

## Features

- Two channels with choke
- Supports serial daisy chain / IsoSPI
- Holds reference designs with Analog Device's Model LTC6804-1/6811 and NXP's MC33771/33772
- Operating temperature: -40 to +125 °C
- 1600 VDC working voltage

- Hi-Pot: 4300 VDC
- AEC-Q200 compliant
- RoHS compliant\*

## SM91501AL BMS Transformer

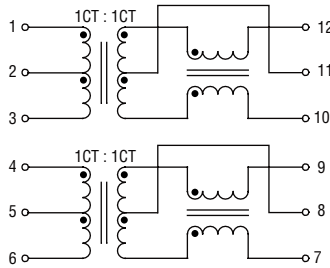
### Electrical Specifications @ 25 °C

OCV (100 kHz, 0.1 V, (-40 °C ~ +125 °C))	150 $\mu$ H min. 450 $\mu$ H max.
Leakage Inductance (100 kHz, 0.1 V)	0.5 $\mu$ H max.
DCR	
Transformer Side	0.45 ohms max.
CM Choke Side	0.85 ohms max.
Turns Ratio	1:1 $\pm$ 2 %
Insertion Loss	
4 MHz	-0.25 dB max.
Return Loss (Z out = 100 ohms)	
4 MHz	-22 dB min.
Cross Talk (Between Each Channel)	
4 MHz	-50 dB min.
Common Mode Rejection Ratio	
1~200 MHz	-35 dB min.
Hi-Pot (1 mA, 60 sec.)	
	4300 VDC or 3100 VAC
Design Construction	
	Functional insulation
Working Voltage	1600 VDC for 15 years
Operating Temperature Range	
	-40 °C to +125 °C
Storage Temperature Range	
	-25 °C to +85 °C
Moisture Sensitivity Level	1
ESD Classification (HBM)	N/A

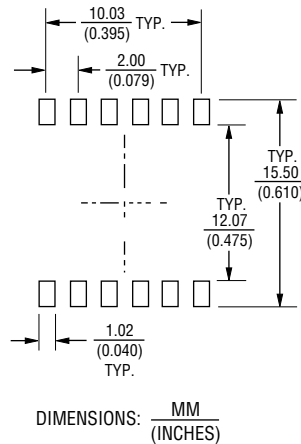
### Packaging Specifications

Tape & Reel..... 400 pcs./13-inch reel

### Electrical Schematic



### Recommended Layout

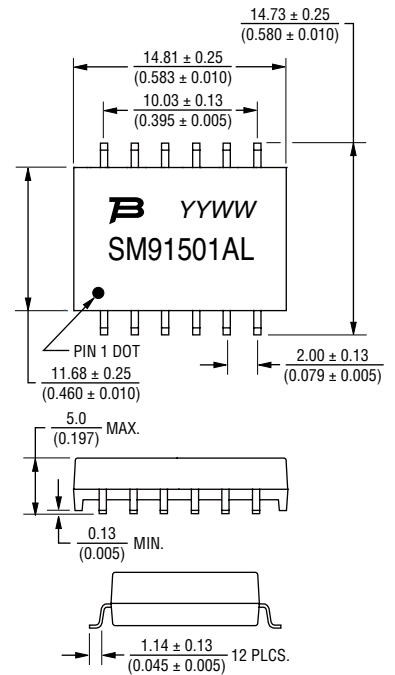


### Additional Information

Click these links for more information:



### Product Dimensions



### How To Order

Model **SM91501 A L - E**

Automotive Grade Designator  
A = AEC-Q200 Compliant

Termination  
L = Cu/Ni/Sn (RoHS compliant\*)

Packaging  
E = Tape and Reel (400 pcs./13-inch reel)



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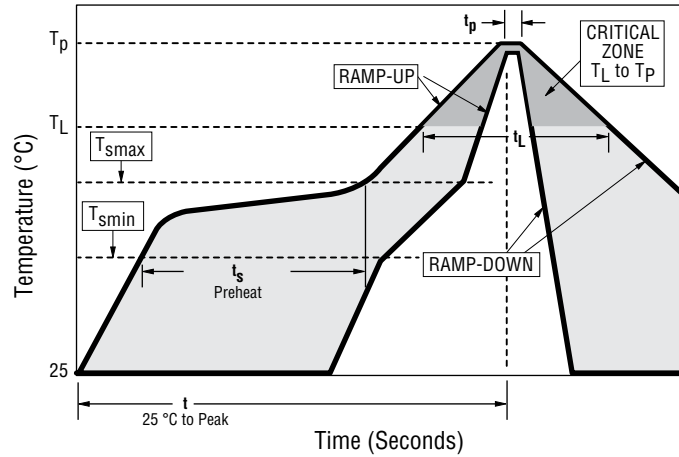
**WARNING Cancer and Reproductive Harm** [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\*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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## Solder Profile



Reflow Condition		Pb-free Assembly
Average Ramp-up Rate		3 °C / second max.
Preheat	Temperature Min. (T <sub>smin</sub> )	150 °C
	Temperature Max. (T <sub>smax</sub> )	200 °C
	Time (T <sub>smin</sub> to T <sub>smax</sub> )	60 ~ 180 seconds
Liquidus Temperature (T <sub>L</sub> )		217 °C
Time above Liquidus Temperature (t <sub>L</sub> )		60 ~ 150 seconds
Peak Temperature (T <sub>p</sub> )		245 - 250 °C
Time within 5 °C of Actual Peak Temperature (T <sub>p</sub> )		20 ~ 40 seconds
Ramp-down Rate from Peak Temperature		6 °C / second max.
Time from 25 °C to Peak Temperature (T <sub>p</sub> )		8 minutes max.
Do not Exceed		260 °C

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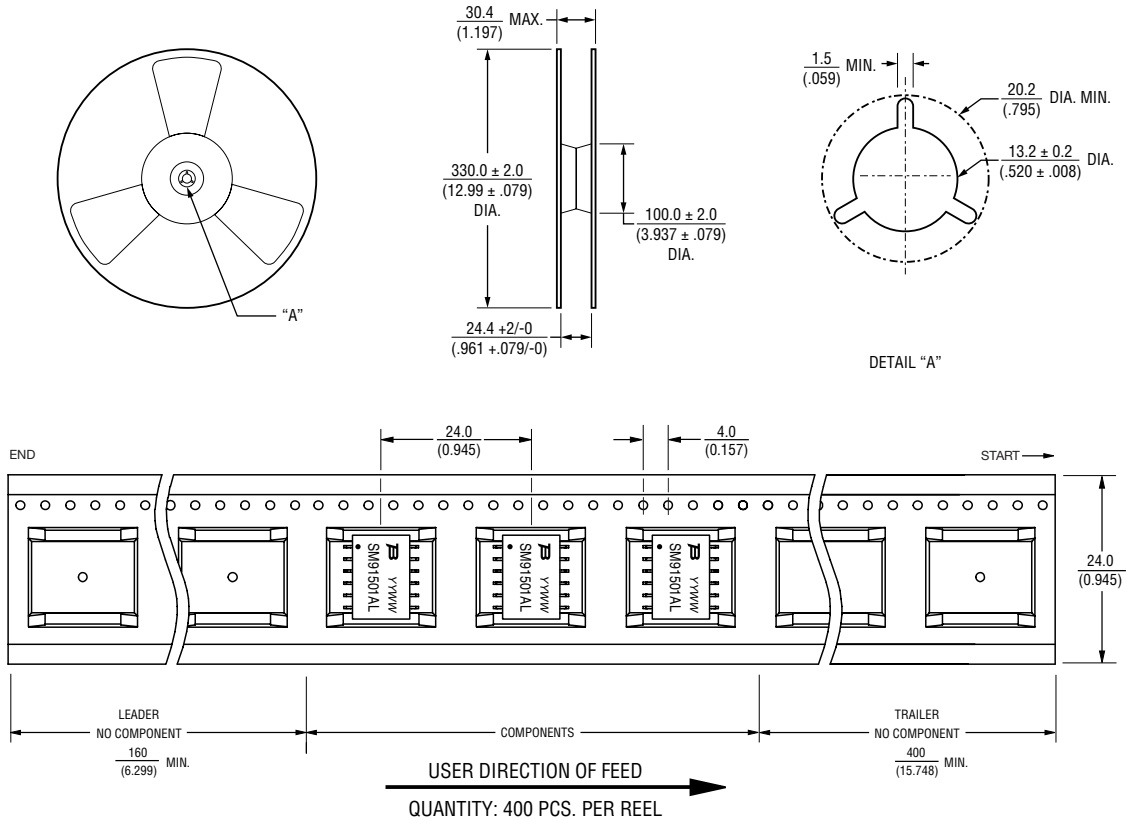
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# SM91501AL BMS Transformer

**BOURNS®**

## Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.



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

REV. 06/25

Specifications are subject to change without notice.

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