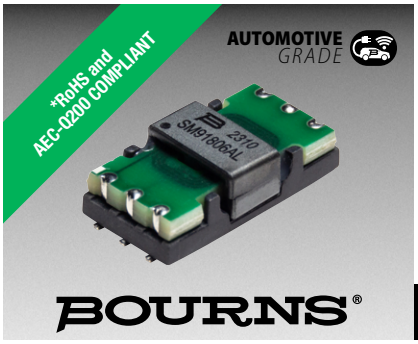



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## Features

- 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 CTI 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:

PRODUCT | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

### Electrical Specifications @ 25 °C

OCL (100 kHz / 0.1 V)
(-40 °C to +125 °C)..... 150~450 µH
Leakage Inductance (100 kHz / 0.1 V)
..... 1.2 µH max. (0.82 µH typ.)
DCR
Pri. and Sec..... 1.4 Ω max.
Interwinding Capacitance .....20 pF max.
Turns Ratio .....1 : 1 ± 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 MΩ min.
Partial Discharge Level..... 1200 V per IEC 60664
Impulse Voltage..... up to 6 kV, 1.2/50 µs with conformal coating
Working Voltage ..... up to 1000 VDC
Operating Temperature
..... -40 °C to +125 °C
Storage Temperature (Component)
..... -25 °C to +85 °C
Moisture Sensitivity Level.....1

### Packaging Specification

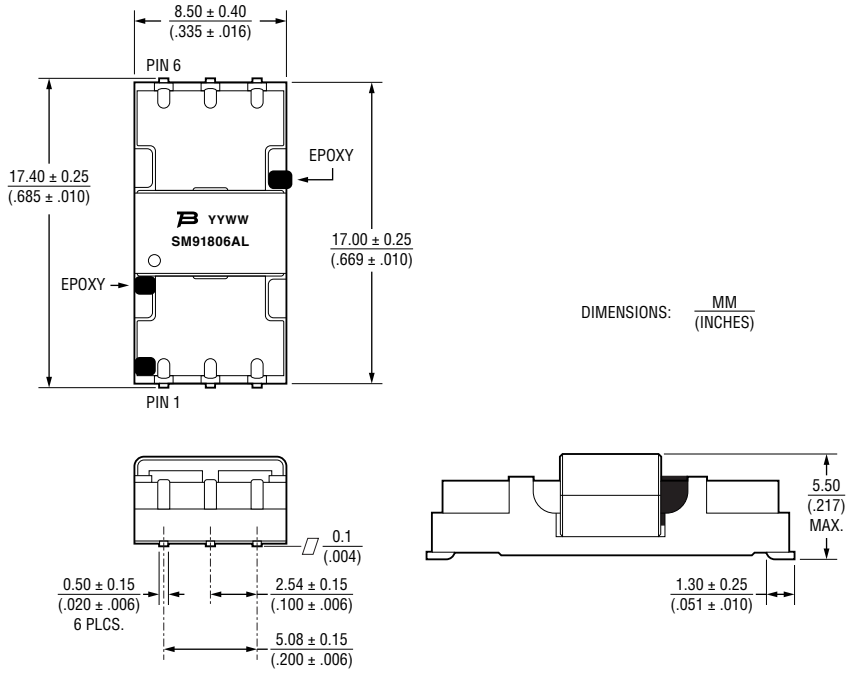
Tape & Reel..... 600 pcs. per 13-inch reel

### How To Order

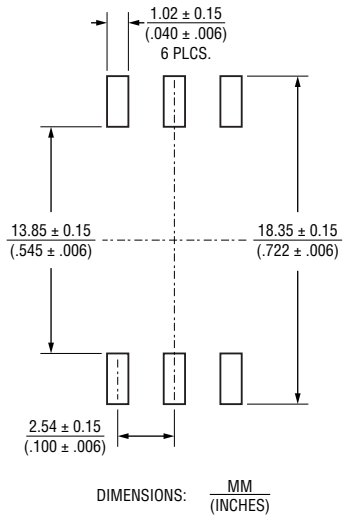
**SM91806 A L - E**

Model
AEC-Q200 Compliancy Designator
Termination
L = Tin (RoHS Compliant)
Packaging
E = 600 pcs. per 13-inch Reel

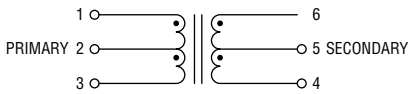
### Product Dimensions




### Recommended Layout




### Electric Schematic




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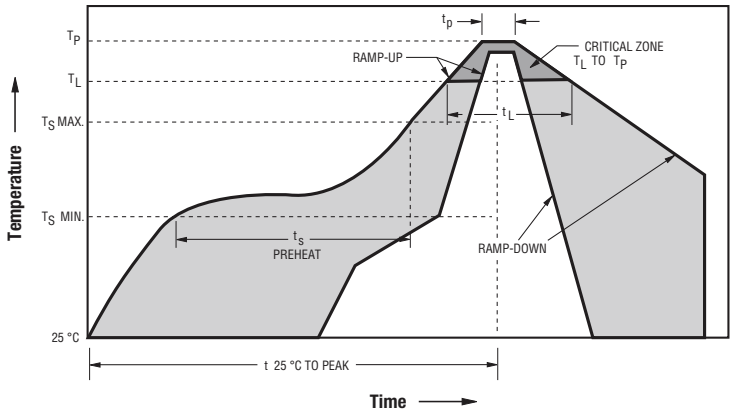
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Email: americus@bourns.com
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Email: mexicus@bourns.com
**Asia:** Tel: +886-2-2562-4117
Email: asiacus@bourns.com
**EMEA:** Tel: +36 88 885 877
Email: eurocus@bourns.com
**www.bourns.com**

**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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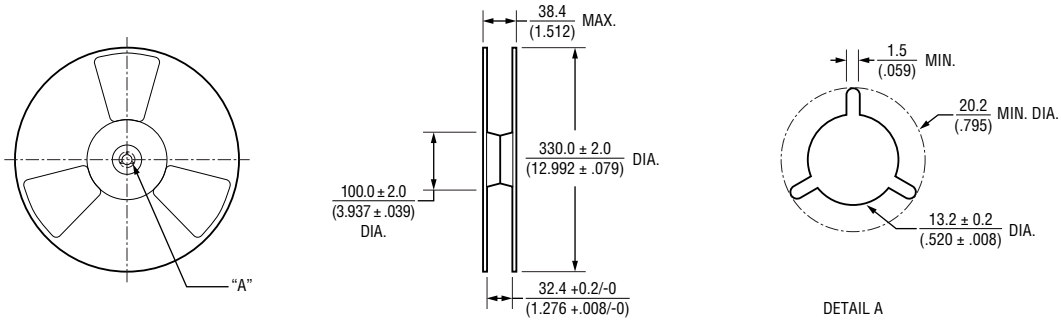
## Reflow Solder Profile

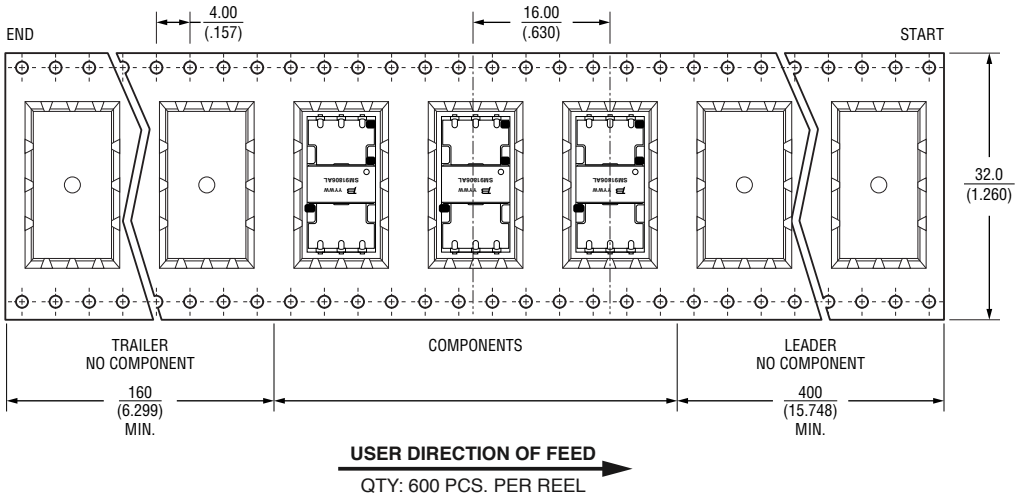



| Profile Feature | Pb-Free Assembly |
|---|---|
| Average Ramp-Up Rate | 3 °C / second max. |
| PREHEAT:<br>Temperature Min. ($T_{smin}$)<br>Temperature Max. ($T_{smax}$)<br>Time ($T_{smin}$ to $T_{smax}$) | <br>150 °C<br>200 °C<br>60~180 seconds |
| Liquidus Temperature ($T_L$) | 217 °C |
| Time Above 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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## Packaging Specifications




DIMENSIONS: MM (INCHES)

REV. 06/25

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