

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 |

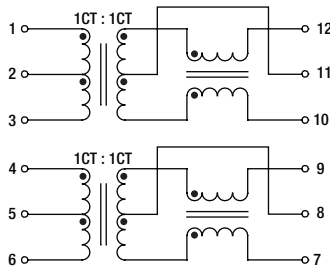
Packaging Specifications

Tape & Reel 400 pcs./13-inch reel

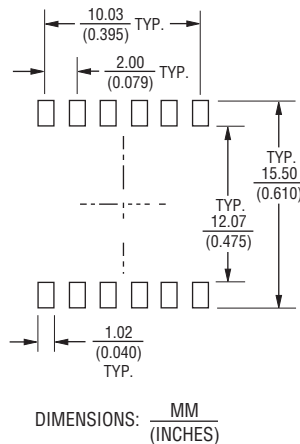
How To Order

| | |
|-----------------------------|---|
| | 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) |

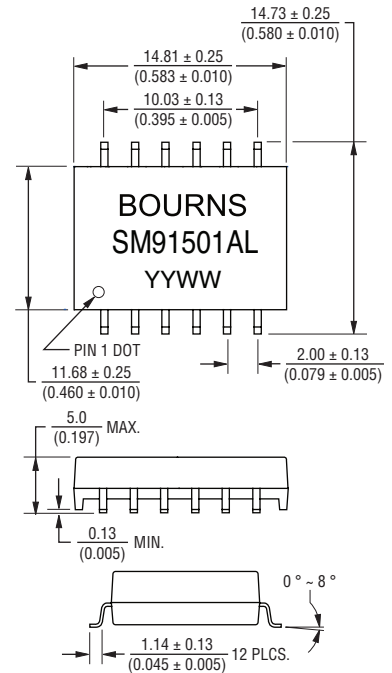
Electrical Schematic



Recommended Layout



Product Dimensions



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

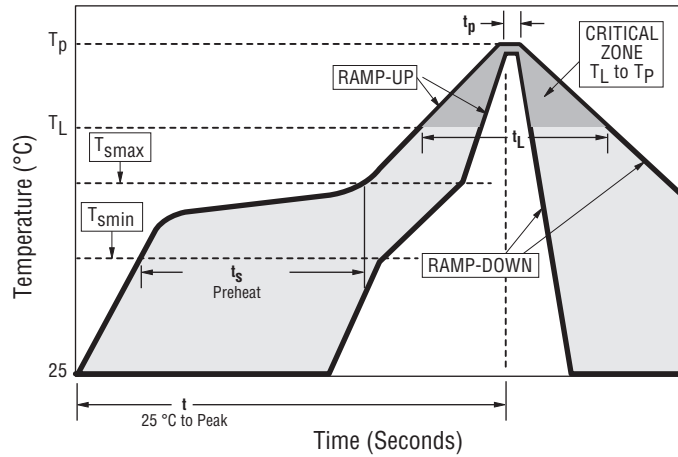
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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Solder Profile

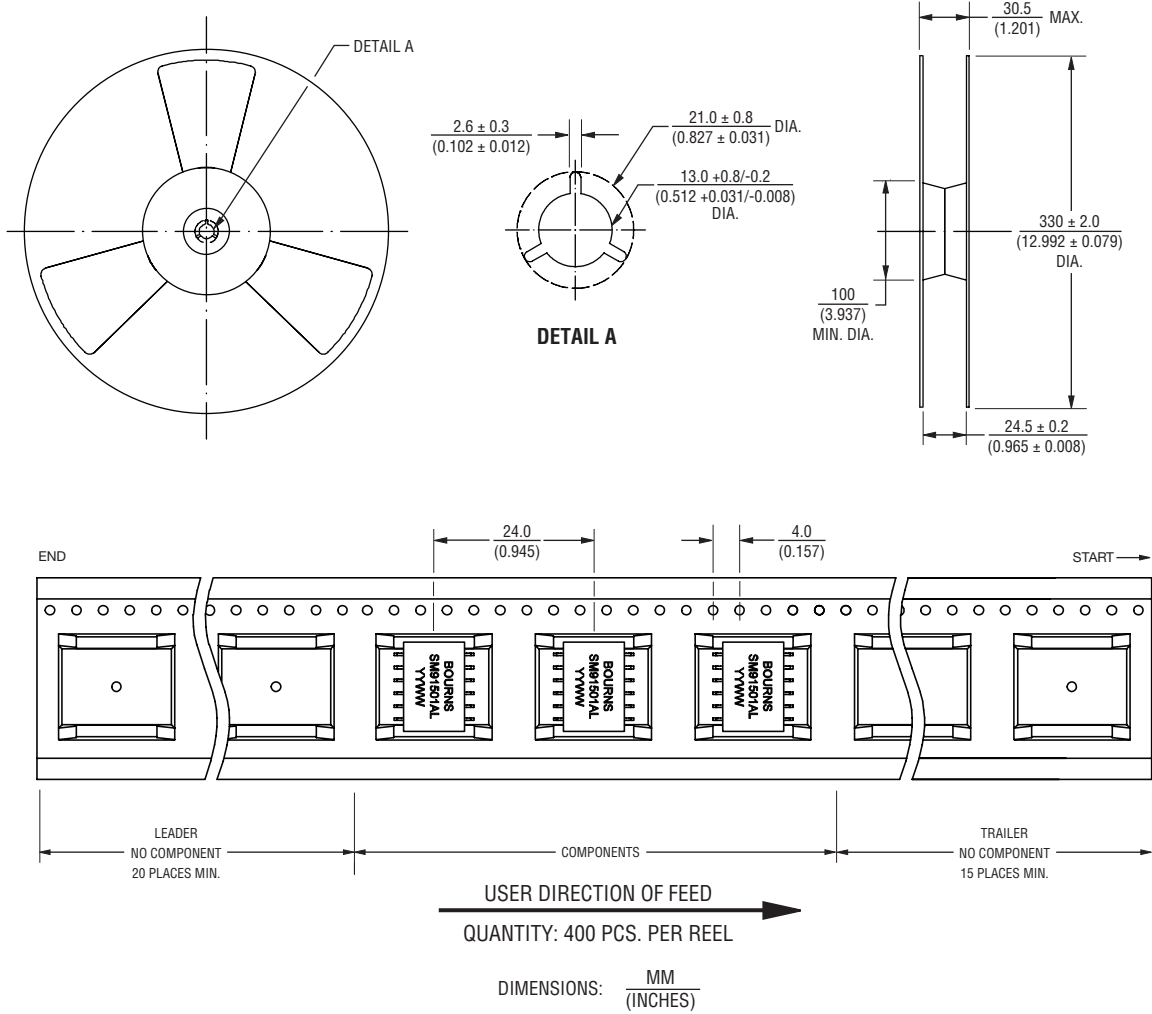


| Profile Feature | Pb Free Assembly |
|---|------------------------------------|
| Average Ramp Rate (T_{Smax} to T_p) | 3 °C/second max. |
| Preheat <ul style="list-style-type: none"> - Temperature Min. (T_{Smin}) - Temperature Max. (T_{Smax}) - Time (t_{smin} to t_{smax}) | 150 °C 200 °C 60-180 seconds |
| 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. |

SM91501AL BMS Transformer

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Packaging Specifications



09/18

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