



Features

- Hi-Pot: 6400 VDC
- Working voltage up to 1500 VDC
- Auto pin termination
- UL recognized: E515965 per UL62368-1
- Reinforced insulation IEC62477-1:2022 & IEC62368-1:2018
- Creepage distance >16.6 mm, pollution degree 2, material group CTI I
- Clearance distance >16.6 mm, Overvoltage Category II, up to 5000 m above sea level
- Impulse Voltage: 12 kV, 1.2/50 μ s
- AEC-Q200 and RoHS compliant*

Applications

- Battery Management Systems (BMS) in hybrid and electric powertrain systems
- Energy storage battery packs with Battery Management Systems

Sustainability

- High pallet density for lower CO₂
- Eco-Logistics-friendly packing
- High efficiency, low power loss

Product Overview

This single-channel reinforced insulation BMS signal transformer integrates common mode chokes to provide noise rejection and isolation in BMS communication circuits with Hi-Pot isolation voltage up to 6400 VDC and UL recognition. The Model SM91534ALA suitable for the use inside 1500 V energy storage systems and electric vehicles and automated assembling produces cost-effective and high quality components.

Electrical Specifications @ 25 °C

Inductance (100 kHz/0.1 V)
(-40 °C to +125 °C)..... 150~450 μ H

Leakage Inductance (100 kHz/0.1 V)
..... 0.6 μ H max.

DCR

1-30.5 Ω max.

4-60.6 Ω max.

Turns Ratio 1:1

Insertion Loss (1-3)-(6-4)
4 MHz..... -0.3 dB max.

Return Loss (1-3)-(6-4)
4 MHz..... -20 dB min.

Common Mode Rejection Ratio (1-3)-(6-4)
1~100 MHz -30 dB min.

Hi-Pot
(1-3)-(6-4) 6400 VDC 1 mA, 60 S

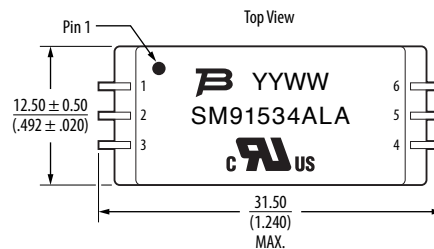
Working Voltage 1500 VDC

Operating Temperature Range
..... -40 °C to +125 °C

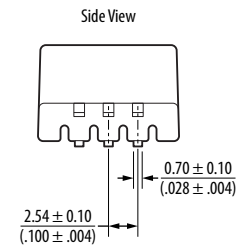
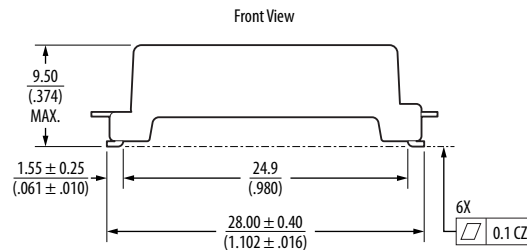
Storage Temperature Range
..... -25 °C to +85 °C

Moisture Sensitivity Level..... 1

Product Dimensions



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



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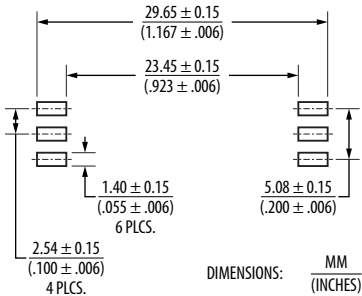
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

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

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Recommended Layout



How to Order

Model **SM91534 A L A - E**

AEC-Q200 Compliant

RoHS Compliant

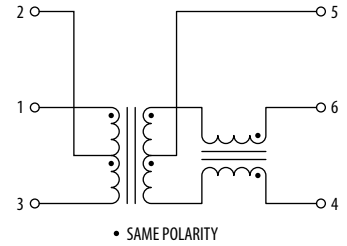
Extended Code

Tape & Reel Packaging

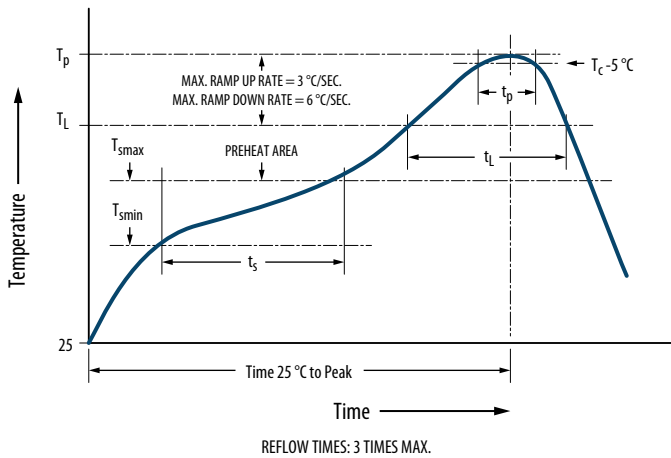
Packaging Specifications

Tape & Reel300 pcs. per 13-inch reel

Electrical Schematic



Soldering Profile



Profile Feature	Pb Free Assembly
Preheat - Temperature Min. (T_{smin}) - Temperature Max. (T_{smax}) - Time(t_s) from T_{smin} to T_{smax}	150 °C 200 °C 60-120 seconds
Ramp-up Rate (T _L to T _p)	3 °C/second max.
Liquidous temperature (T _L)	217 °C
Time (t _L) maintained above T _L	60-150 seconds
Peak package body temperature (T _p)	T _p ≤ T _c (see below)
Time (t _p) at T _c - 5 °C (T _p should be equal to or less than T _c)	< 30 seconds
Ramp-Down Rate (T _p to T _L)	6 °C/second max.
Time 25 °C to Peak Temperature	8 minutes max.

Pb-Free Process Classification Temperatures (T_c)

Package Thickness	Volume <350 mm ³	Volume 350 - 2000 mm ³	Volume >2000 mm ³
<1.6 mm	260 °C	260 °C	260 °C
1.6 ~ 2.5 mm	260 °C	250 °C	245 °C
>2.5 mm	250 °C	245 °C	245 °C

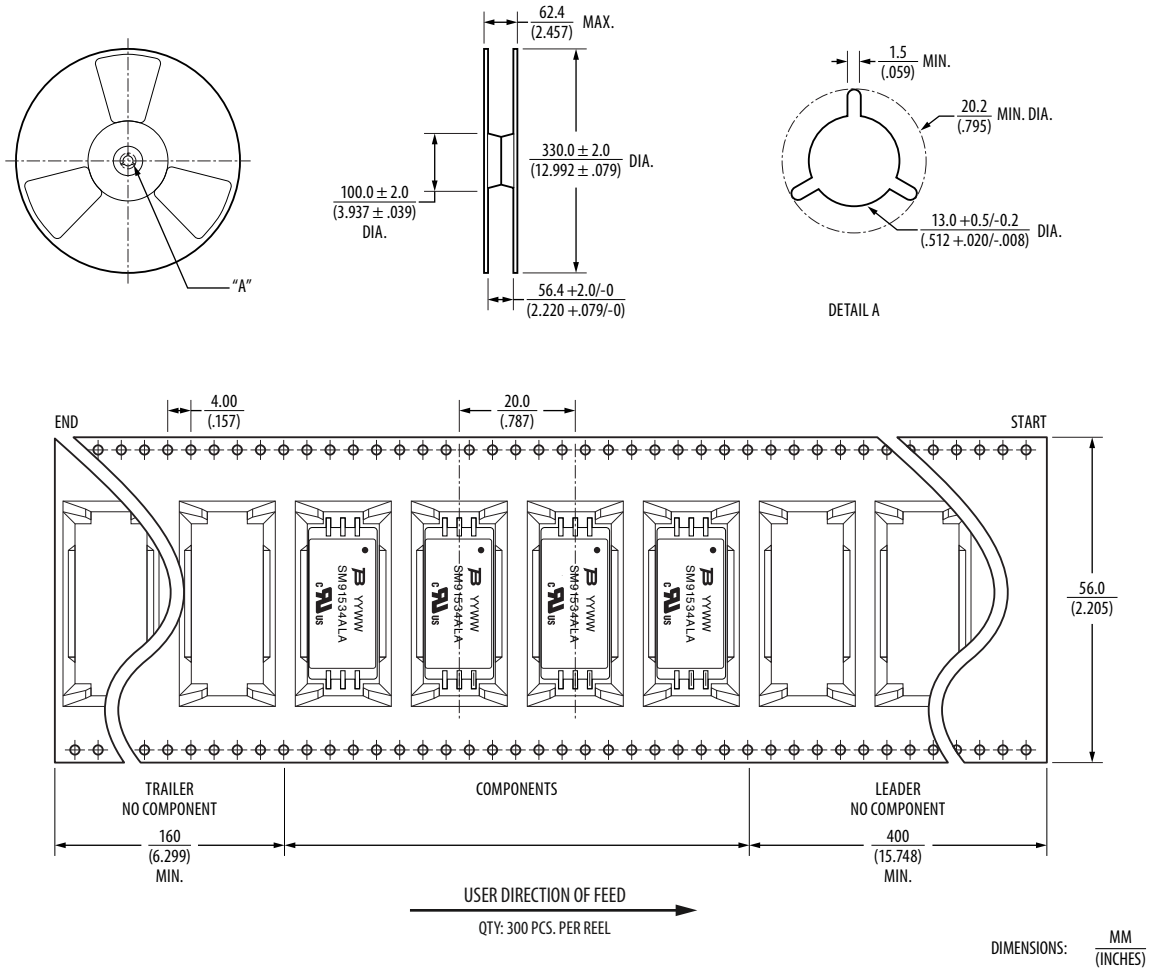
SM91534ALA BMS Transformer



*RoHS and
AEC-Q200 COMPLIANT

Packaging Information

Specifications and tolerances comply with EIA-481 requirements.



REV. 08/26

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