

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

OCL	
(100 kHz, 0.1 V, (-40 °C ~ +125 °C))	150 μ H min. 450 μ H max.
Leakage Inductance	
(100 kHz, 0.1 V)	0.5 μ H max.
DCR	
Transformer Side	0.45 ohms max.
CM Choke Side	0.85 ohms max.
Turns Ratio	1:1 \pm 2 %
Insertion Loss	
4 MHz	-0.25 dB max.
Return Loss (Z out = 100 ohms)	
4 MHz	-22 dB min.
Cross Talk (Between Each Channel)	
4 MHz	-50 dB min.
Common Mode Rejection Ratio	
1~200 MHz	-35 dB min.
Hi-Pot (1 mA, 60 sec.)	
	4300 VDC or 3100 VAC
Design Construction	
	Functional insulation
Working Voltage	1600 Vdc for 15 years
Creepage Distance	>10 mm
Operating Temperature Range	-40 °C to +125 °C
Storage Temperature Range	-50 °C to +125 °C
Moisture Sensitivity Level	1
ESD Classification (HBM)	N/A

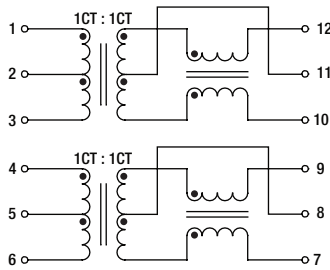
Packaging Specifications

Tape & Reel 400 pcs./13-inch reel

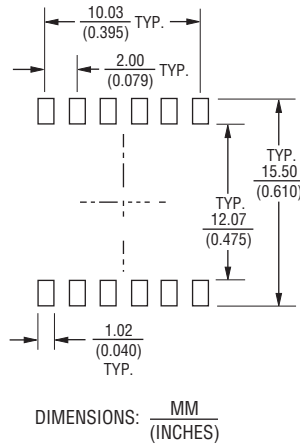
How To Order

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

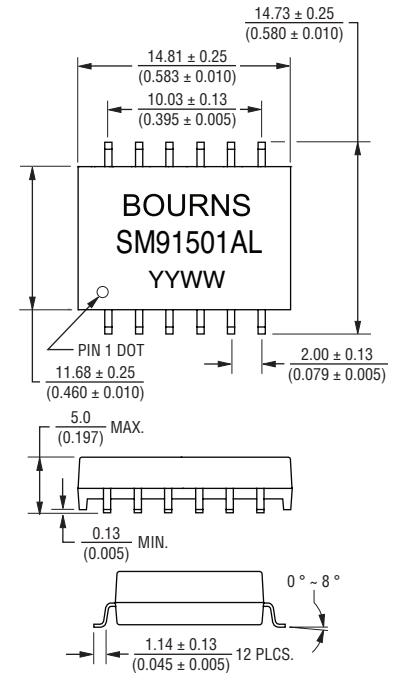
Electrical Schematic



Recommended Layout



Product Dimensions



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WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

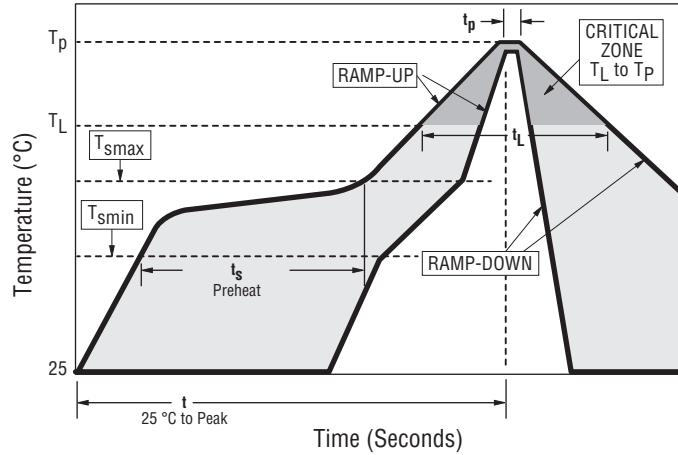
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

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Users should verify actual device performance in their specific applications.

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Solder Profile



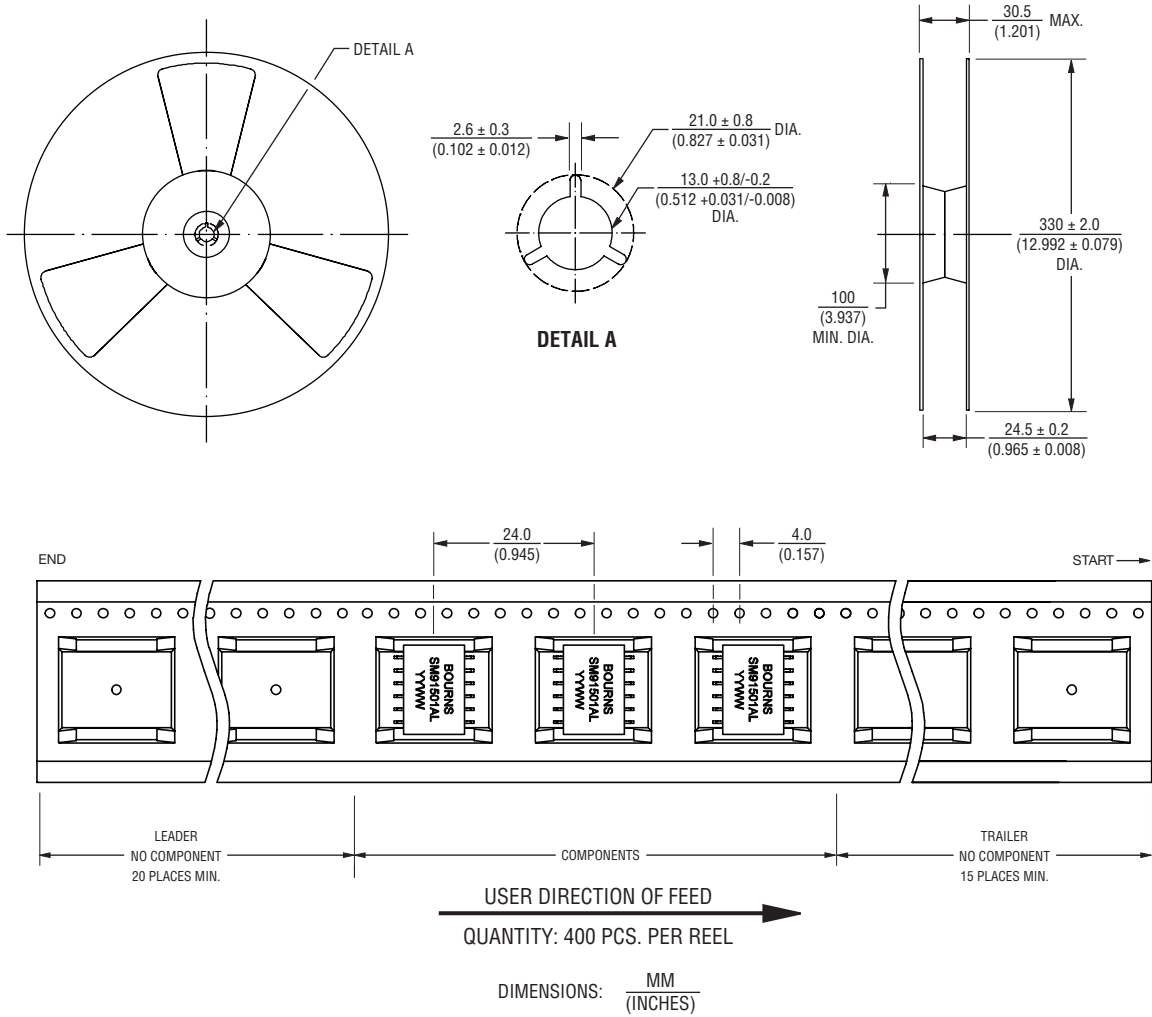
Profile Feature	Pb Free Assembly
Average Ramp Rate (T_{Smax} to T_p)	3 °C/second max.
Preheat <ul style="list-style-type: none"> - Temperature Min. (T_{Smin}) - Temperature Max. (T_{Smax}) - Time (t_{smin} to t_{smax}) 	150 °C 200 °C 60-180 seconds
Time Maintained Above <ul style="list-style-type: none"> - Temperature (T_L) - Time (t_L) 	217 °C 60-150 seconds
Peak Temperature (T_p)	260 °C +0/-5 °C
Time within 5 °C of Actual Peak Temperature (T_p)	20-40 seconds
Ramp-Down Rate	6 °C/second max.
Time 25 °C to Peak Temperature	8 minutes max.

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SM91501AL BMS Transformer

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Packaging Specifications



09/18

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