

## 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

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

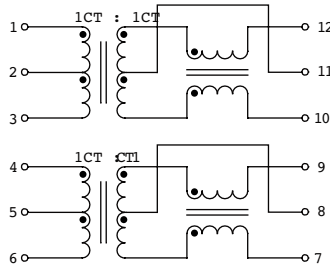
### Packaging Specifications

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

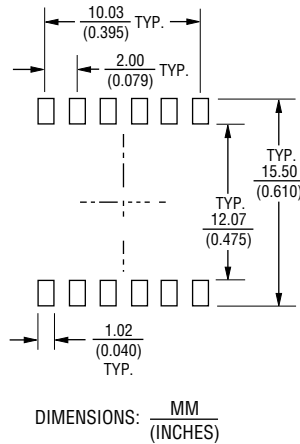
### How To Order

	<b>SM91501 A L - E</b>
Model	_____
Automotive Grade Designator	_____
A = AEC-Q200 Compliant	
Termination	_____
L = Cu/Ni/Sn (RoHS compliant*)	
Packaging	_____
E = Tape and Reel (400 pcs./13-inch reel)	

### Electrical Schematic



### Recommended Layout

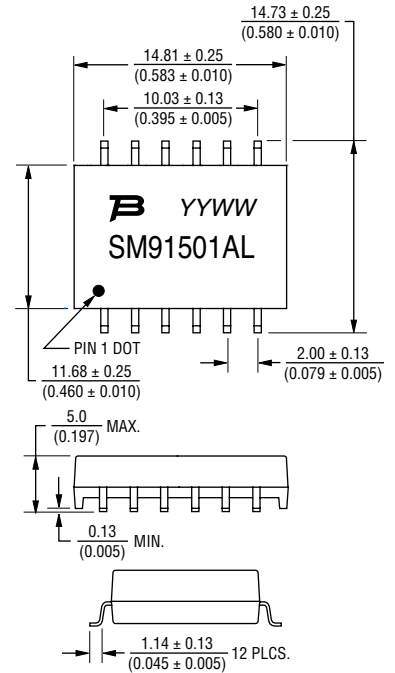


### Additional Information

Click these links for more information:



### Product Dimensions



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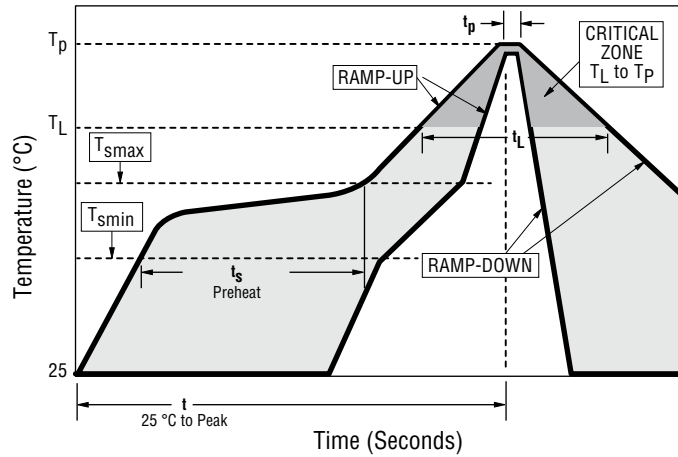
\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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Solder Profile



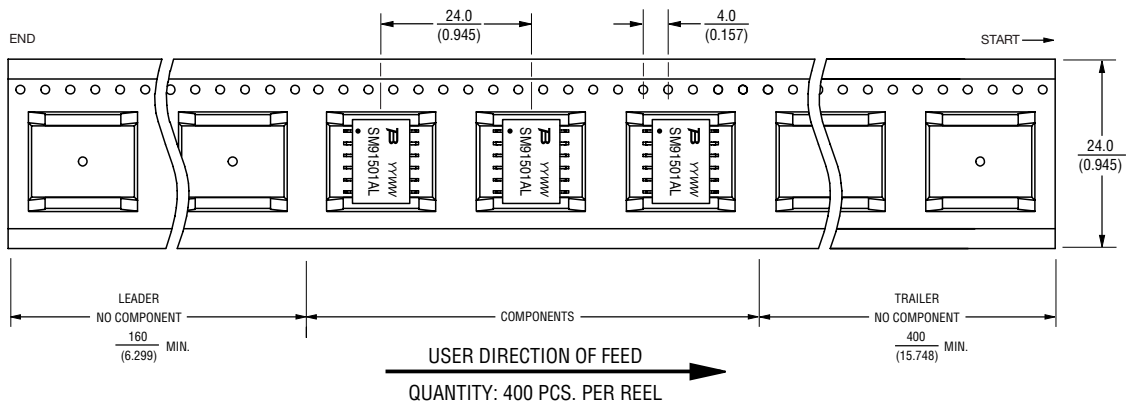
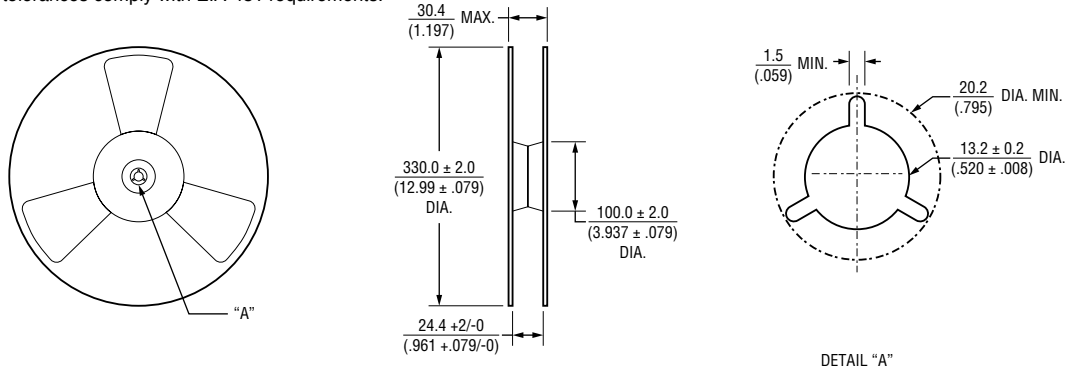
Reflow Condition		Pb-free Assembly
Average Ramp-up Rate		3 °C / second max.
Preheat	Temperature Min. ( $T_{smin}$ )	150 °C
	Temperature Max. ( $T_{smax}$ )	200 °C
	Time ( $T_{smin}$ to $T_{smax}$ )	60 ~ 180 seconds
Liquidus Temperature ( $T_L$ )		217 °C
Time above Liquidus Temperature ( $t_L$ )		60 ~ 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

# SM91501AL BMS Transformer

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## Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.



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

REV. 06/21 EFFECTIVE 09/21

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