

### Features

- IEEE 802.3u (100Base-T) compliant
- MECHATROLINK-III compliant
- Hi-Pot: 2250 VDC or 1500 VAC
- Additional metal shield for surge immunity and superior EMC performance
- Compliant to IEC 61000-4-5 surge immunity test level 3 (2000 V)
- RoHS compliant\*

## SM91076L - 10/100 Base-T Transformer

### Electrical Specifications @ 25 °C

OCL (-40 ~ +125 °C)  
 ..... 350  $\mu$ H min @ 100 kHz,  
 0.1 V, 8 mA DC bias

Leakage Inductance  
 ..... 0.5  $\mu$ H max. @ 100 kHz, 0.1 V

DCR  
 Transformer Side ..... 1.0  $\Omega$  max.  
 CM Choke Side ..... 1.4  $\Omega$  max.

Cww (TCT to CMT, RCT to CMT)  
 ..... 20 pF max.

Turns Ratio ..... 1:1  $\pm$  2 %

Insertion Loss  
 1~100 MHz ..... -1.4 dB max.

Return Loss (Z out = 100  $\Omega$ )  
 1~40 MHz ..... -16 dB min.  
 40~100 MHz  
 ..... -10+20\*log (f/80 MHz) dB min.

Cross Talk (between each channel)  
 1~60 MHz ..... -40 dB min.  
 60~100 MHz ..... -35 dB min.

Common Mode Rejection Ratio  
 1~60 MHz ..... -37 dB min.  
 60~100 MHz ..... -30 dB min.

Differential to Common Mode  
 Rejection Ratio  
 30 MHz ..... -35 dB min.  
 60 MHz ..... -35 dB min.

Hi-Pot (1 mA, 60 s)  
 ..... 2250 VDC or 1500 VAC

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

Storage Temperature  
 ..... -40 °C to +125 °C

Moisture Sensitivity Level ..... 1

ESD Classification (HBM) ..... N/A

### Packaging Specifications

Tape & Reel ..... 500 pcs./reel

### How To Order

**SM91076 L - E**

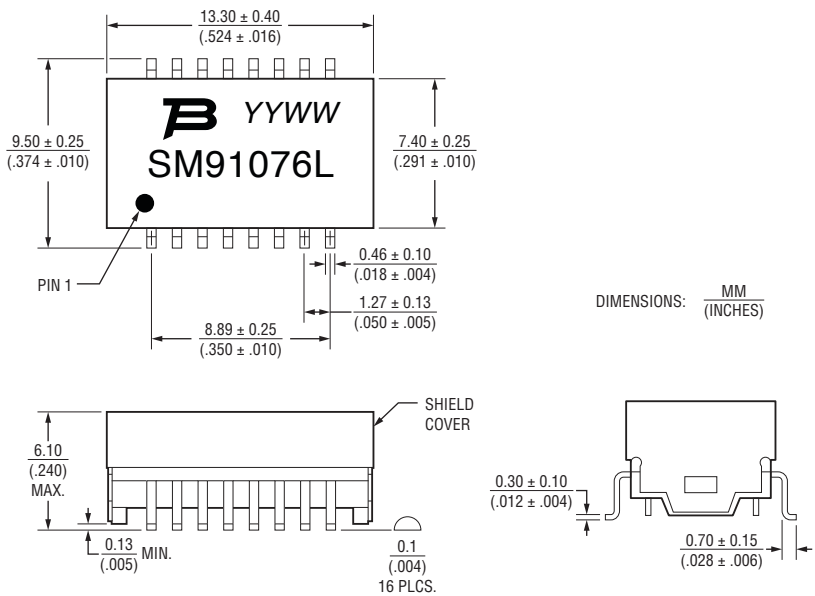
Model \_\_\_\_\_  
 Termination \_\_\_\_\_  
 L = Tin (RoHS Compliant)  
 Packaging \_\_\_\_\_  
 E = Tape and Reel

### Additional Information

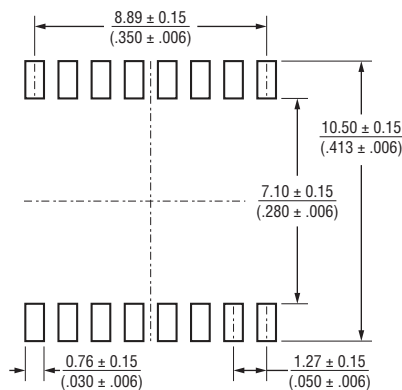
Click these links for more information:



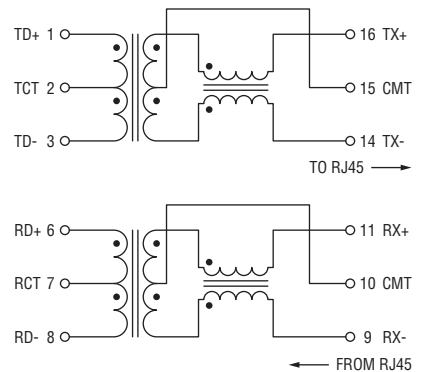
### Product Dimensions



### Recommended Layout



### Electric Schematic



**WARNING Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

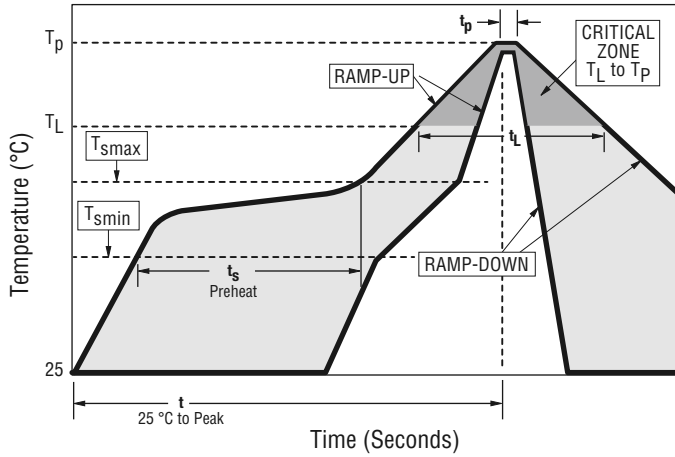
\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\*MMA is a group of product developers and users promoting the use of the open field network MECHATROLINK. Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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**Solder Profile**



Reflow Condition		Pb-free Assembly
Average Ramp-up Rate		3 °C / second max.
Preheat	Temperature Min. (T <sub>smin</sub> )	150 °C
	Temperature Max. (T <sub>smax</sub> )	200 °C
	Time (T <sub>smin</sub> to T <sub>smax</sub> )	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 from 25 °C to Peak Temperature (T <sub>p</sub> )		8 minutes max.
Do not Exceed		260 °C

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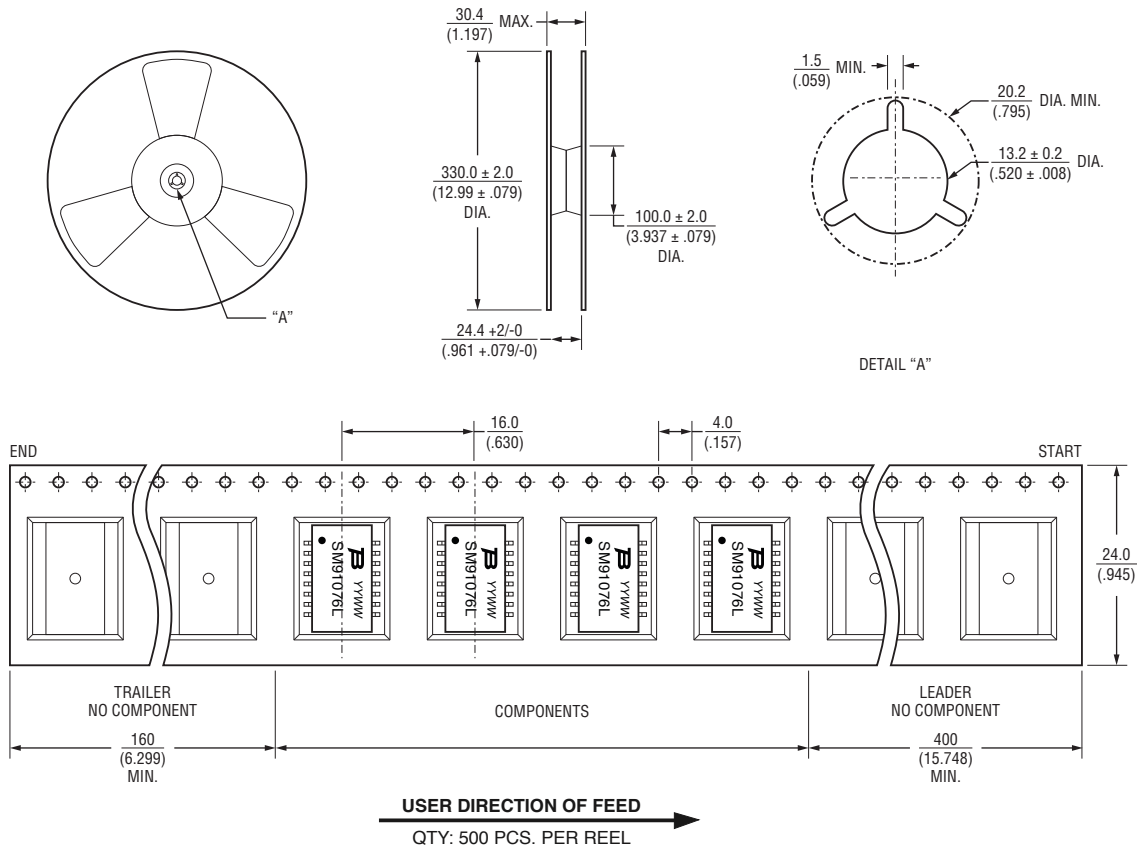
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# SM91076L 10/100 Base-T Transformer



## Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.



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



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