

## Features

- IEEE 802.3 Ethernet compatible
- Compatible with 10/100/1000 BASE-T
- Discrete transformers and common mode chokes for flexible PCB layout
- Pairing common mode choke SRF2012A-801Y for EMI reduction
- Expanded temperature range: -40 to +105 °C
- AEC-Q200 Compliant
- RoHS compliant\* and halogen free\*\*

## SM453229A-381N7Y - 10/100/1000 Base-T Chip LAN Transformer

### Electrical Specifications @ 25 °C

Inductance (Pin 1-2 & 6-7 / short 3-4)  
 ..380  $\mu$ H min. @ 100 kHz, 0.1 V, 0 mA  
 ..350  $\mu$ H min. @ 100 kHz, 0.1 V, 8 mA  
 Turns Ratio  
 Pin 1-2 : 6-7 / short 3-4 : 1:1 ..... $\pm$  3 %  
 Insertion Loss  
 1-100 MHz..... -1.5 dB max.  
 Capacitance (Pin 3-5 / short 3-4)  
 .....35 pF typ.  
 Hi-Pot (Pin 1 to 6, short 3-4)  
 ..... 1500 Vac, 60 s  
 Withstanding Pulse Voltage  
 ..... 2400 V, 1.2/50  $\mu$ S  
 Operating Temperature  
 ..... -40 °C to +105 °C  
 Storage Temperature  
 ..... -40 °C to +105 °C

### Packaging Specifications

Tape & Reel..... 2000 pcs./reel

### How To Order

#### SM453229A - 381 - N7 Y

Model \_\_\_\_\_  
 Packaging \_\_\_\_\_  
 381 = Inductance code  
 Termination \_\_\_\_\_  
 N7 = Termination code  
 Tolerance \_\_\_\_\_  
 Y = Tolerance code

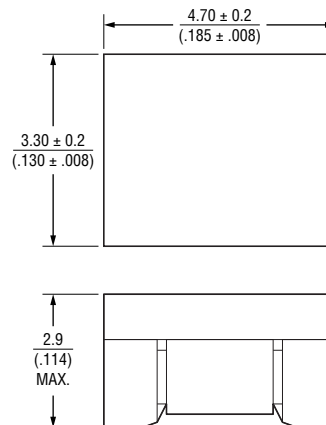
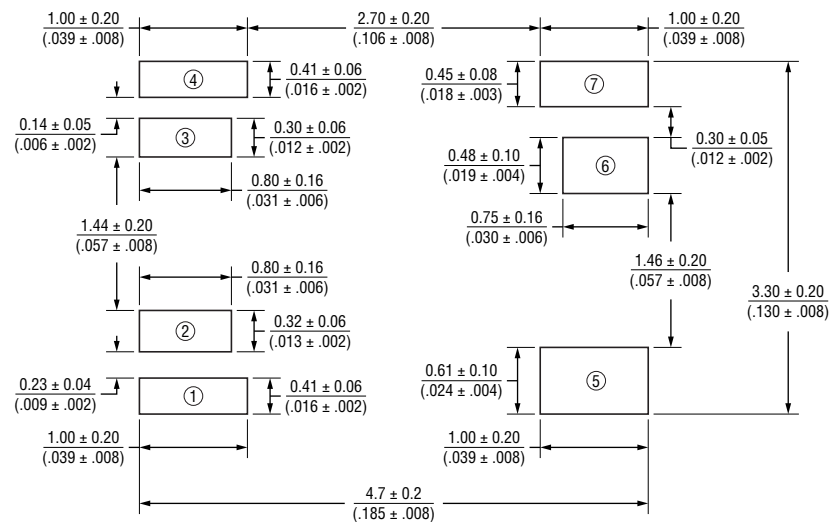
### Additional Information

Click these links for more information:



### Product Dimensions

#### Terminal Dimensions – Top View



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

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

\* 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.

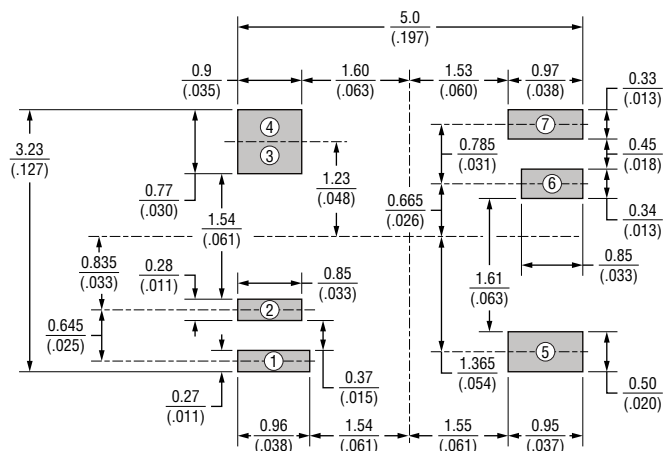
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# SM453229A-381N7Y - 10/100/1000 Base-T Chip LAN Transformer

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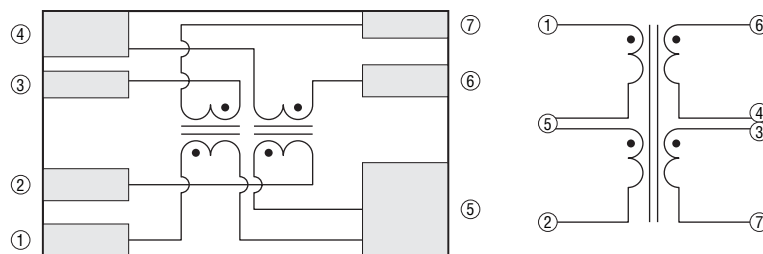
## Recommended Layout

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



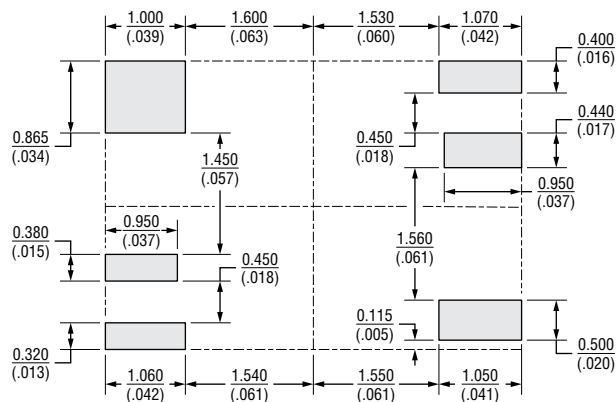
## Electrical Schematic

### Top View



## Solder Paste Stencil Aperture Recommendation

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



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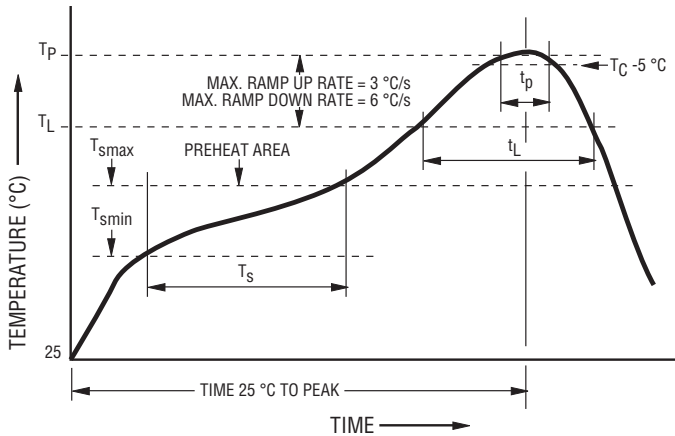
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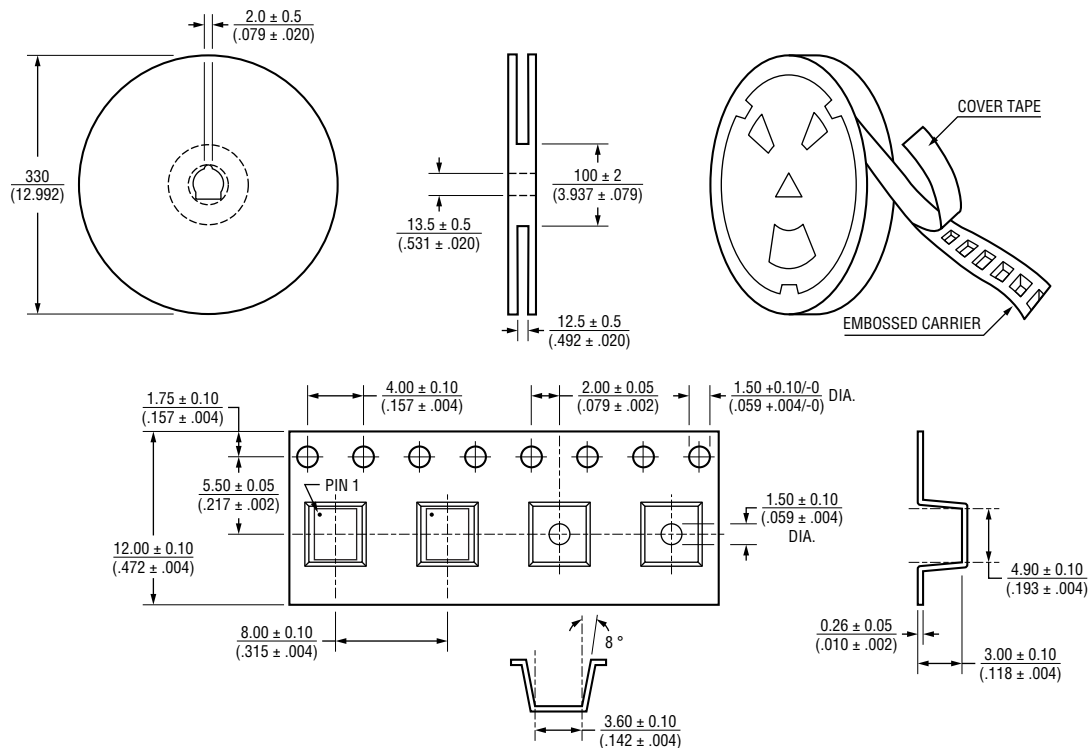
## Solder Reflow Recommendations



Profile Feature	Pb-Free Assembly
Preheat / Soak:	
Temperature Min. ( $T_{smin}$ )	150 °C
Temperature Max. ( $T_{smax}$ )	200 °C
Time ( $t_s$ ) from ( $T_{smin}$ to $T_{smax}$ )	60~120 seconds
Ramp Up Rate ( $T_L$ to $T_p$ )	3 °C / second max.
Liquidous Temperature ( $T_L$ )	217 °C
Time ( $t_L$ ) maintained above $T_L$	60~150 seconds
Peak Package Body Temperature ( $T_p$ )	250 °C
Time ( $t_p$ )* within 5 °C of the specified classification temperature ( $T_c$ )	< 30 seconds*
Ramp Down Rate ( $T_p$ to $T_L$ )	6 °C / second max.
Time 25 °C to Peak Temperature	8 minutes max.

\*Tolerance for peak profile temperature ( $T_p$ ) is defined as a supplier minimum and a user maximum.

## Packaging Specifications



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

USER DIRECTION OF FEED

QTY: 2000 PCS. PER REEL

REV. 06/25

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Users should verify actual device performance in their specific applications.

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