

Features

- Planar technology primarily for BMS signal applications
- Working voltage: up to 1000 VDC
- Hi-Pot: 4300 VDC or 3000 VAC
- Basic insulation compliant with IEC 60664/61558/62368-1
- Clearance distance 8.2 mm minimum, pollution degree 2, material group CT1 I
- Creepage distance 8.2 mm minimum, overvoltage category II
- Partial discharge up to 1200 V per IEC 60664
- Developed for use with Analog Device's LTC6815 series, NXP's MC33771C series and TI's model BQ79616
- AEC-Q200 compliant
- RoHS compliant* and halogen free**

SM91806AL 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.	1.4 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 3000 VAC
Insulation Resistance	50 M Ω min.
Partial Discharge Level	1200 V per IEC 60664
Impulse Voltage	up to 6 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

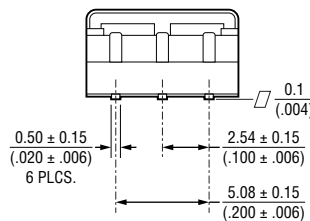
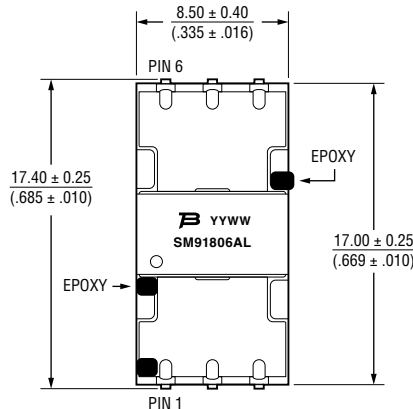
Model SM91806AL-E

AEC-Q200 Compliancy Designator _____

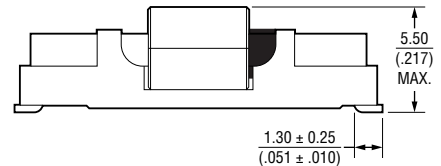
Termination _____
L = Tin (RoHS Compliant)

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

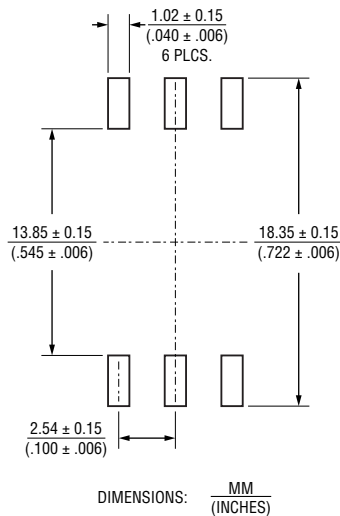
Product Dimensions



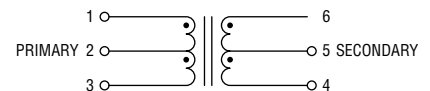
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$



Recommended Layout



Electric Schematic



BOURNS®

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WARNING Cancer and Reproductive Harm

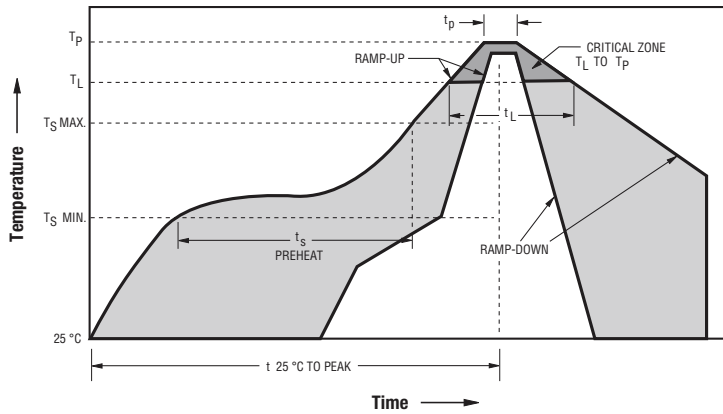
www.P65Warnings.ca.gov

* 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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Reflow Solder Profile



Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate	3 °C / second max.
PREHEAT: Temperature Min. ($T_{S\ min}$) Temperature Max. ($T_{S\ max}$) Time ($T_{S\ min}$ to $T_{S\ max}$)	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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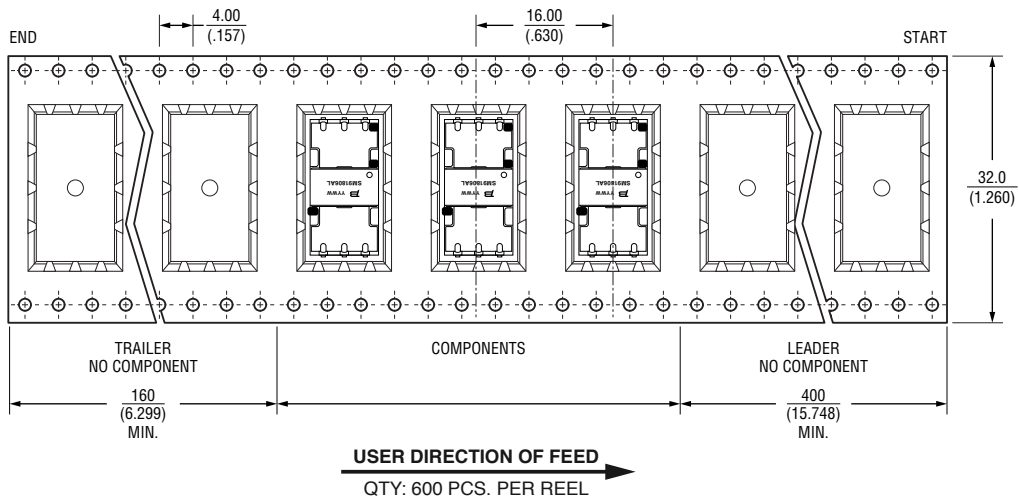
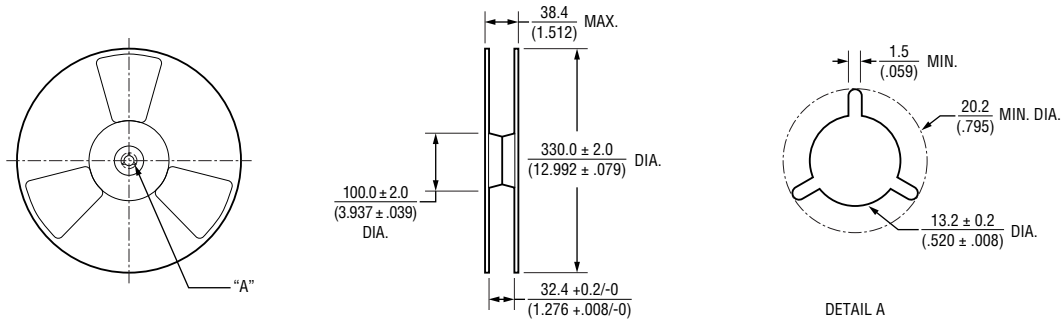
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SM91806AL BMS Planar Transformer

BOURNS®

Packaging Specifications



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

REV. 12/23

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