

## Features

- Improved design for automation
- Working voltage: 1000 VDC
- Hi-Pot: 4300 VDC
- Single channel with integrated choke
- Functional insulation
- Developed for use with Analog Device's Model LTC6804/681X, NXP's Model MC3377X and Texas Instruments Model BQ79616
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

## SM91542AL BMS Transformer

### Additional Information

Click these links for more information:



### 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)	0.5 μH max.
DCR	
Transformer Side	0.45 Ω max.
CM Choke Side	0.85 Ω max.
Cww	20 pF max.
Turns Ratio	1 : 1 ± 2 %
Insertion Loss	
4 MHz	-0.25 dB max.
Return Loss (Z out = 100 Ω)	
4 MHz	-22 dB min.
CMRR	
1-100 MHz	-35 dB min.
100-200 MHz	-28 dB min.
Hi-pot (1 mA, 60 S)	4300 VDC
Working Voltage	1000 VDC
Operating Temperature	
	-40 °C to +125 °C
Storage Temperature (Component)	
	-50 °C to +125 °C
Moisture Sensitivity Level	1
ESD Classification (HBM)	N/A

### Packaging Specification

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

# BOURNS®

Asia-Pacific: Tel: +886-2 2562-4117

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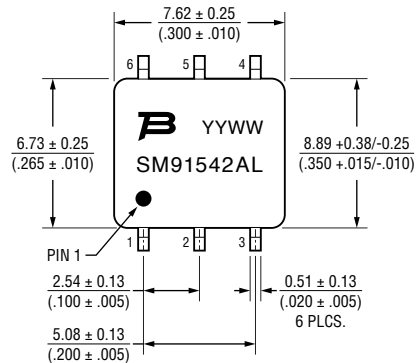
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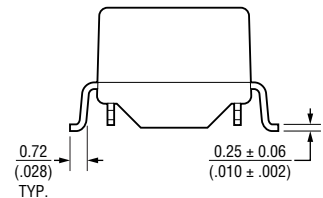
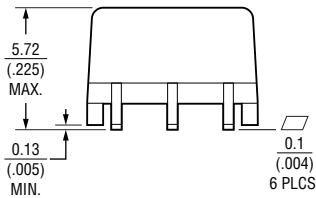
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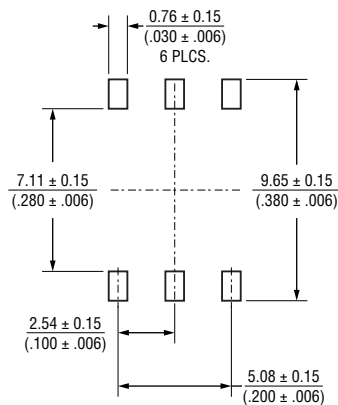
### Product Dimensions



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

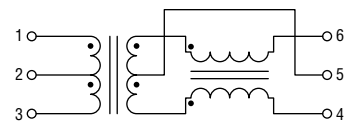


### Recommended Layout



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

### Electric Schematic



### How To Order

**SM91542 A L - E**

Model \_\_\_\_\_  
 AEC-Q200 Compliancy Designator \_\_\_\_\_  
 Termination \_\_\_\_\_  
 L = Tin (RoHS Compliant)  
 Packaging \_\_\_\_\_  
 E = 800 pcs. per 13-inch Reel



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

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

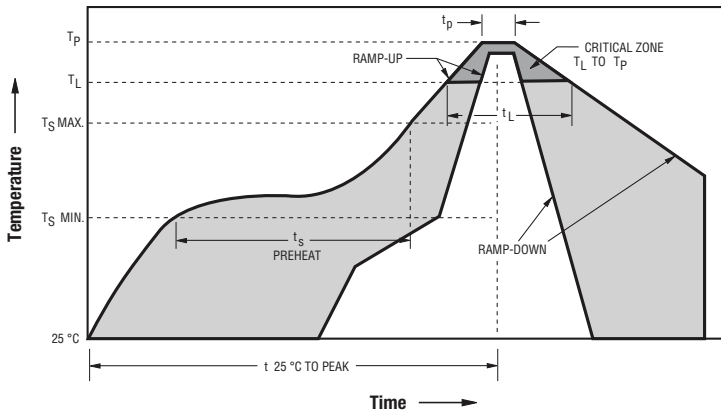
\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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# SM91542AL BMS Transformer



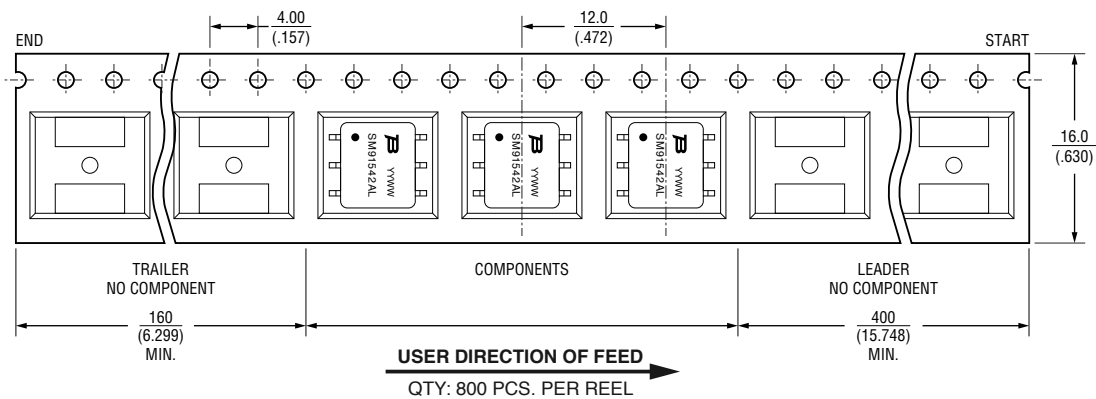
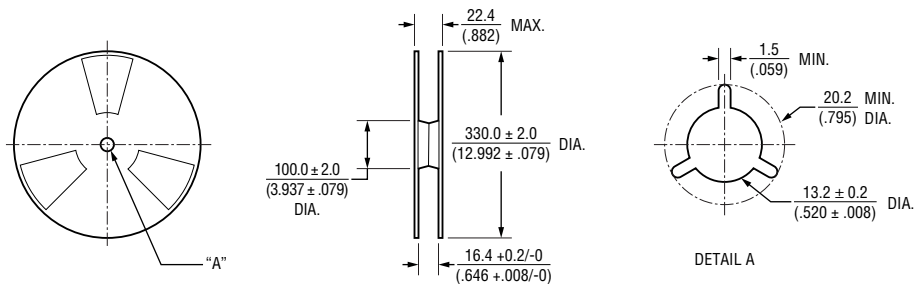
## Solder Profile



Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate	3 °C / second max.
PREHEAT: Temperature Min. ( $T_{Smin}$ ) Temperature Max. ( $T_{Smax}$ ) Time ( $T_{Smin}$ to $T_{Smax}$ )	150 °C 200 °C 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

## Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.



REV. 06/23

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