



Features

- Planar technology primarily for BMS signal applications
- Working voltage: up to 1000 VDC
- Hi-Pot: 4300 VDC or 2500 VAC
- Basic insulation compliant with IEC 60664/62368-1
- Creepage distance 5 mm minimum, overvoltage category II
- Clearance distance 5 mm minimum up to 5000 m altitude, pollution degree 2, material group CTI I
- Developed for use with Analog Device's LTC6815 series, NXP's MC33771C series and Texas Instruments' model BQ79616
- AEC-Q200 compliant
- RoHS compliant* and halogen free**

SM91801AL BMS Planar Transformer

Additional Information

Click these links for more information:



Electrical Specifications @ 25 °C

OCL (100 kHz / 0.1 V)
(-40 °C to +125 °C)..... 150~450 μ H

Leakage Inductance (100 kHz / 0.1 V)
..... 1.2 μ H max. (0.82 μ H typ.)

DCR
Pri. and Sec..... 1.2 Ω max.

Interwinding Capacitance 20 pF max.

Turns Ratio 1 : 1 \pm 2 %

Insertion Loss
4 MHz..... -0.25 dB max.

Return Loss
4 MHz..... -16 dB min.

Hi-Pot (1 mA, 60 sec.)
..... 4300 VDC or 2500 VAC

Insulation Resistance 50 M Ω min.

Partial Discharge Level..... 1200 V
per IEC 60664

Impulse Voltage up to 4 kV, 1.2/50 μ s
with conformal coating

Working Voltage up to 1000 VDC

Operating Temperature
..... -40 °C to +125 °C

Storage Temperature (Component)
..... -40 °C to +125 °C

Moisture Sensitivity Level..... 1

Packaging Specification

Tape & Reel..... 600 pcs. per 13-inch reel

How To Order

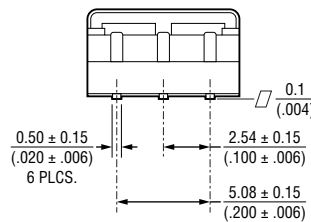
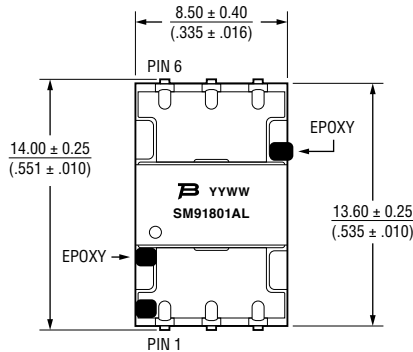
Model SM91801 A L - E

AEC-Q200 Compliancy Designator _____

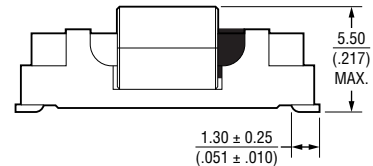
Termination _____
L = Tin (RoHS Compliant)

Packaging _____
E = 600 pcs. per 13-inch Reel

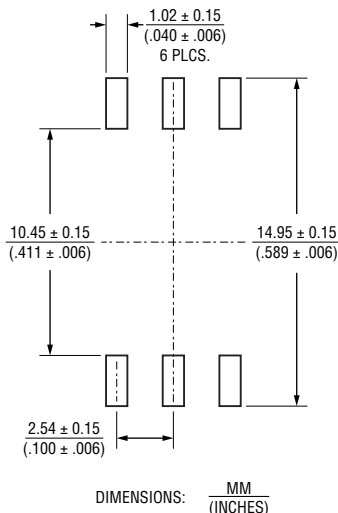
Product Dimensions



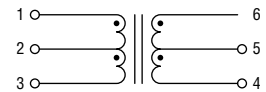
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$



Recommended Layout



Electric Schematic



Agency Recognition

Agency	Category	File No.
UL	UL62368-1	E515965

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

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

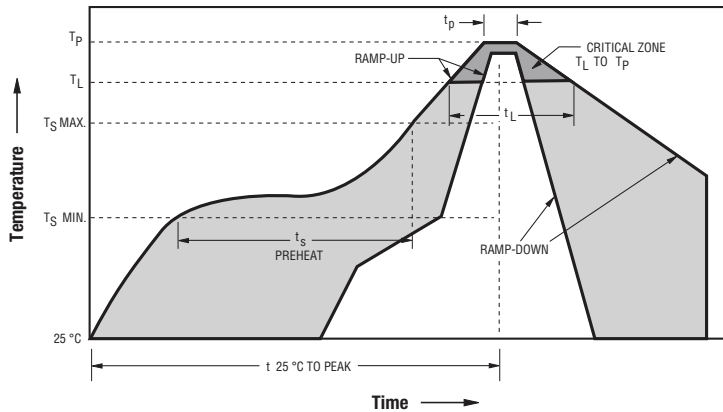
** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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SM91801AL BMS Planar Transformer

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Reflow Solder Profile



Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate	3 °C / second max.
PREHEAT: Temperature Min. ($T_{S \text{ min}}$) Temperature Max. ($T_{S \text{ max}}$) Time ($T_{S \text{ min}}$ to $T_{S \text{ max}}$)	150 °C 200 °C 60~180 seconds
Liquidus Temperature (T_L)	217 °C
Time Above Liquidus Temperature (t_L)	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 from Peak Temperature	6 °C / second max
Time 25 °C to Peak Temperature (T_P)	8 minutes max.
Do Not Exceed	250 °C

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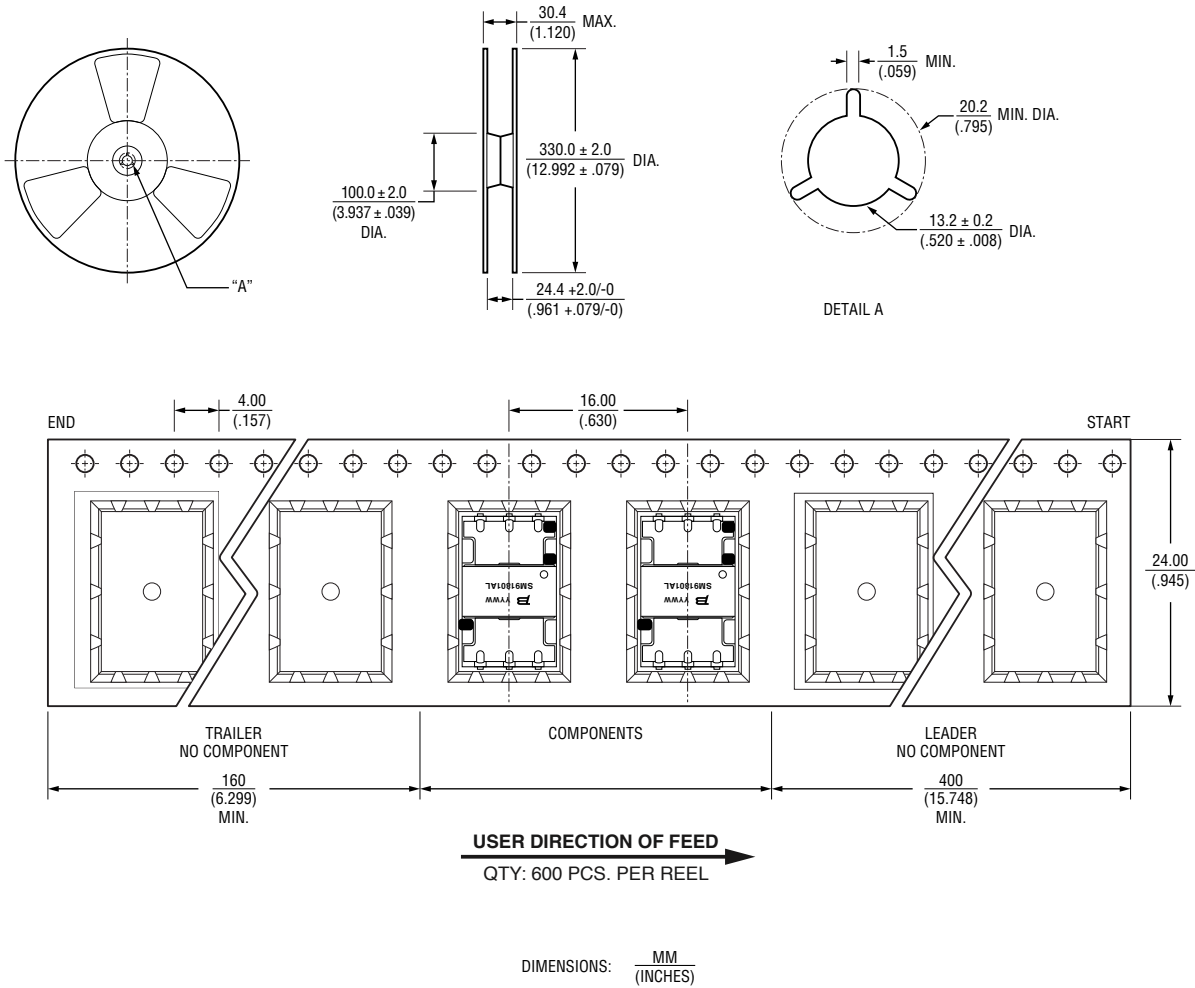
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SM91801AL BMS Planar Transformer

BOURNS®

Packaging Specifications



REV. 02/24

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