

HCTSM151207FAL

High Clearance and Creepage Transformer



***RoHS
AEC-Q200 COMPLIANT**

Features

- Working voltage up to 1500 VDC
- Hi-Pot: 7640 VAC, 1 mA, 2 s
- Reinforced insulation
- Clearance/creepage distance >15 mm
- Overvoltage Category II, Pollution Degree 2, up to 2 km above sea level
- IEC 60664-1:2007, IEC/UL 62368-1:2018 and UL 62368-1:2021
- AEC-Q200 compliant
- RoHS compliant*

Applications

- Energy Storage Systems (ESS)
- High voltage/high current DC meters
- 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

Bourns® Model HCTSM151207FAL High Clearance/Creepage Distance, Push-Pull Isolation Transformer provides reinforced insulation with a working voltage up to 1500 V. With a creepage/clearance distance

of 15mm+ and a 7640 VDC Hi-Pot, this model is AEC-Q200 compliant and automotive grade for high reliability and is designed for isolation power supplies using Texas Instruments SN6501 & SN6505B.

Electrical Specifications

Specification	Value
Primary Inductance (1-3) (100 kHz/1 V/0 A DC)	400 µH min.
Leakage Inductance (1-3) (100 kHz/0.1 V) with Pin 4,5,6 Shorted	70 µH max.
DCR	
1-3	1.5 Ω max.
6-4	1.0 Ω max.
Turns Ratio and Polarity (6-4):(1-3)	0.583 ± 5 %
Hi-pot (PRI.-SEC.) (1 mA, 2 s)	7640 VDC
Working Voltage	Up to 1500 VDC
Operating Temperature	-40 °C to +125 °C
Storage Temperature	-40 °C to +125 °C (Component)
Clearance/Creepage Distance of Primary to Secondary	15 mm min.
Moisture Sensitivity Level	1
ESD Classification (HBM)	N/A

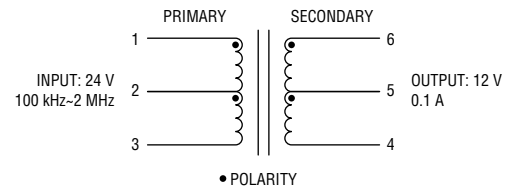
How to Order

Model **HCTSM151207F A L E**
 AEC-Q200 Compliancy Designator _____
 RoHS Compliancy Designator _____
 Packaging _____
 E = 200 pcs. per 13-inch Reel

Packaging Specifications

Packaging	Pieces per 13-inch Reel
Tape & Reel	200

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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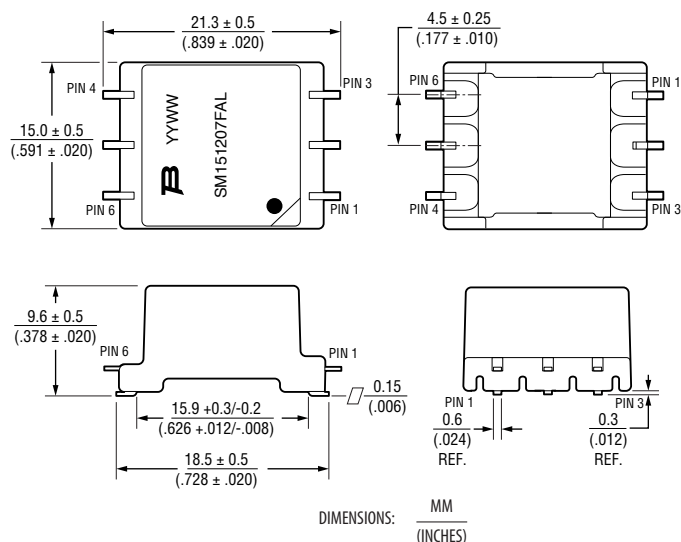
HCTSM151207FAL

High Clearance and Creepage
Transformer

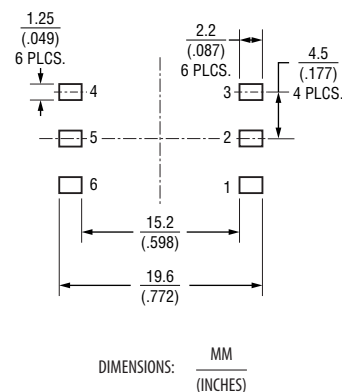


*RoHS
AEC-Q200 COMPLIANT

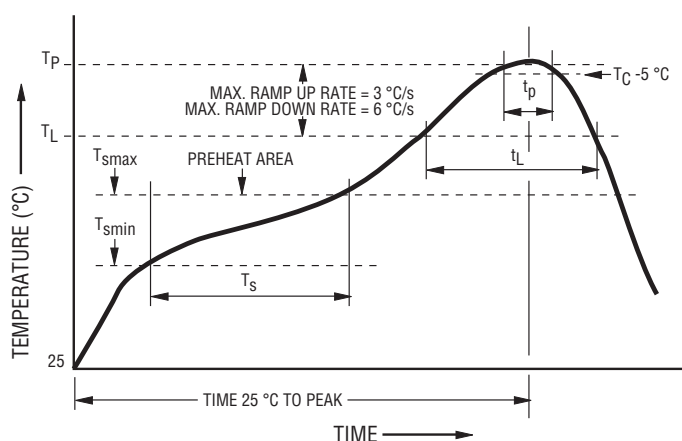
Product Dimensions



Recommended Layout



Solder Profile



Profile Feature	Pb-Free Assembly
Preheat / Soak:	
Temperature Min. (T _{smin})	150 °C
Temperature Max. (T _{smax})	200 °C
Time (t _s) from (T _{smin} to T _{smax})	60~120 seconds
Ramp Up Rate (T _L to T _p)	3 °C / second max.
Liquidous Temperature (T _L)	217 °C
Time (t _L) maintained above T _L	60~150 seconds
Peak Package Body Temperature (T _p)	T _p ≤ 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

HCTSM151207FAL

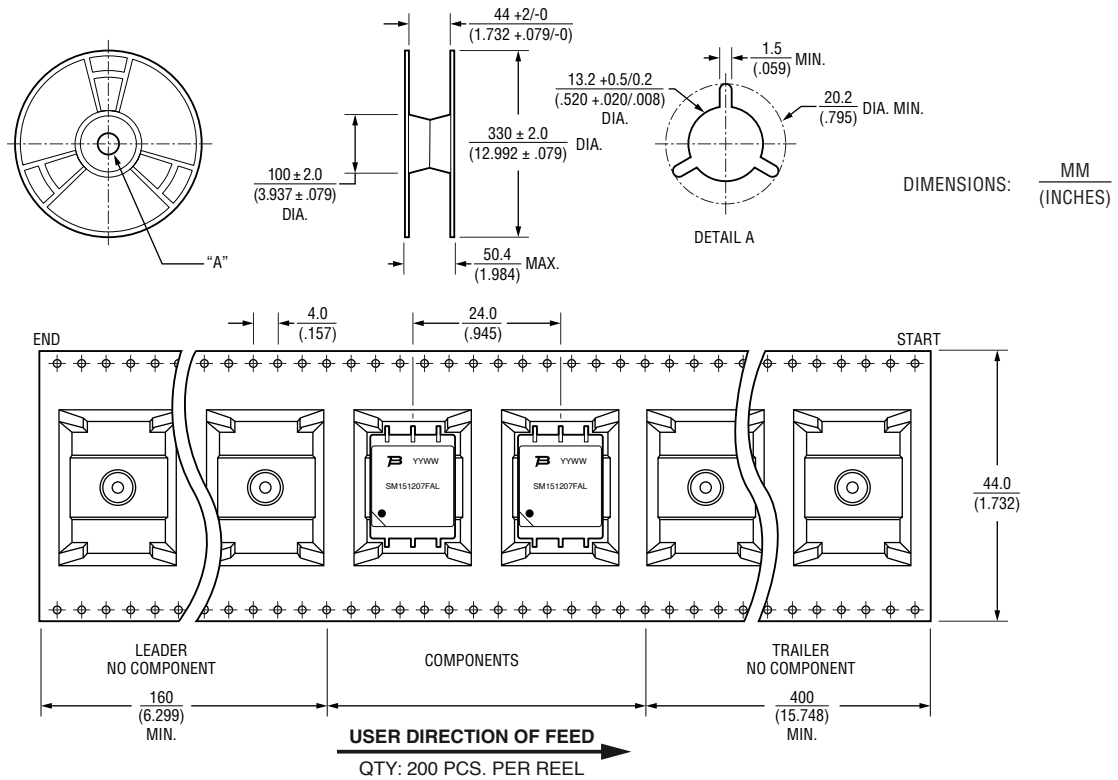
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Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.



REV. 01/26

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