



## Features

- Single port Gigabit Ethernet
- Working voltage: 500 V
- Hi-Pot: 4680 VDC
- Design construction: Reinforced insulation per IEC 60664-1 and IEC 62368-1 requirements
- Creepage distance 5 mm min., Clearance distance 5 mm min., pollution degree 2, material group CTI I
- RoHS compliant\*

## SM91602L LAN Transformer

### Additional Information

Click these links for more information:



### General Specifications

OCL (100 kHz / 0.1 V, 8 mA DC Bias)	350 $\mu$ H min.
Leakage Inductance (100 kHz/0.1 V)	1.0 $\mu$ H max.
DCR	
Transformer Side	0.90 $\Omega$ max.
CM Choke Side	1.30 $\Omega$ max.
Turns Ratio	1 : 1 $\pm$ 2 %
Insertion Loss:	
1 MHz	-1.0 dB max.
5~80 MHz	-3.0 dB max.
125 MHz	-5.0 dB max.
Return Loss (Z out = 100 $\Omega$ )	
1~30 MHz	-8.5 dB min.
30~45 MHz	-6.0 dB min.
45~60 MHz	-4.5 dB min.
Cross Talk (Between each Channel):	
1 MHz	-58 dB min.
5~100 MHz	-30+20*LOG <sub>10</sub> (f/20 MHz) dB min.
Hi-pot (1 mA, 60 S)	4680 VDC
Working Voltage	up to 500 V
Operation Temperature	0 °C to +85 °C
Storage Temperature (Component)	-50 °C to +125 °C
Moisture Sensitivity Level	1
ESD Classification (HBM)	N/A

### Packaging Specification

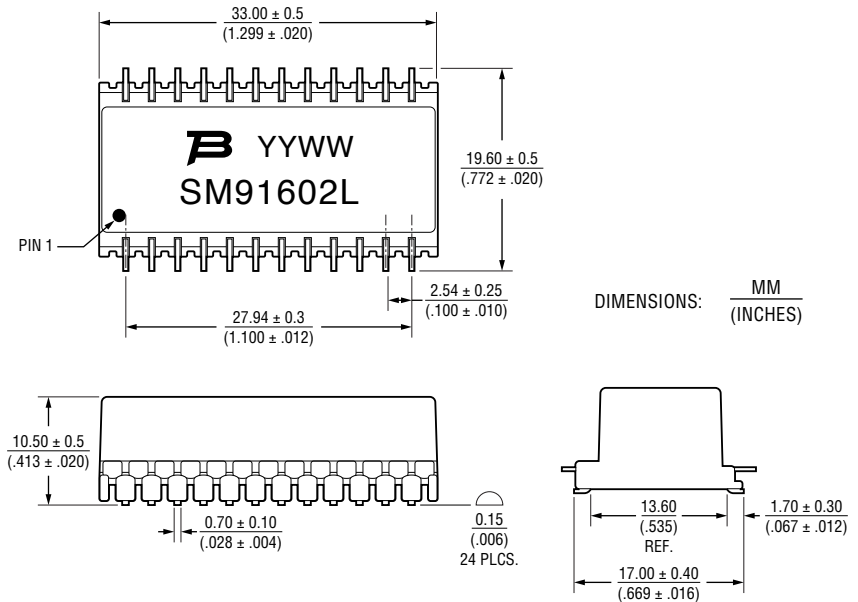
Tape & Reel ..... 200 pcs. per 13-inch reel

### How To Order

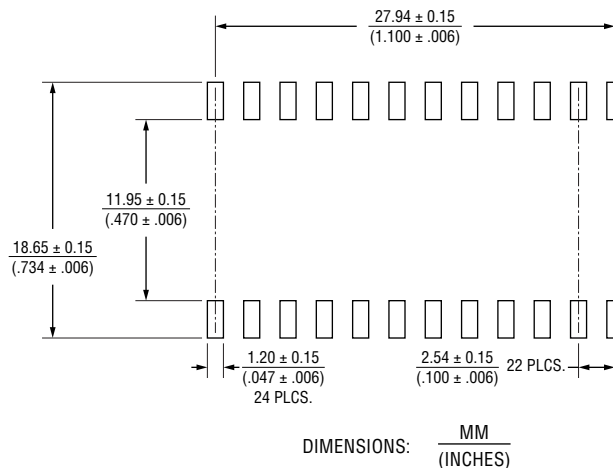
**SM91602 L - E**

Model \_\_\_\_\_  
 RoHS Compliancy Designator \_\_\_\_\_  
 Packaging \_\_\_\_\_  
 E = 200 pcs. per 13-inch Reel,  
 2 Reels per Box

### Product Dimensions



### Recommended Layout



**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.

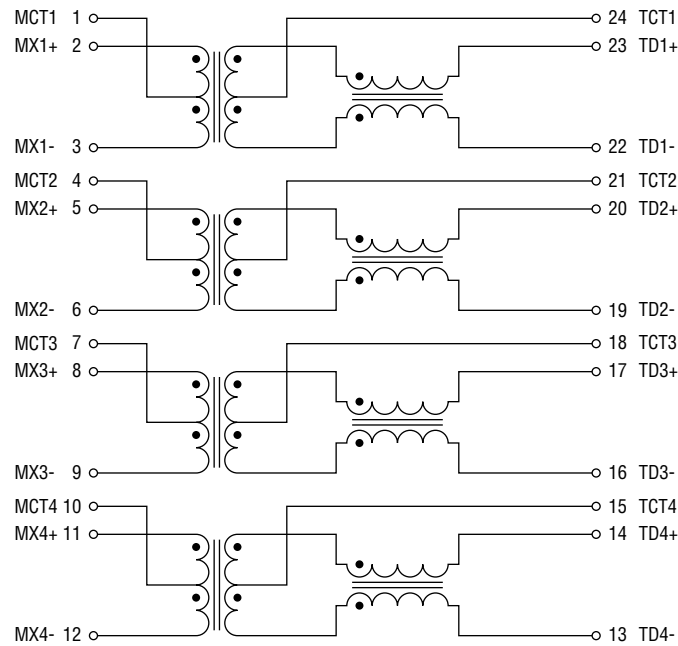
Users should verify actual device performance in their specific applications.

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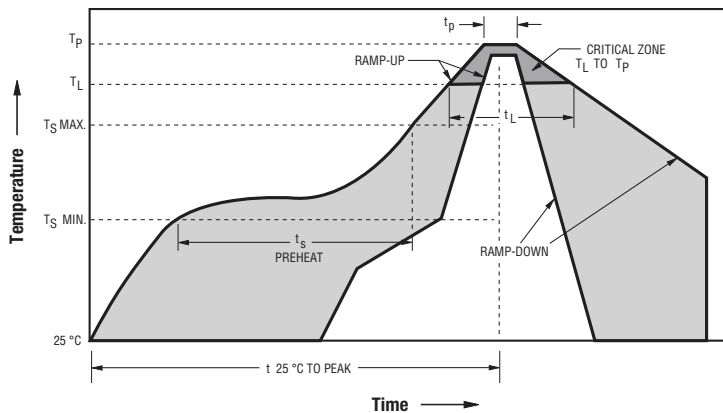
# SM91602L LAN Transformer



## Electrical Schematic



## Reflow Solder Profile



Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate	3 °C / second max.
PREHEAT: Temperature Min. (T <sub>S</sub> min) Temperature Max. (T <sub>S</sub> max) Time (T <sub>S</sub> min to T <sub>S</sub> max)	150 °C 200 °C 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 25 °C to Peak Temperature (T <sub>p</sub> )	8 minutes max.
Do Not Exceed	250 °C

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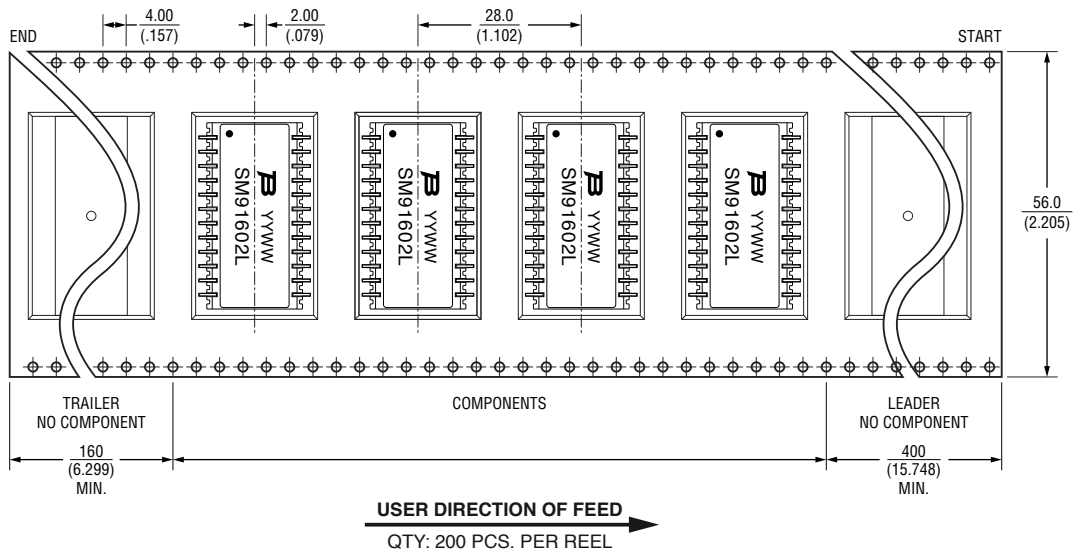
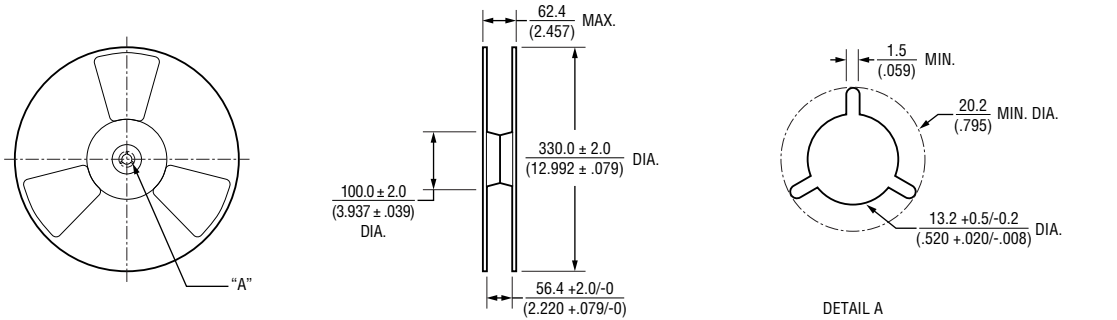
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# SM91602L LAN Transformer

**BOURNS®**

## Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.



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

**BOURNS®**

Asia-Pacific: Tel: +886-2 2562-4117 • Email: asiacus@bourns.com

EMEA: Tel: +36 88 885 877 • Email: eurocus@bourns.com

The Americas: Tel: +1-951 781-5500 • Email: americus@bourns.com

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