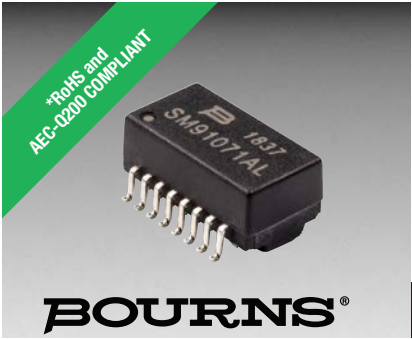




**THE DATASHEET OF
SM91071AL-E**





Features

- Good performance and cost-effective
- Designed to meet IEEE 802.3u (100 Base-T)
- Expanded temperature range: -40 to +125 °C
- RoHS compliant* and halogen free**
- AEC-Q200 compliant

SM91071AL - 10/100 Base-T Transformer

Electrical Specifications @ 25 °C

OCL (100 kHz, 0.1 V, 8 mA DC Bias)
 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 (± 2 %)
 RD : RX 1 : 1 (± 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.

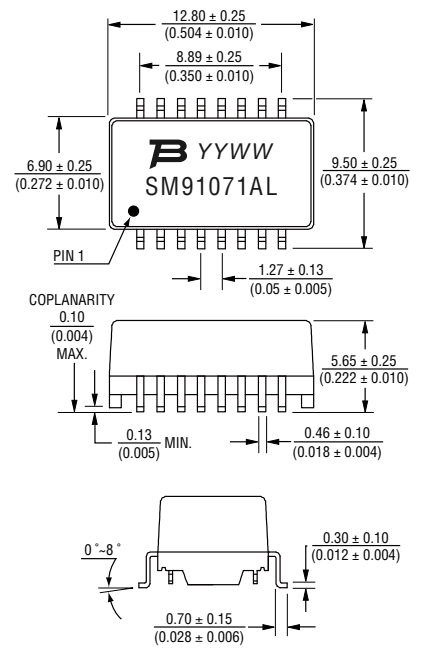
Hi-Pot (TD to TX & RD to RX
 @ 1 mA, 60 sec.)
 1500 Vrms & 2250 Vdc

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

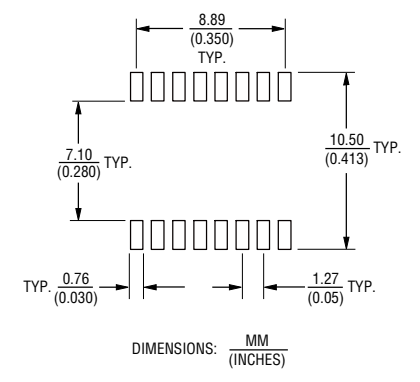
Packaging Specifications

Tape & Reel 600 pcs./reel

Product Dimensions



Recommended Layout



How To Order

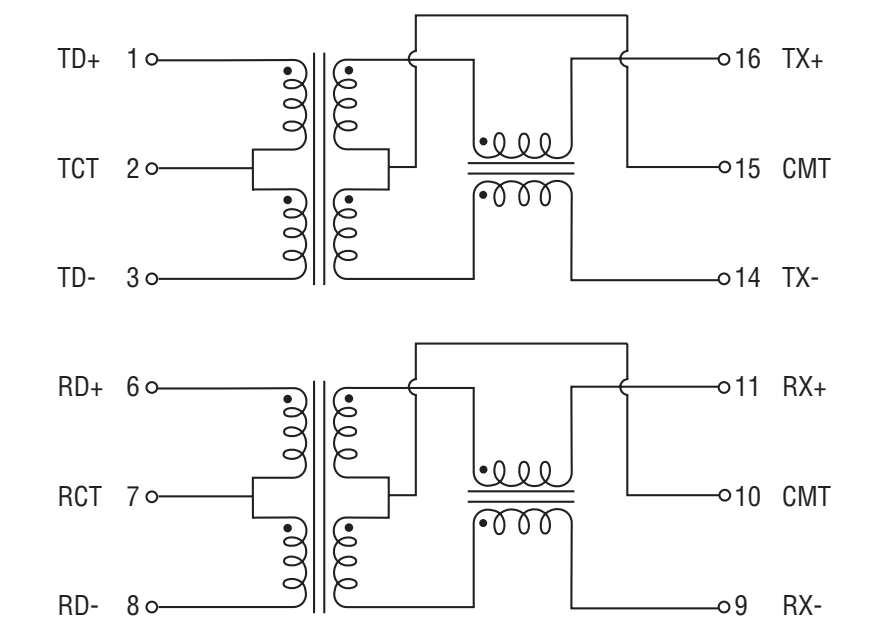
Model SM91071 A L - E

AEC-Q200 Compliant _____

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

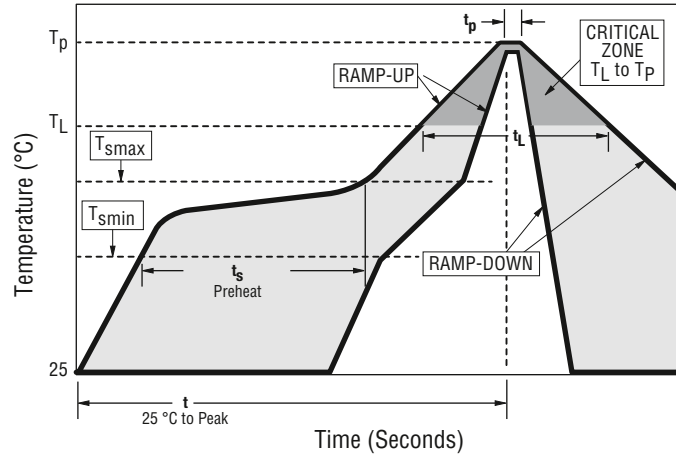
Packaging _____
 E = Tape and Reel (600 pcs. per reel)

Electrical Schematic



* RoHS Directive 2015/863, Mar 31, 2015 and Annex.
 ** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.
 Specifications are subject to change without notice.
 Users should verify actual device performance in their specific applications.
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Solder Profile



Profile Features	Pb Free Assembly
Average Ramp-up Rate	3 °C/second max.
Preheat	
Temperature min. (T_S min)	150 °C
Temperature max. (T_S max)	200 °C
Time (t_S min. to t_S max.)	60 ~ 180 s
Liquidus Temperature: T_L	217 °C
Time above Liquidus Temperature: t_L	60 ~ 150 s
Peak Temperature: T_p	245-250 °C
Time within 5 °C of Actual Peak Temperature: t_p	20 ~ 40 s
Ramp-down Rate from Peak Temperature	6 °C/s max.
Time 25 °C to Peak: $t_{TO\ PEAK}$	8 minutes max.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

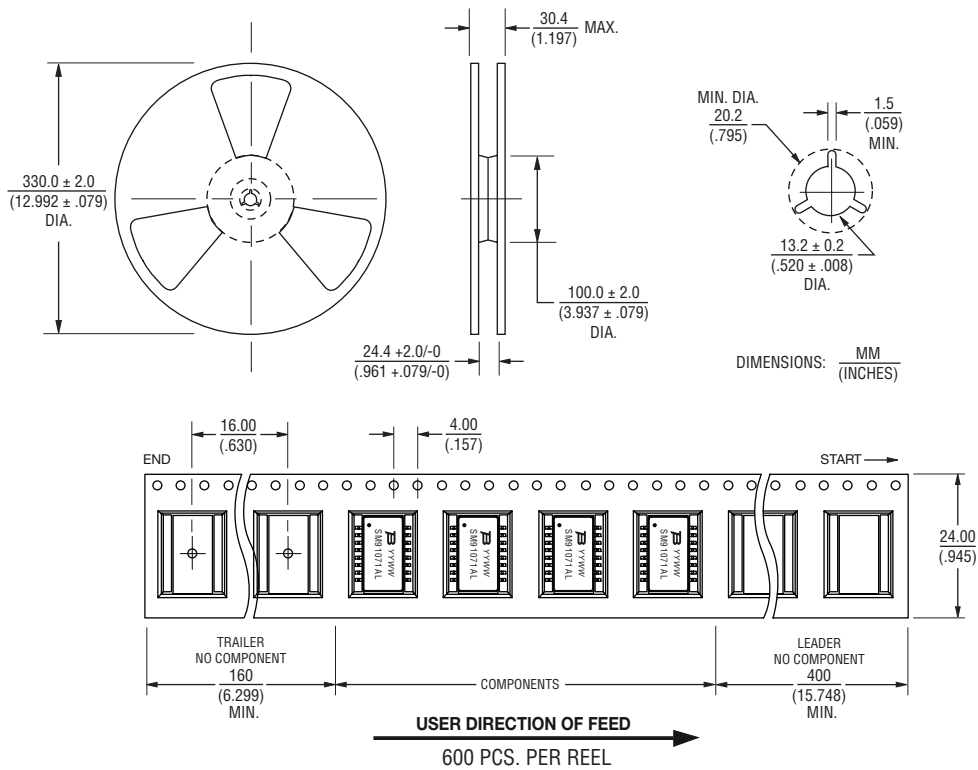
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SM91071AL - 10/100 Base-T Transformer

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Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.



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