



Features

- Hi-Pot: 6400 VDC
- Working voltage up to 1500 VDC
- Developed for use with NXP's model 33771C series and Analog Device's model AD1818 and LTC6804/681X series devices
- EN recognized: EN 6254558 per EN 62477-1
- Reinforced insulation IEC 62477-1:2022 & IEC 62368-1:2018
- Creepage distance >23.0 mm, pollution degree 2, material group CTII
- Clearance distance >23.0 mm, Overvoltage Category II, up to 5000 m above sea level
- AEC-Q200 and RoHS compliant*

Applications

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

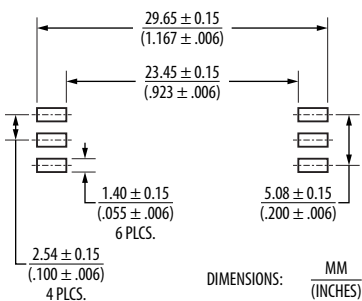
Sustainability

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

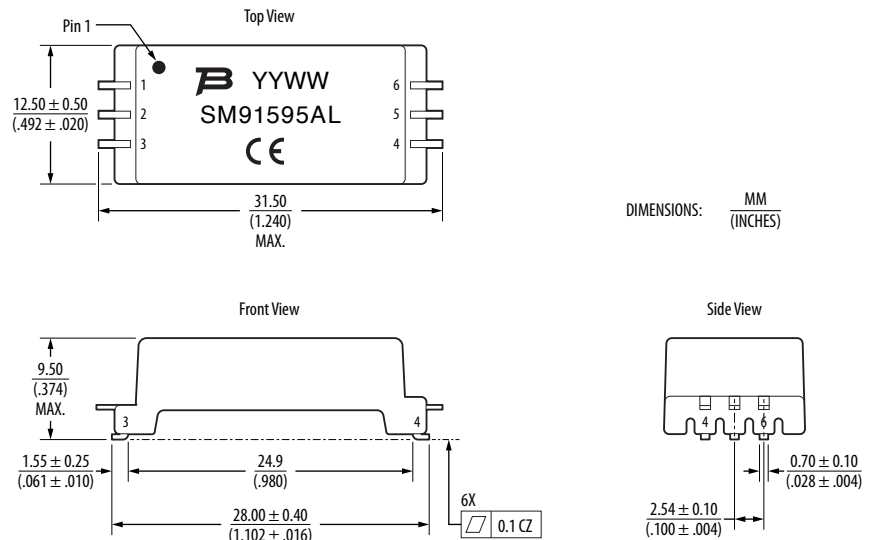
Product Overview

This single-channel reinforced insulation BMS signal transformer integrates common mode chokes to provide noise reduction and isolation in BMS communication circuits with Hi-Pot isolation voltages up to 6400 VDC with UL recognition. It is suitable for use inside 1500 V energy storage systems and electric vehicles. Automated assembly assures cost-effective production and higher quality.

Recommended Layout



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.

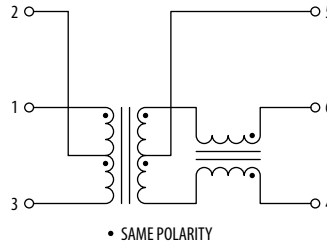
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Electrical Specifications @ 25 °C

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
1-3.....0.6 Ω max.
4-6.....0.7 Ω max.
Turns Ratio.....1:1
Cww (100 kHz, 0.1 V)
(1-6).....15 pF max.
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.....-40 °C to +125 °C
Storage Temperature.....-25 °C to +85 °C
Moisture Sensitivity Level.....1

Electrical Schematic



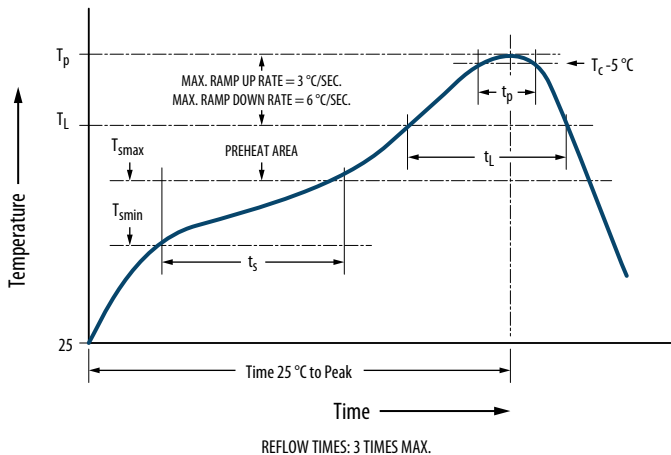
How to Order

Model **SM91595 A L - E**
AEC-Q200 Compliant
RoHS Compliant
Tape & Reel Packaging

Packaging Specifications

Tape & Reel 300 pcs. per 13-inch reel

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)	$T_p \leq T_c$ (see below)
Time (t_p) at $T_c - 5^\circ\text{C}$ (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

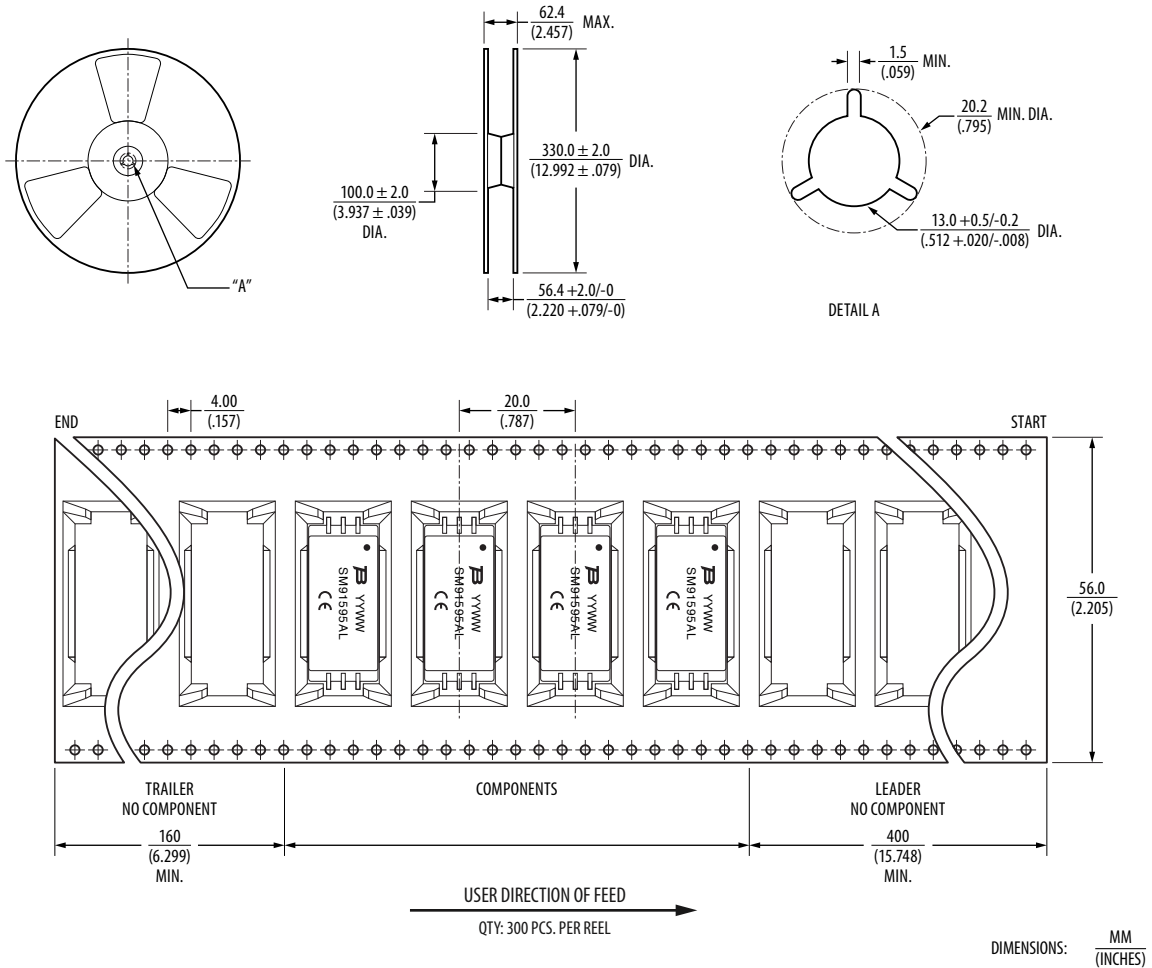
SM91595AL BMS Transformer



*RoHS and
AEC-Q200 COMPLIANT

Packaging Information

Specifications and tolerances comply with EIA-481 requirements.



REV. 09/26

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