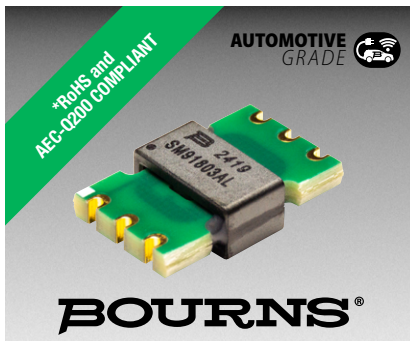




Features

- Planar technology for BMS signal applications
- Working voltage up to 1000 VDC
- Hi-Pot: 4300 VDC or 2500 VAC
- Basic insulation in compliance with IEC 60664-1 / IEC 62368-1 / IEC 61558-1
- Clearance distance >5.5 mm, up to 2 km altitude
- Creepage distance >5.5 mm, overvoltage category II, pollution degree 2, material group CTI I
- Partial discharge up to 1200 V per IEC 60664
- AEC-Q200 compliant
- RoHS compliant*

SM91803AL BMS Planar Transformer

Additional Information

Click these links for more information:



Electrical Specifications @ 25 °C

Inductance (100 kHz / 0.1 V)
(-40 °C to +125 °C).... 150 μ H ~ 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
(100 kHz / 0.1 V).....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 S)
.....4300 VDC or 2500 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 Range:
..... -40 °C to +125 °C
Storage Temperature Range
..... -25 °C to + 85 °C
Moisture Sensitivity Level 1

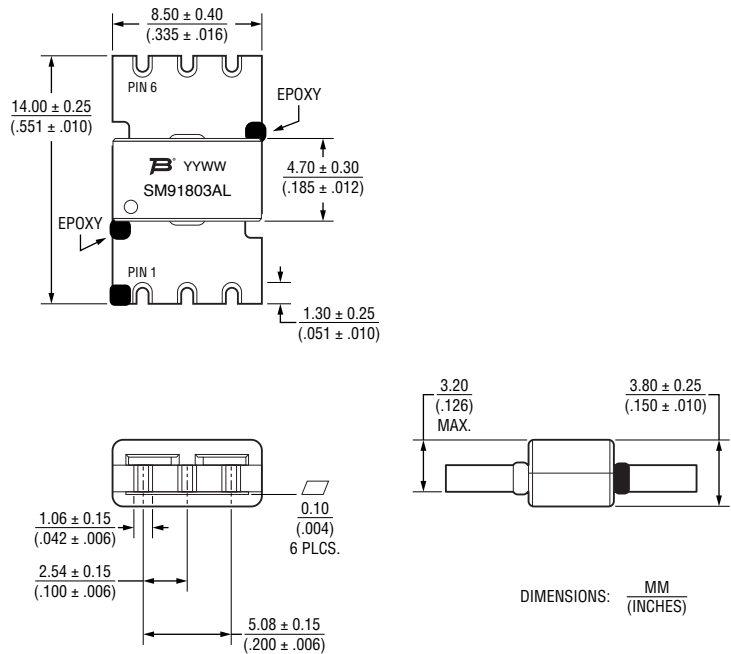
Packaging Specification

Tape & Reel..... 800 pcs. per 13-inch reel

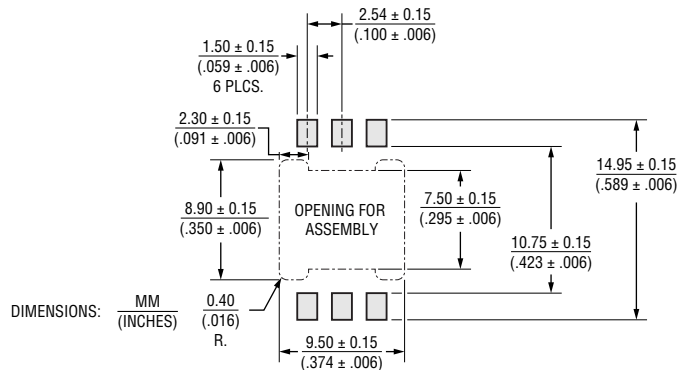
How To Order

Model _____ **SM91803 A L - E**
AEC-Q200 Compliancy Designator _____
Termination _____
L = Tin (RoHS Compliant)
Packaging _____
E = Tape & Reel

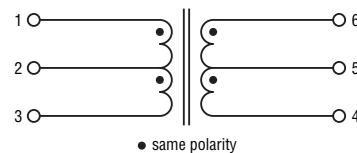
Product Dimensions



Recommended Layout



Electrical Schematic



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.

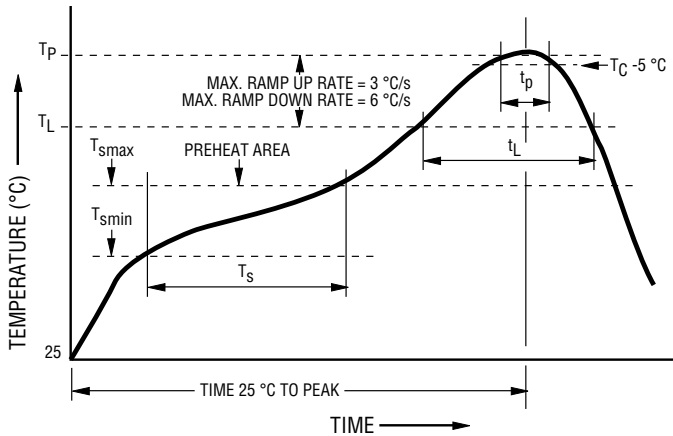
Users should verify actual device performance in their specific applications.

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SM91803AL BMS Planar Transformer

BOURNS®

Solder Reflow Recommendations



Profile Feature	Pb-Free Assembly
Preheat / Soak: Temperature Min. (T_{smin}) Temperature Max. (T_{smax}) Time (t_s) from (T_{smin} to T_{smax})	150 °C 200 °C 60~120 seconds
Ramp Up Rate (T_L to T_P)	3 °C / second max.
Liquidous Temperature (T_L) Time (t_L) maintained above T_L	217 °C 60~150 seconds
Peak Package Body Temperature (T_P)	$T_P \leq T_C$ (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.

*Tolerance for peak profile temperature (T_P) is defined as a supplier minimum and a user maximum.

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

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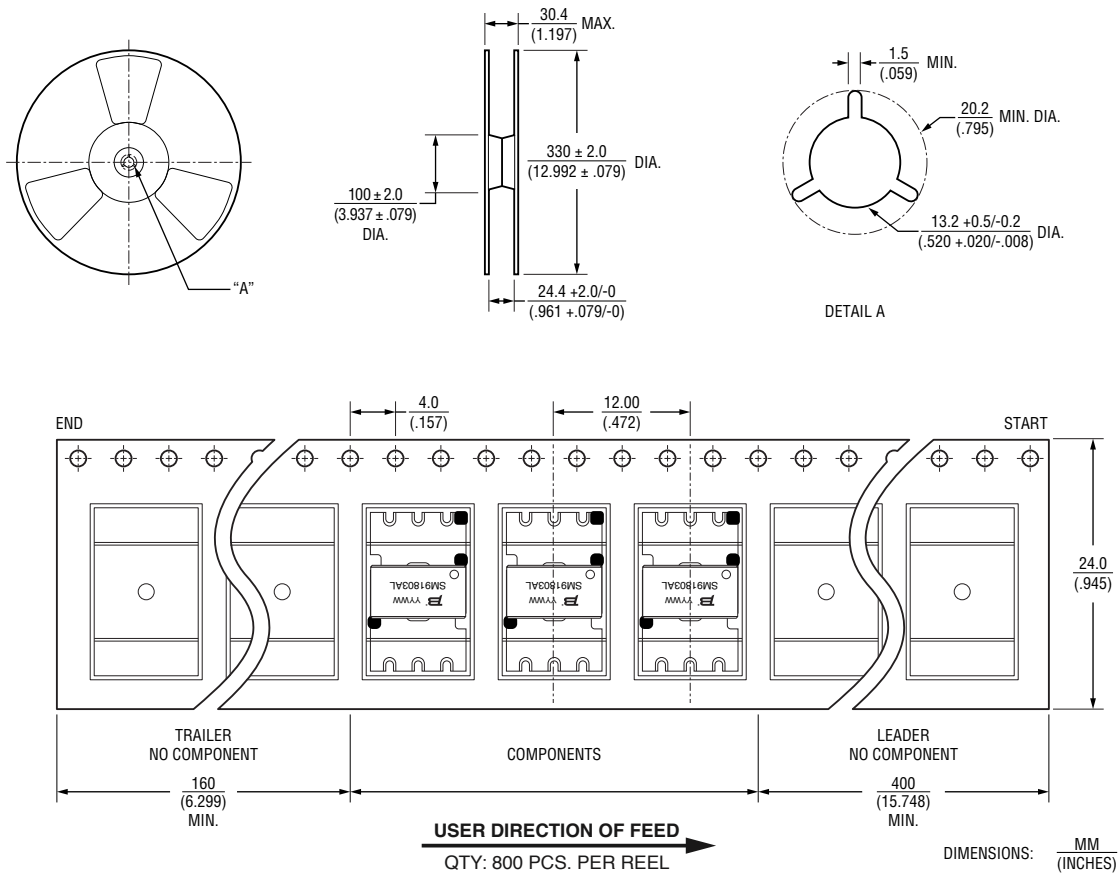
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SM91803AL BMS Planar Transformer

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Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.



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