

Features

- Designed to meet IEEE 802.3u (100 Base-T)
- Expanded temperature range: -40 to +125 °C
- RoHS compliant*
- AEC-Q200 compliant

SM91074AL - 10/100 Base-T Transformer

Electrical Specifications @ 25 °C

Inductance (100 kHz, 0.1 V, 8 mA DC) 350 μ H Min.

Leakage Inductance (100 kHz, 0.1 V)
 TD with TX Shorted 0.5 μ H Max.
 RD with RX Shorted 0.5 μ H Max.

Turns Ratio
 TD : TX 1 : 1 (\pm 2 %)
 RD : RX 1 : 1 (\pm 2 %)

DCR
 TD & RD 1.0 ohm Max.
 TX & RX 1.4 ohm Max.

Insertion Loss (TD to TX & RD to RX)
 1-100 MHz -1.1 dB Max.

Return Loss (TD to TX & RD to RX
 with 100 ohm load)
 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
 (TD to TX & RD to RX)
 1-60 MHz -37 dB Min.
 60-100 MHz -30 dB Min.

Differential to Common Mode
 Rejection Ratio
 (TD to TX & RD to RX)
 30 MHz -35 dB Min.
 60 MHz -35 dB Min.

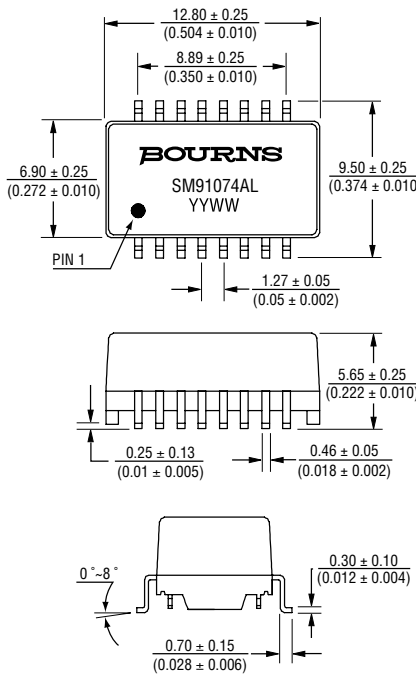
Hi-Pot (TD to TX & RD to RX
 @ 1 mA, 60 sec.)
 1500 Vrms & 2250 Vdc

Storage Temperature -40 to +125 °C
 Operating Temperature -40 to +125 °C
 Moisture Sensitivity Level 1
 ESD Classification (HBM) N/A

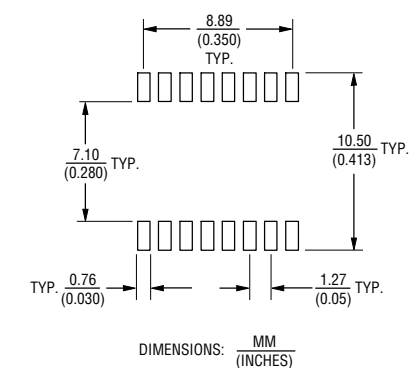
Packaging Specifications

Tape & Reel 600 pcs./reel

Product Dimensions



Recommended Layout



How To Order

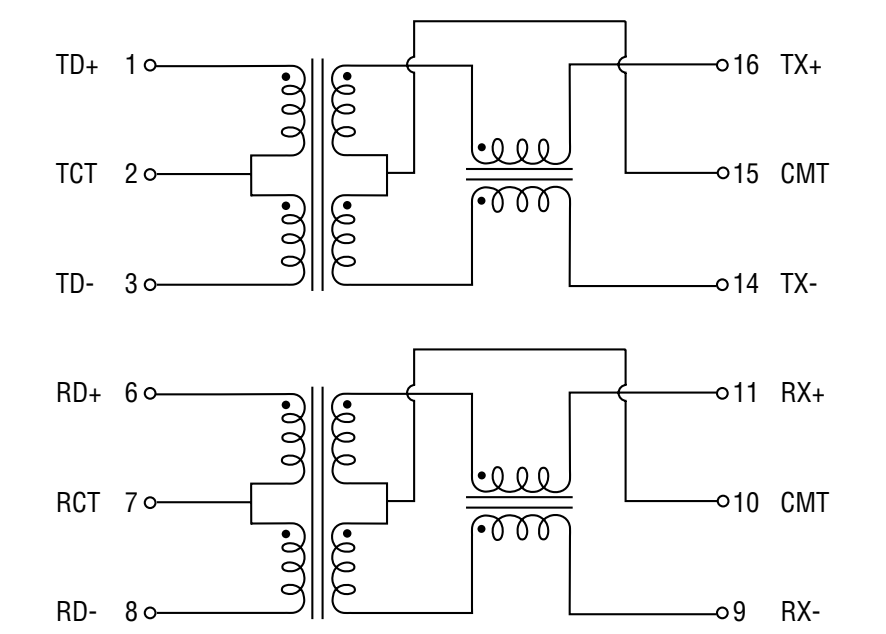
Model **SM91074 A L - E**

AEC-Q200 Compliant _____

Termination _____
 L = Cu/Ni/Sn (RoHS Compliant)

Packaging _____
 E = Tape and Reel (600 pcs. per reel)

Electrical Schematic



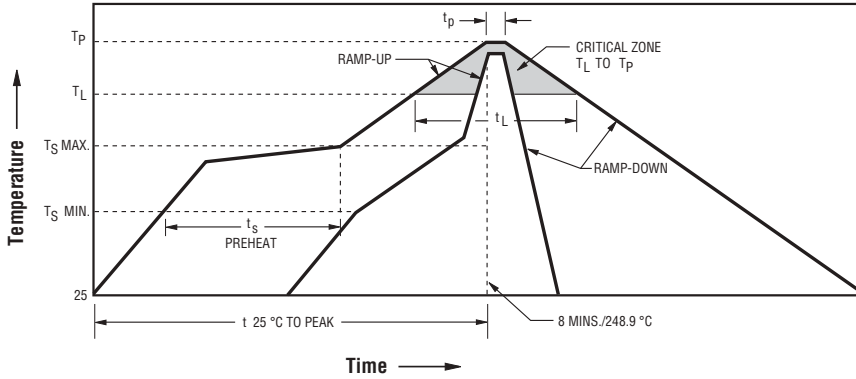
WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

*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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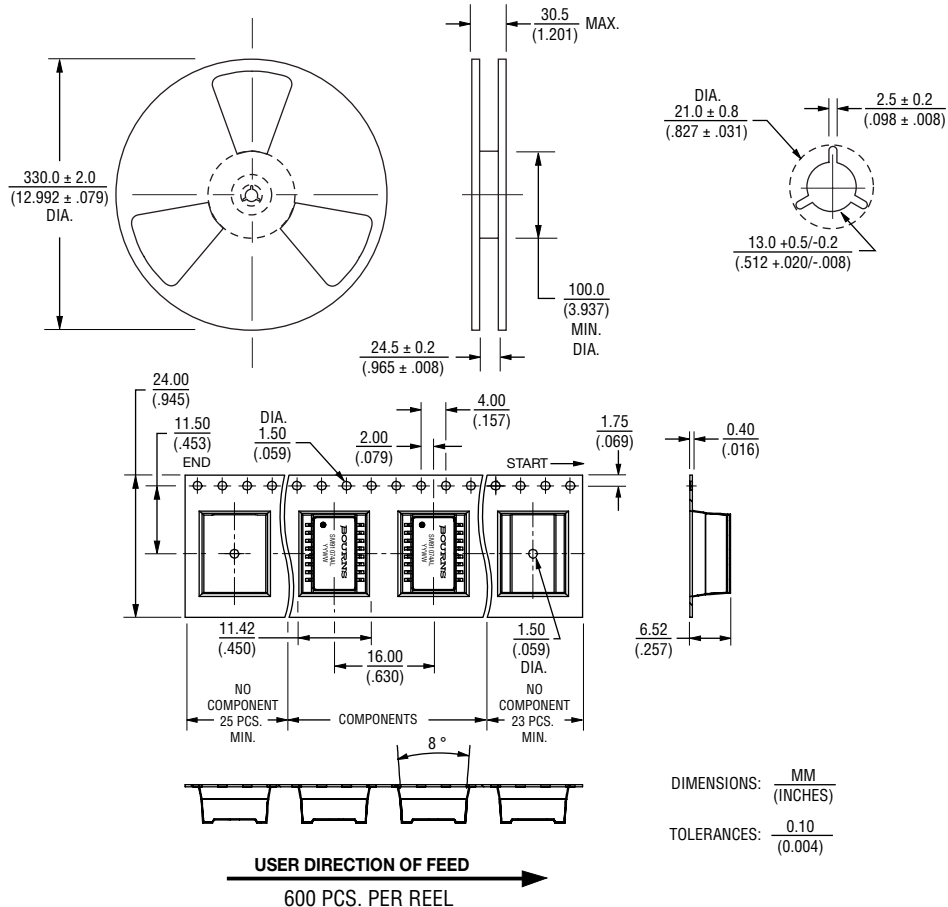
BOURNS®

Solder Profile



Ramp-up rate = 3 °C/sec. max.
 Ramp-down rate = 6 °C/sec. max.
 $T_L = 217 \text{ °C}$ $t_L = 60\text{-}150 \text{ sec.}$
 $T_P = 250 \text{ °C} \pm 3 \text{ °C}$
 Time within 5 °C of actual Peak Temp (t_p) = 20~40 sec.
 $T_S \text{ min} = 150 \text{ °C}$ $T_S \text{ max} = 200 \text{ °C}$
 $T_S \text{ min to } T_S \text{ max} = 60\text{-}180 \text{ sec.}$
 25 °C to Peak Temperature = 8 min. max.

Packaging Specifications



REV. 05/19

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