



## Features

- Working voltage up to 1500 VDC
- Hi-Pot: 7640 VDC
- Developed for use with NXP model MC33771C series and ADI model LTC6804/681x series
- Design construction: Reinforced insulation between primary and secondary per IEC 62477-1, IEC 60664-1 and IEC 62368-1
- cULus UL recognized per UL 62368-1, File No. [E515965](#)
- Creepage distance > 15 mm, pollution degree 2, material group CTI I

## SM91527L BMS Transformer

### Electrical Specifications @ 25 °C

OCL (-40 ~ +125 °C)	..... 150 ~ 450 $\mu$ H @ 100 kHz, 0.1 V
Leakage Inductance	..... 4.5 $\mu$ H max. @ 100 kHz, 0.1 V
DCR	
Transformer Side	..... 0.45 $\Omega$ max.
CM Choke Side	..... 0.8 $\Omega$ max.
Turns Ratio	..... 1:1 $\pm$ 2 %
Insertion Loss	
4 MHz	..... -1.2 dB max.
Return Loss (Z out = 100 $\Omega$ )	
4 MHz	..... -6 dB min.
Common Mode Rejection Ratio	
1~100 MHz	..... -50 dB typ.
Hi-Pot (1 mA, 2 s)	..... 7640 VDC
Working Voltage	..... up to 1500 VDC
Operating Temperature	..... -40 °C to +125 °C
Storage Temperature	..... -50 °C to +125 °C
Partial discharge level	..... 2250 V
Impulse Voltage	..... 12 KV, 1.2/50 $\mu$ s
Moisture Sensitivity Level	..... 1
ESD Classification (HBM)	..... N/A

### Packaging Specifications

Tape & Reel ..... 300 pcs./reel

### How To Order

**SM91527 L - E**

Model \_\_\_\_\_  
 Termination \_\_\_\_\_  
 L = Tin (RoHS Compliant)  
 Packaging \_\_\_\_\_  
 E = Tape and Reel

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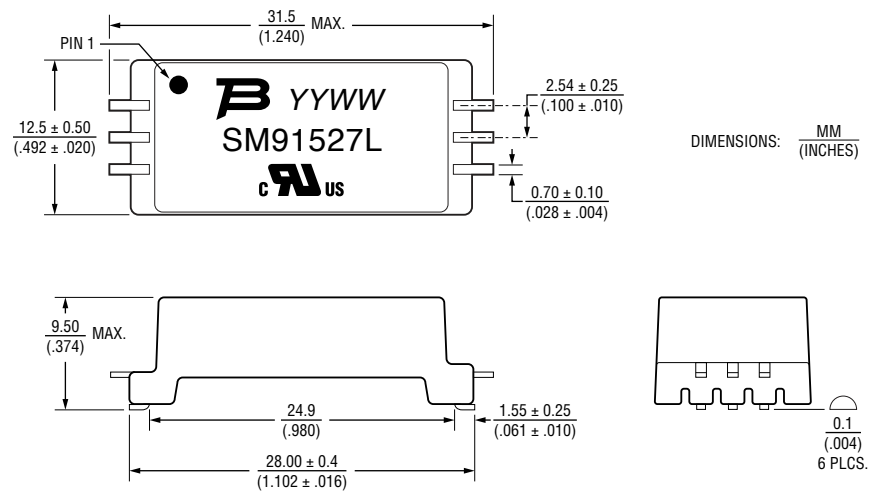
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### Additional Information

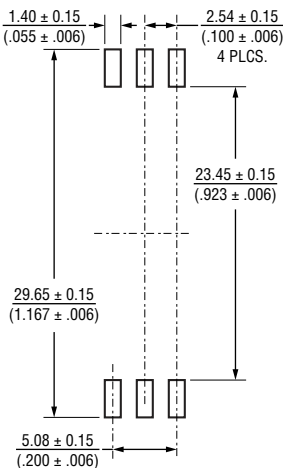
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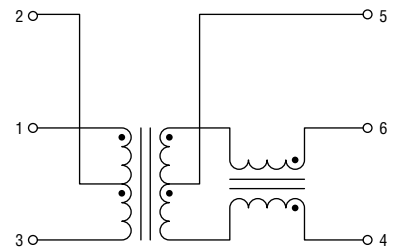
### Product Dimensions



### Recommended Layout



### Electrical Schematic



**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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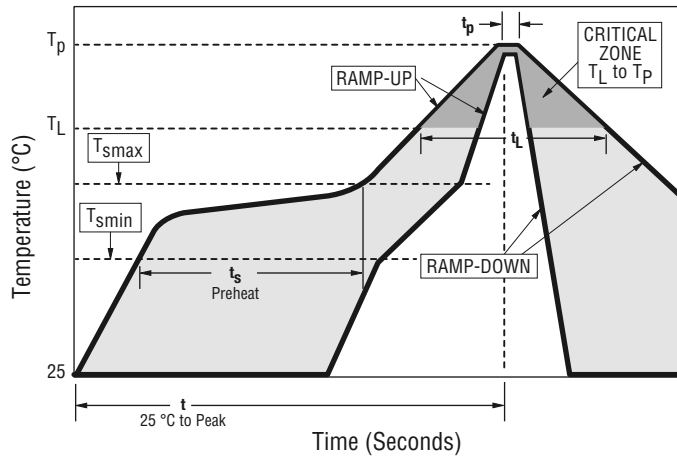
## Features (Continued)

- Clearance distance > 14 mm, overvoltage category III
- Partial discharge level up to 2250 V
- Withstand impulse voltage up to 12 KV, 1.2/50  $\mu$ s
- RoHS compliant\*

## SM91527L BMS Transformer

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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

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

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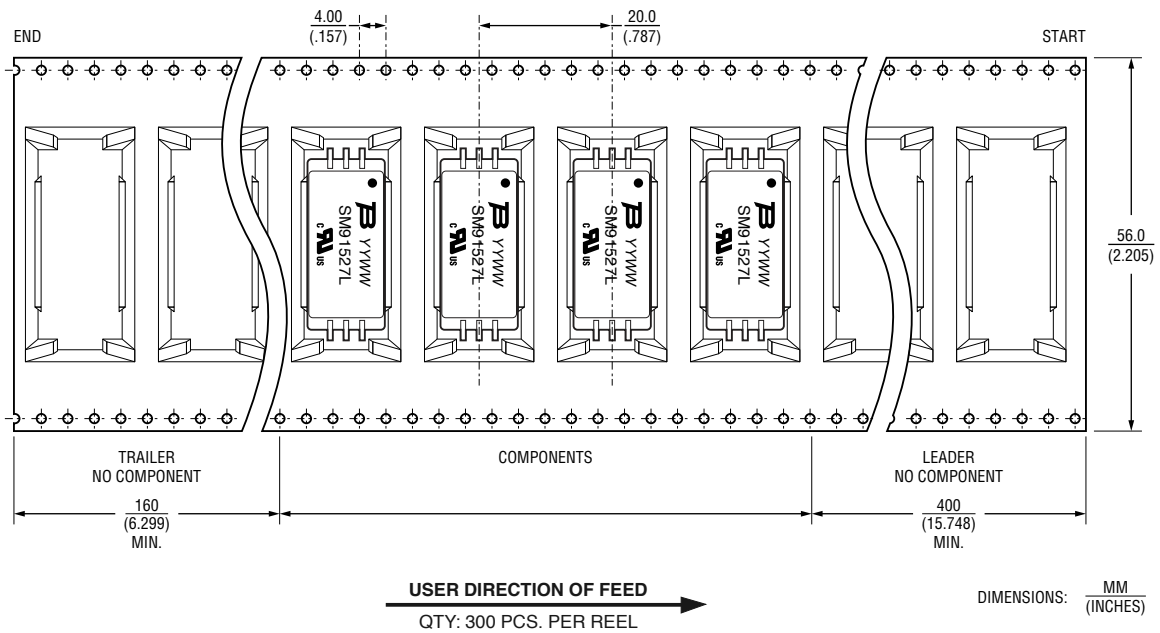
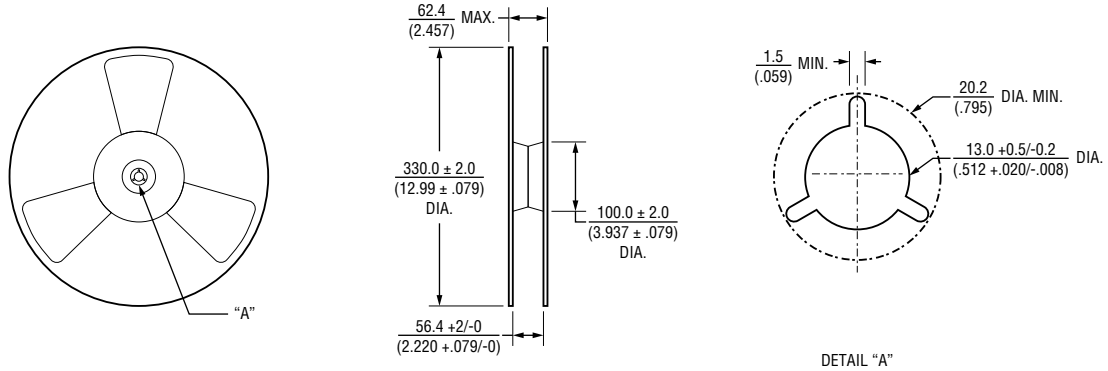
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# SM91527L BMS Transformer

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## Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.



06/21

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