



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

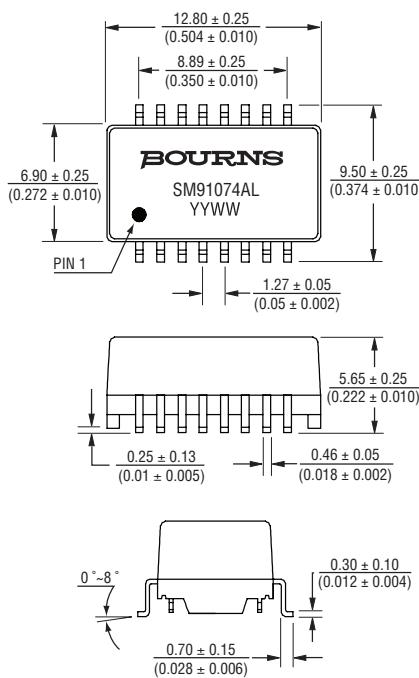
Electrical Specifications @ 25 °C

Inductance (100 kHz, 0.1 V, 8 mADC)	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	1.4 ohm Max.
TX & RX	1.0 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

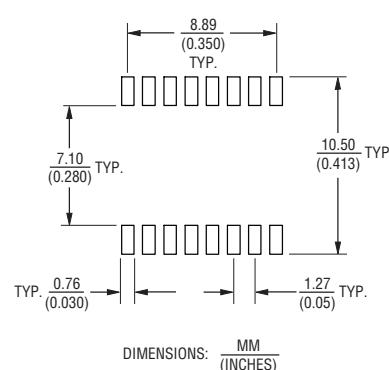
Packaging Specifications

Tape & Reel	600 pcs./reel
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Product Dimensions



Recommended Layout

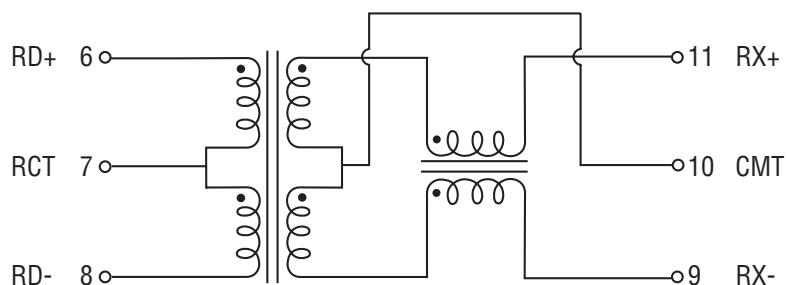
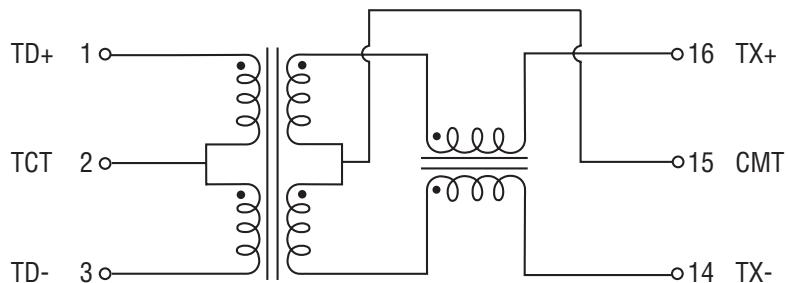


DIMENSIONS: MM (INCHES)

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.

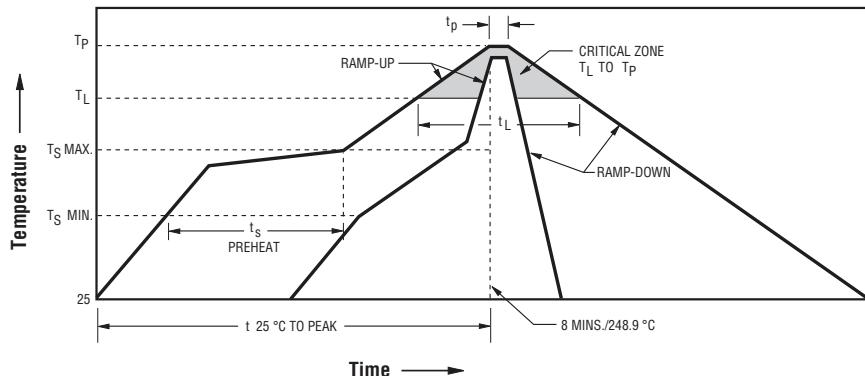
Users should verify actual device performance in their specific applications.

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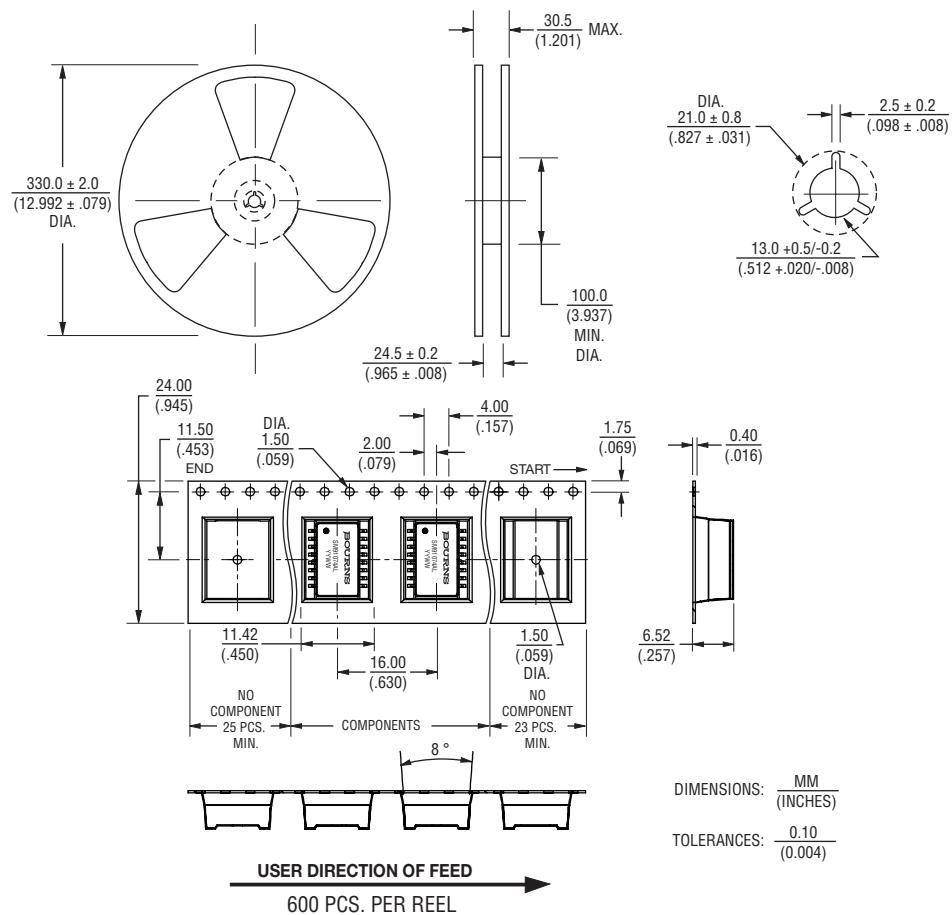
BOURNS®

Solder Profile



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

Packaging Specifications



REV. 11/18

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