seconds
TIME MAINTAINED ABOVE:	
Temperature (TL)	217 °C
Time (tL)	60~150 seconds
Peak Temperature (TP)	245-250 °C
Time within 5 °C of Actual Peak Temperature (tp)	20~40 seconds
Ramp-Down Rate	6 °C / second max.
Time 25 °C to Peak Temperature	8 minutes max.

## Typical Application



## How to Order

Model **HCTSM80101A A L - \***

AEC-Q200 Compliancy Designator

RoHS Compliancy Designator

Tape & Reel Packaging

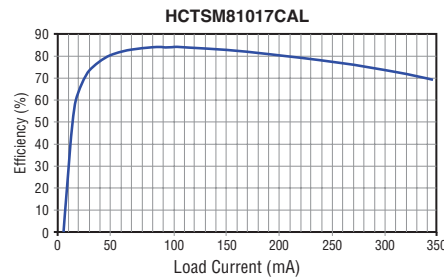
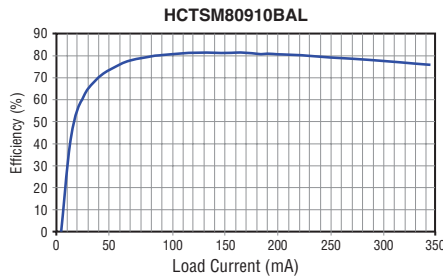
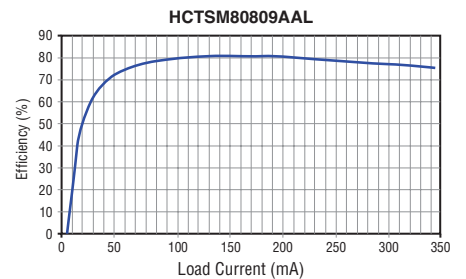
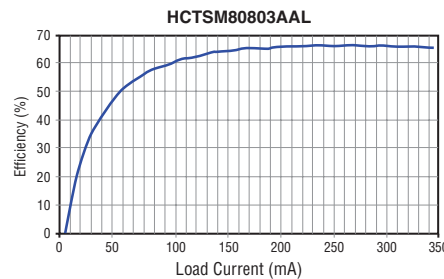
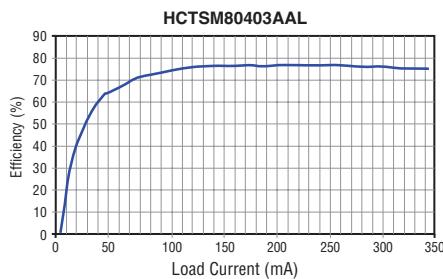
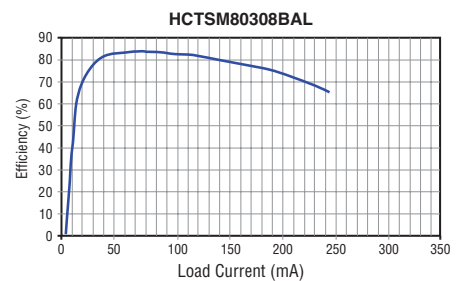
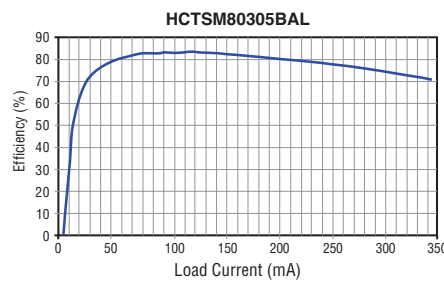
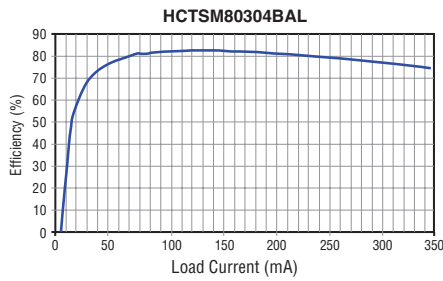
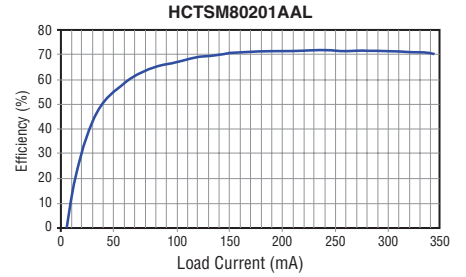
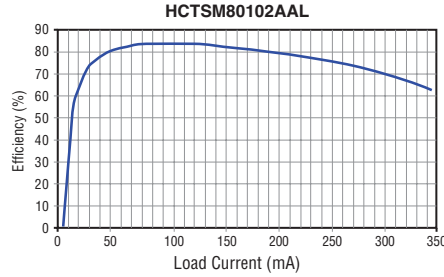
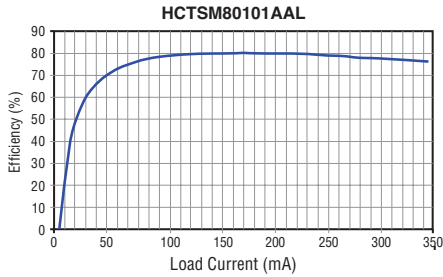
- E = 500 pcs. per 13-inch Reel, 5 Reels per Box, MOQ/Mult: 2500 pcs./2500 pcs.
- E1 = 500 pcs. per 13-inch Reel, 1 Reel per Box, MOQ/Mult: 500 pcs./500 pcs.

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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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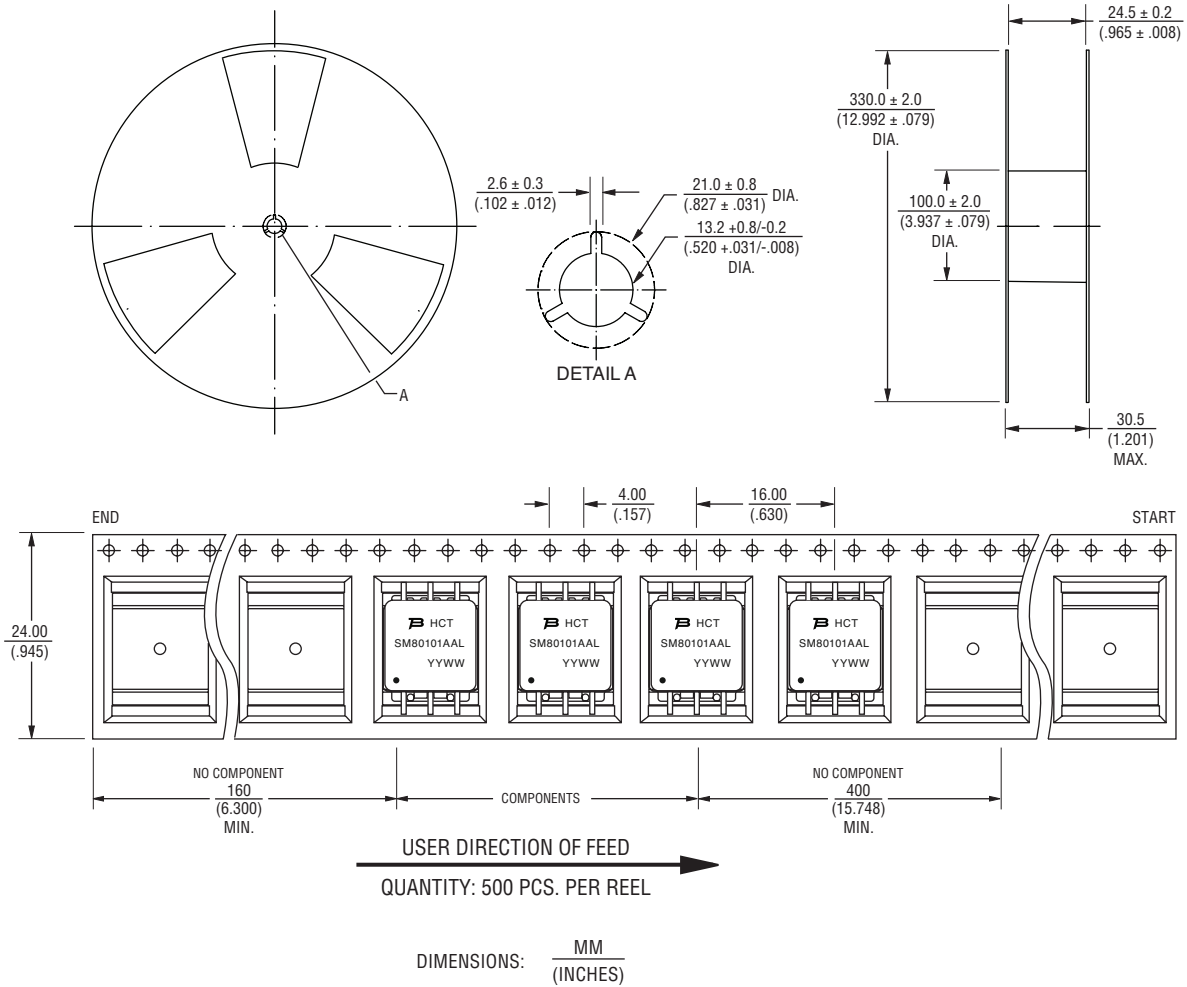
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# HCT Series - High Clearance and Creepage Distance Transformers

**BOURNS®**

## Packaging Specifications



REV. 01/20

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