

Features

- IEEE 802.3 Ethernet compatible
- Fully integrated for adapter, hub and motherboard applications
- Expanded temperature range: -40 to +125 °C
- RoHS compliant*

Applications

- LAN
- Ethernet

SM13072APL - 10/100 Base-T Transformer

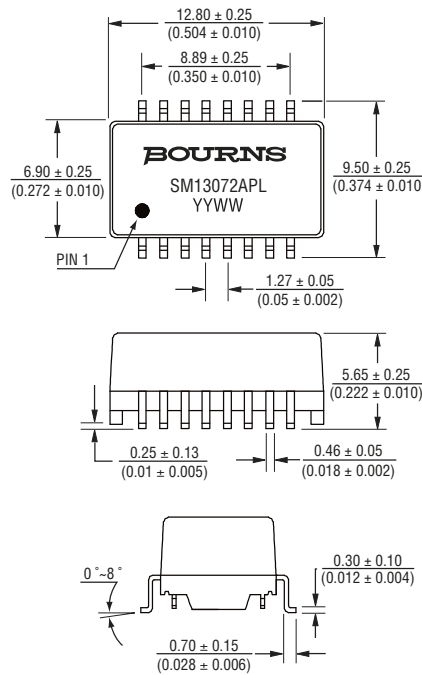
Electrical Specifications @ 25 °C

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.
 Cww (TD to TX & RD to RX @ 100 kHz, 0.1 V) 35 pF Max.
 Turns Ratio
 TD : TX 1 : 1 (± 2 %)
 RD : RX 1 : 1 (± 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

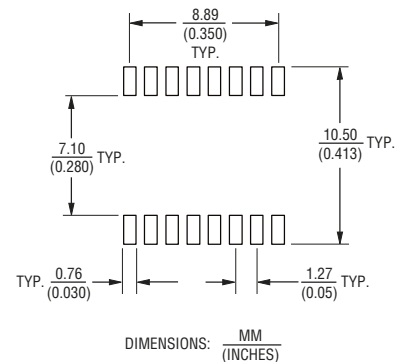
Packaging Specifications

Tape & Reel 600 pcs./reel

Product Dimensions



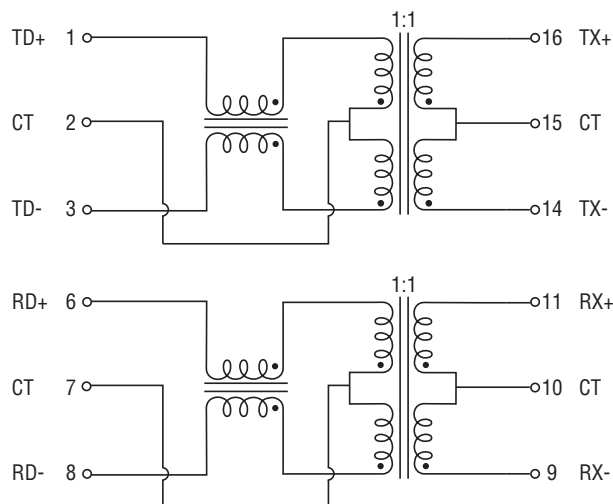
Recommended Layout



How To Order

Model **SM13072A P E L**
 Construction _____
 P = Potted
 Packaging _____
 E = Tape and Reel (600 pcs./reel)
 Termination _____
 L = Cu/Ni/Sn (RoHS Compliant)

Electrical Schematic



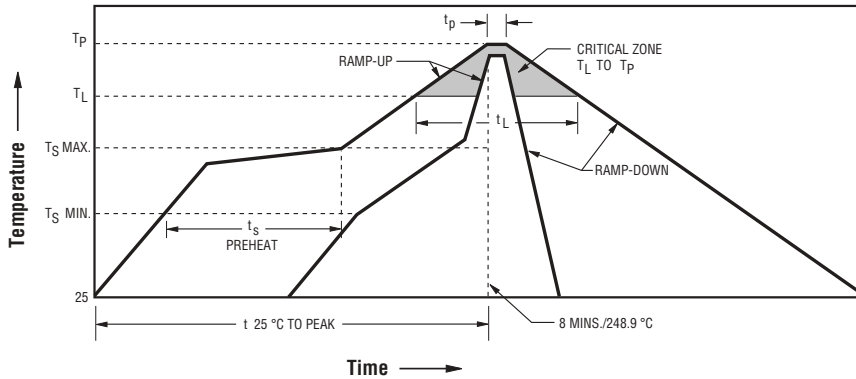
WARNING Cancer and Reproductive Harm
www.P65Warnings.ca.gov

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.
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SM13072APEL - 10/100 Base-T Transformer

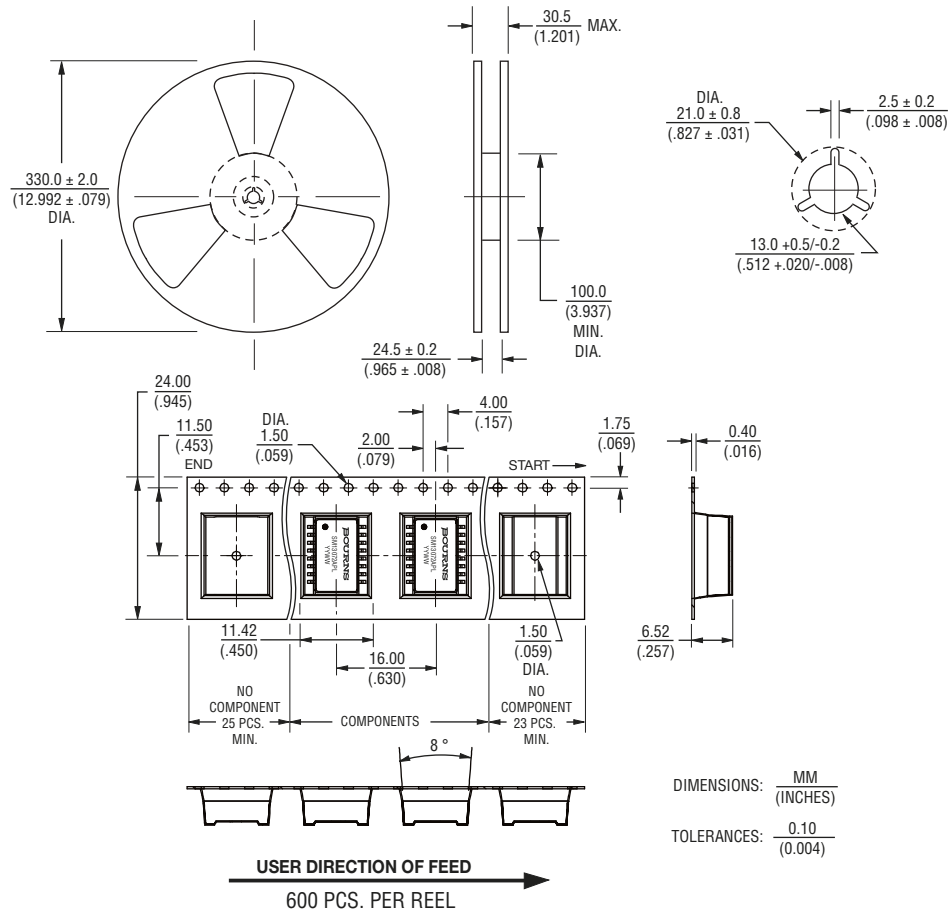
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Solder Profile



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



03/18

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