



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*

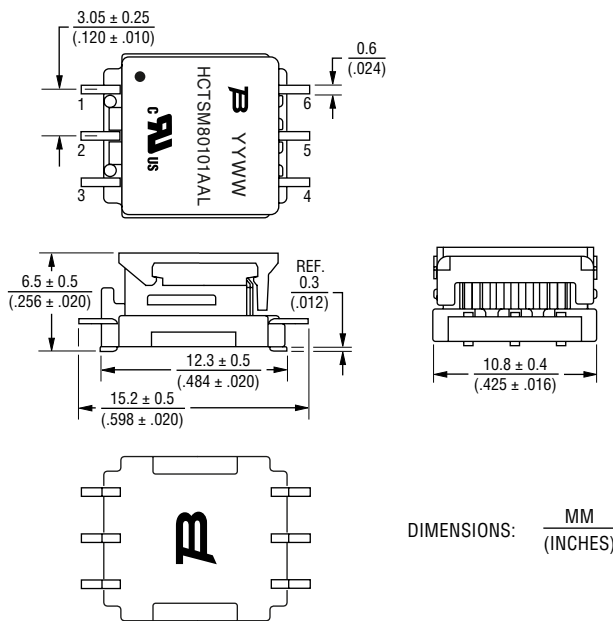
HCT Series - High Clearance and Creepage Distance Transformers

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. | 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 or E1 part number suffix - See How to Order.

Product Dimensions



Additional Information

Click these links for more information:



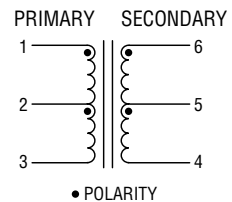
General Specifications

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

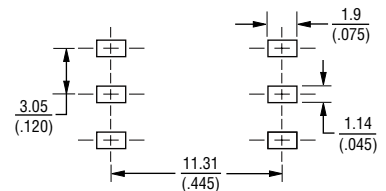
Materials

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

Electrical Schematic



Recommended Layout



WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

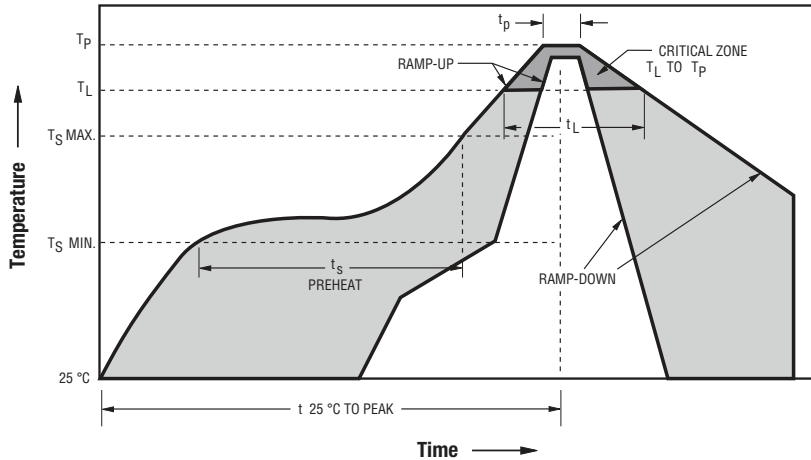
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

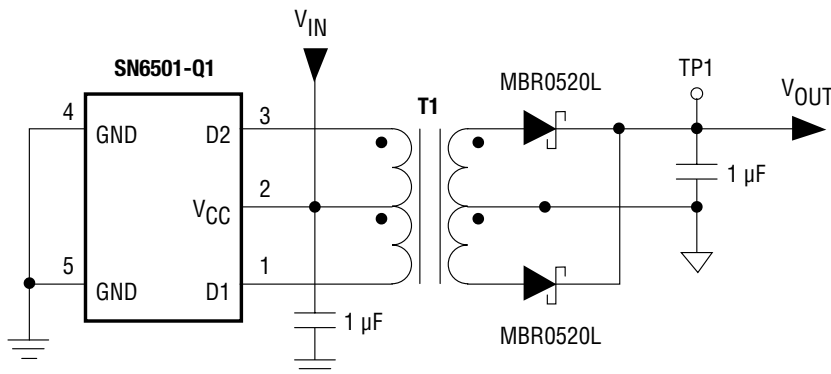
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Reflow Solder Profile



| 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 - *

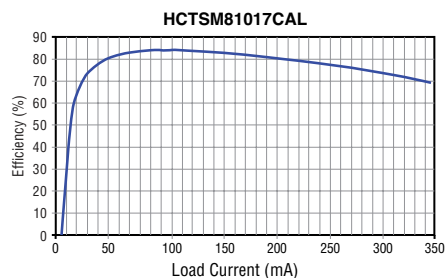
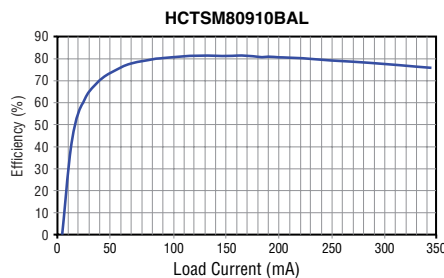
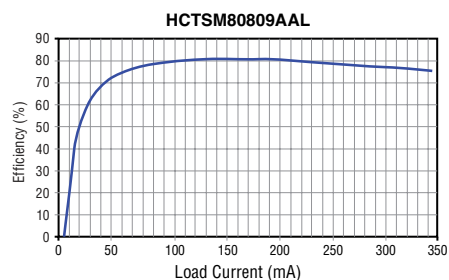
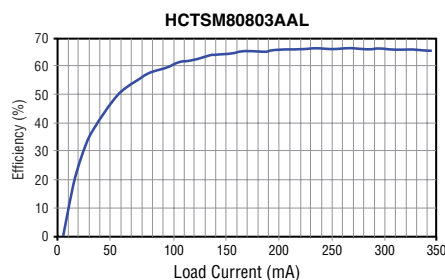
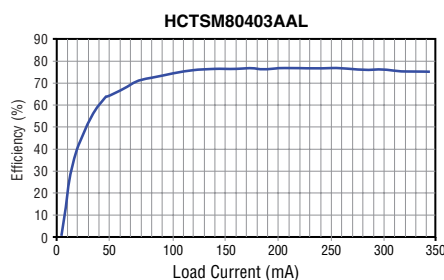
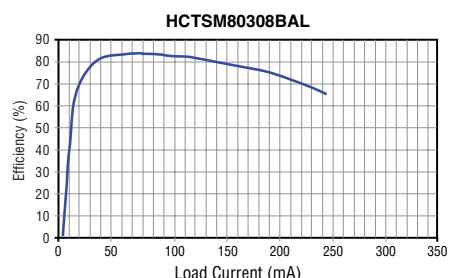
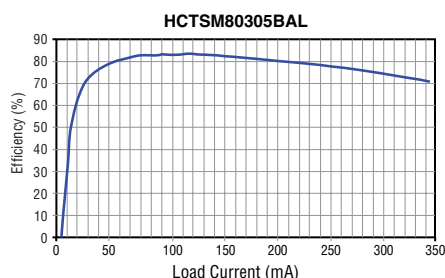
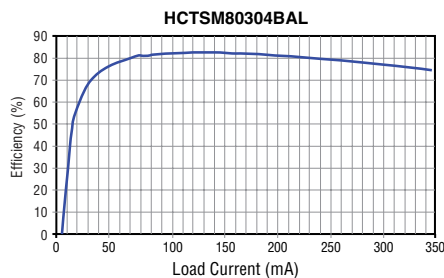
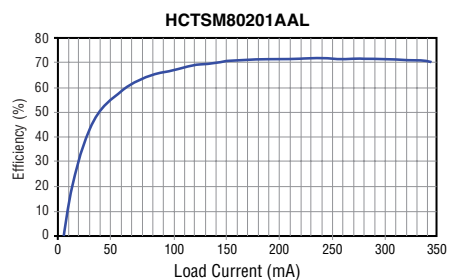
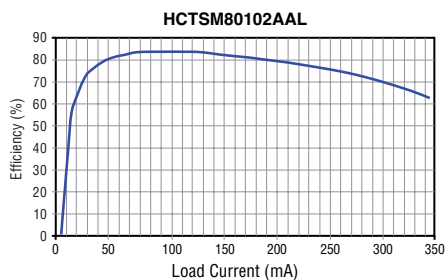
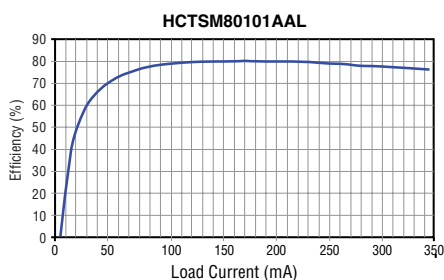
Model _____
 AEC-Q200 Compliancy Designator _____
 RoHS Compliancy Designator _____
 Tape & Reel Packaging
 E = 500 pcs. per 13-inch Reel,
 5 Reels per Box,
 MOQ/Mult: 2500 pcs./2500 pcs.
 E1 = 500 pcs. per 13-inch Reel,
 1 Reel per Box,
 MOQ/Mult: 500 pcs./500 pcs.

Specifications are subject to change without notice.

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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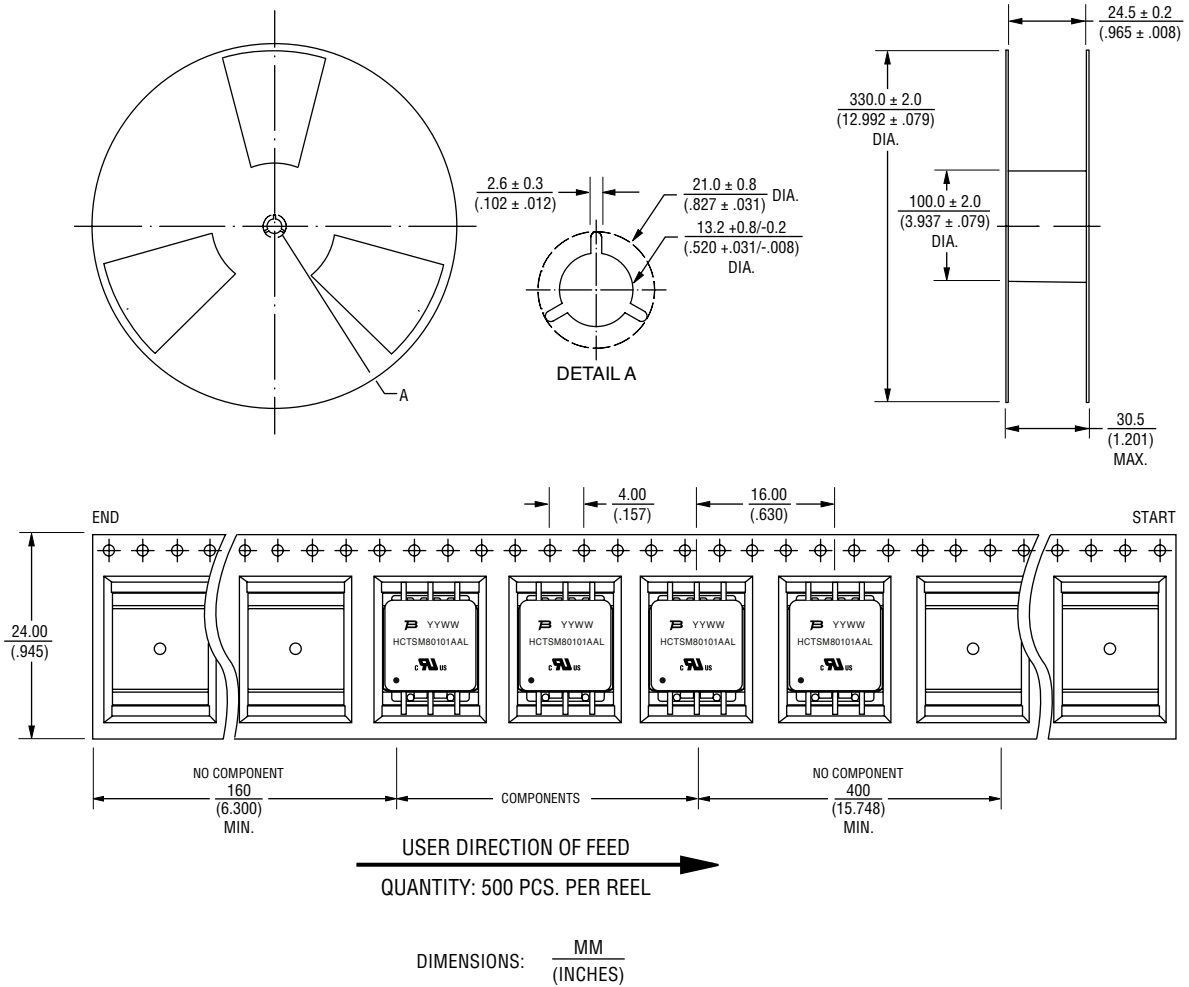
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HCT Series - High Clearance and Creepage Distance Transformers

BOURNS®

Packaging Specifications



REV. EFFECTIVE 6/14/21

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