

## Features

- Working Voltage: 1600 VDC
- Hi-Pot: 4300 VDC or 3100 VAC
- Two channels with integrated choke
- Developed for use with Analog Device's Model LTC6804/681X, NXP's Model MC33771/33772 and Texas Instruments' Model BQ79616
- Design construction: Functional insulation per IEC 60664-1 and IEC 62368-1
- **cULus** UL recognized per UL 62368-1, File No. [E515965](#)
- Impulse voltage: 8 kV, 1.2/50  $\mu$ s
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

## SM91501ALO BMS Transformer

### Electrical Specifications @ 25 °C

OCL (-40 ~ +125 °C)	..... 150 ~ 450 $\mu$ H @ 100 kHz, 0.1 V
Leakage Inductance	..... 0.5 $\mu$ H max. @ 100 kHz, 0.1 V
DCR	
Transformer Side	..... 0.45 $\Omega$ max.
CM Choke Side	..... 0.85 $\Omega$ max.
Turns Ratio	..... 1:1 $\pm$ 2 %
Insertion Loss	
4 MHz	..... -0.25 dB max.
Return Loss (Z out = 100 $\Omega$ )	
4 MHz	..... -22 dB min.
Cross Talk (between each channel)	
1~10 MHz	..... -50 dB min.
10~100 MHz	..... -50+20*LOG <sub>10</sub> (f/10 MHz) min.
Common Mode Rejection Ratio	
1~100 MHz	..... -45 dB min.
100~200 MHz	..... -35 dB min.
Hi-Pot (1 mA, 60 s)	..... 4300 VDC or 3100 VAC
Working Voltage	..... up to 1600 VDC
Operating Temperature	..... -40 °C to +125 °C
Storage Temperature	..... -50 °C to +125 °C
Moisture Sensitivity Level	..... 1
ESD Classification (HBM)	..... N/A

### Packaging Specifications

Tape & Reel ..... 400 pcs./reel

### How To Order

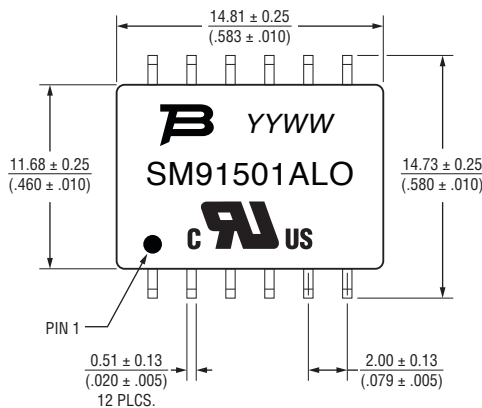
Model	<b>SM91501 A L O - E</b>
Compliance	A = AEC-Q200 Compliant
Termination	L = Tin (RoHS Compliant)
Extended Code	
Packaging	E = Tape and Reel

### Additional Information

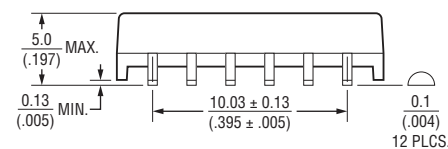
Click these links for more information:



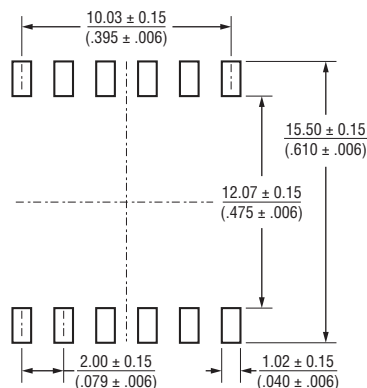
### Product Dimensions



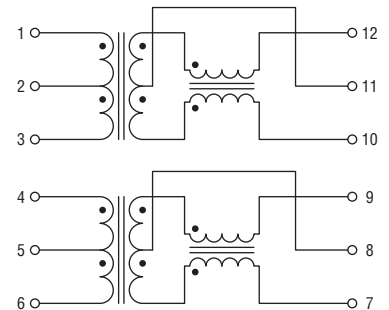
DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$



### Recommended Layout



### Electric Schematic



**WARNING Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

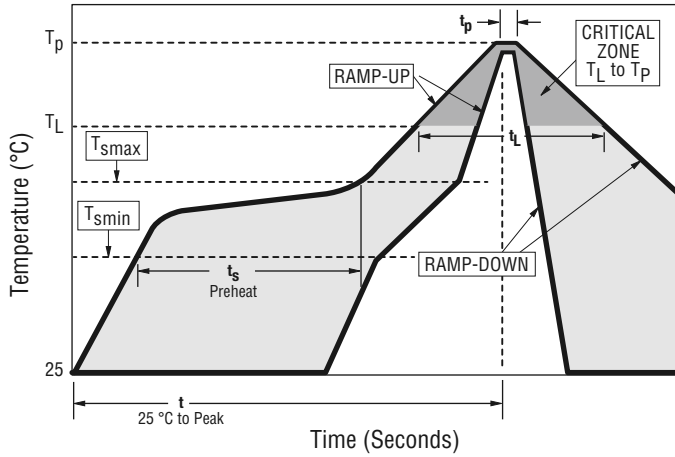
\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\*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.

Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

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**Solder Profile**



Reflow Condition		Pb-free Assembly
Average Ramp-up Rate		3 °C / second max.
Preheat	Temperature Min. ( $T_{smin}$ )	150 °C
	Temperature Max. ( $T_{smax}$ )	200 °C
	Time ( $T_{smin}$ to $T_{smax}$ )	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 from 25 °C to Peak Temperature ( $T_p$ )		8 minutes max.
Do not Exceed		260 °C

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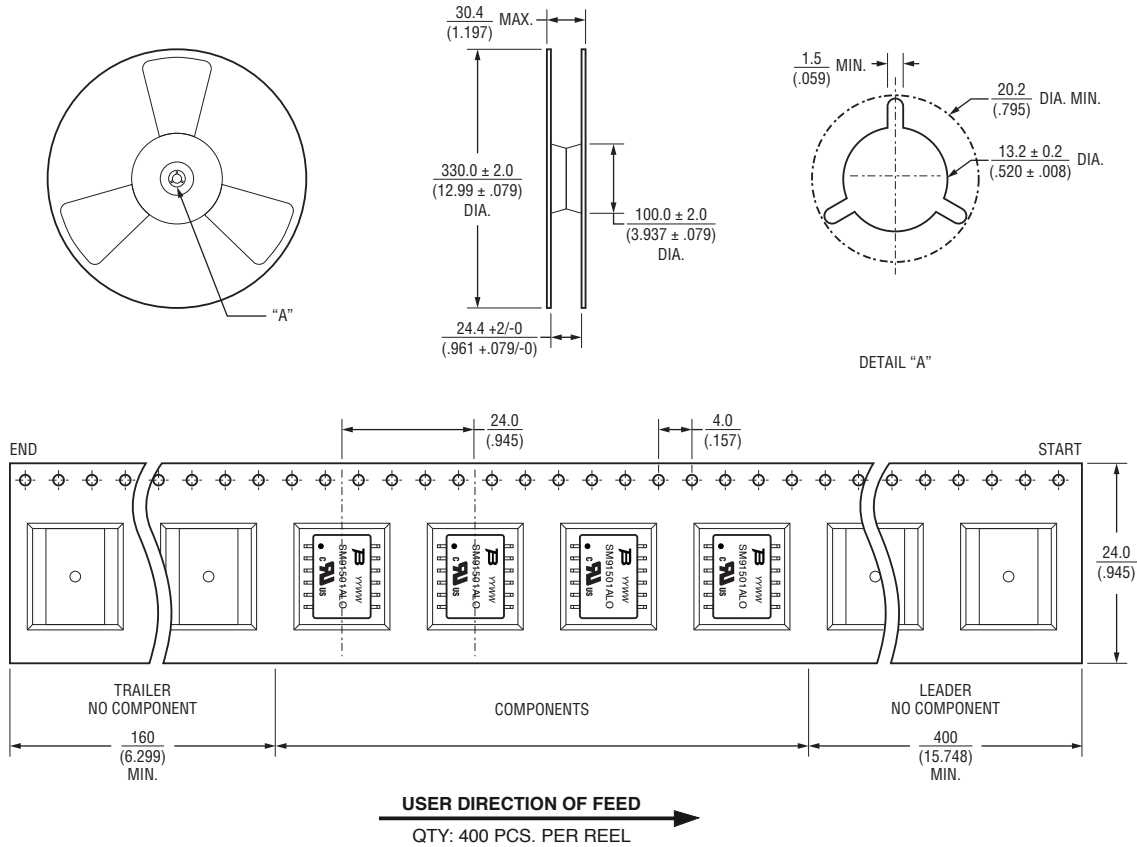
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# SM91501ALO BMS Transformer

**BOURNS®**

## Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.



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

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