



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 chip inductor [Model 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 μ H min. @ 100 kHz, 0.1 V, 0 mA
 ..350 μ 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 μ 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

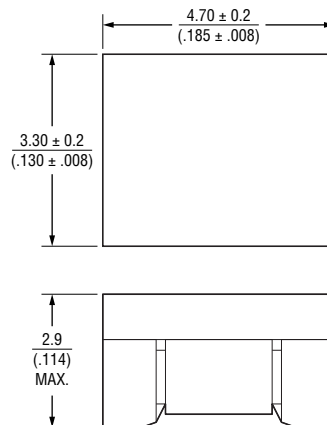
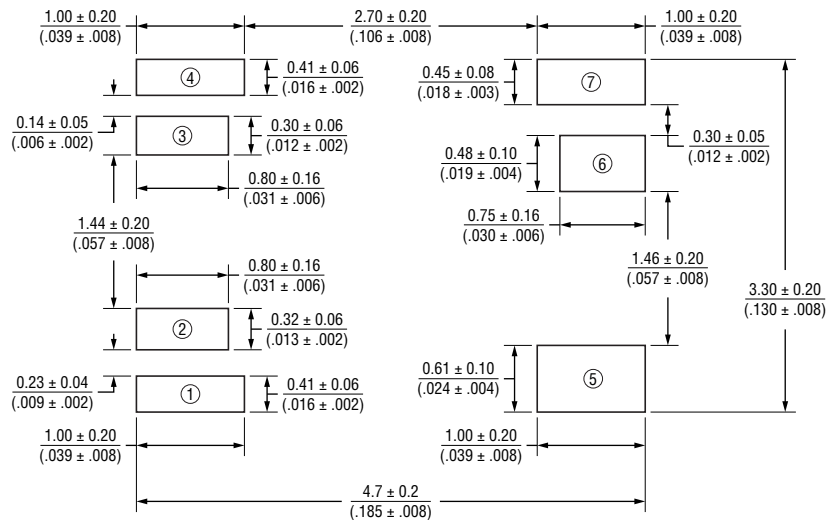
Additional Information

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

* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

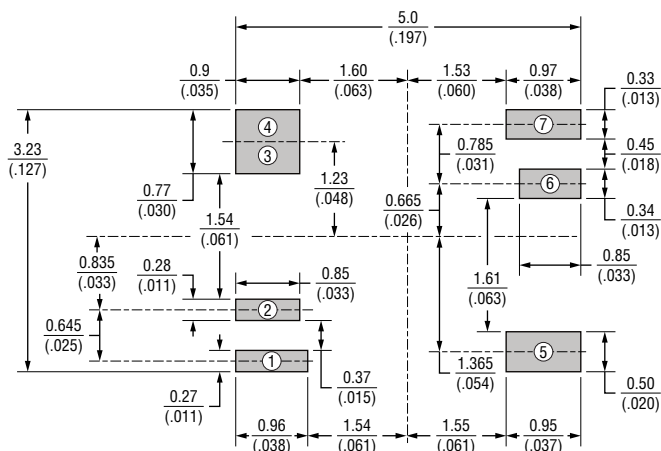
** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

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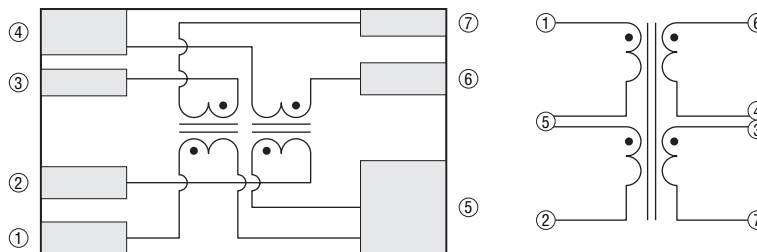
Recommended Layout



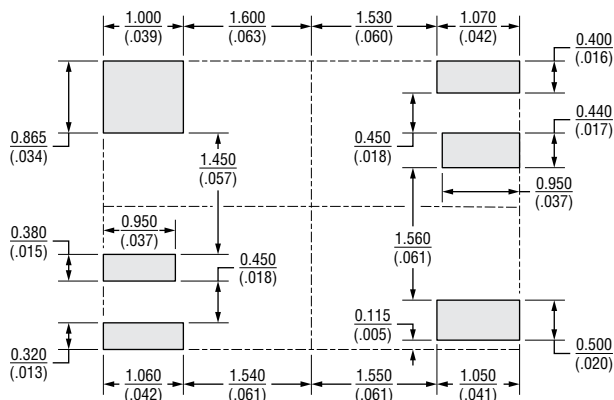
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Electrical Schematic

Top View



Solder Paste Stencil Aperture Recommendation



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

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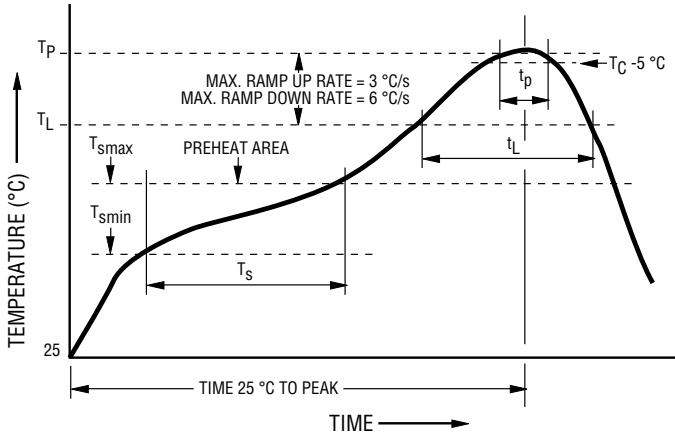
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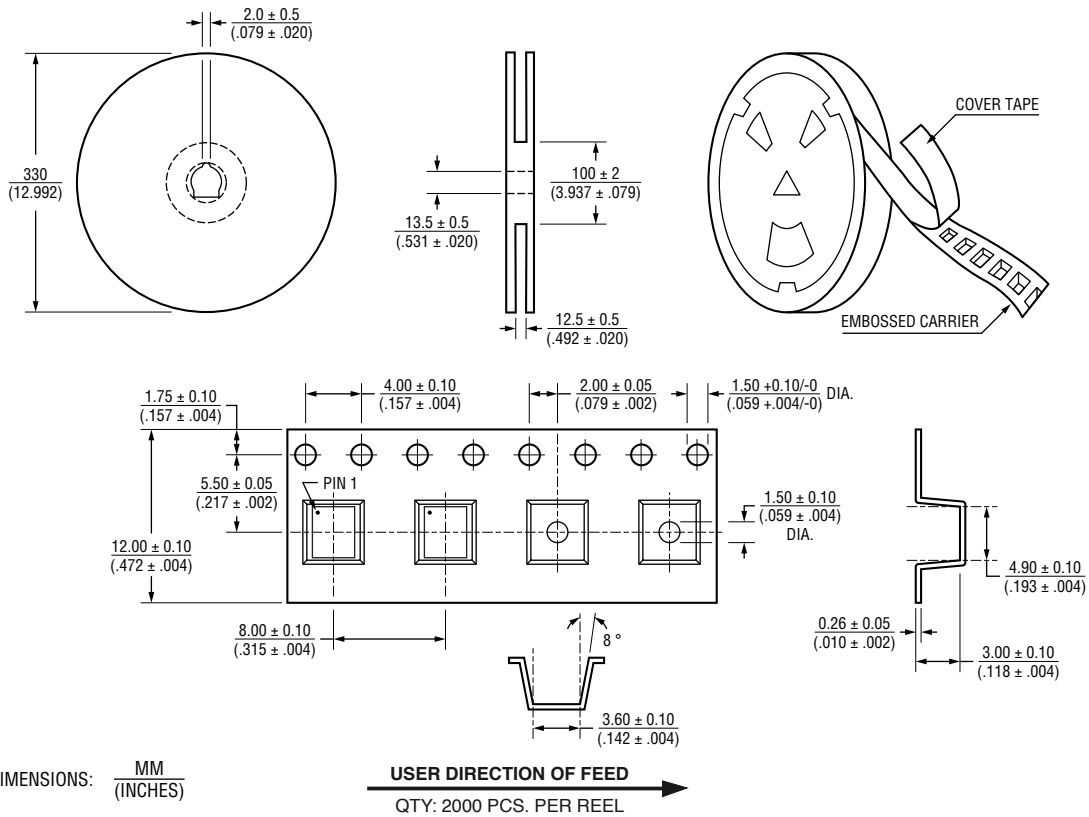
Solder Reflow Recommendations



Profile Feature	Pb-Free Assembly
Preheat / Soak: Temperature Min. (T_{psmin}) Temperature Max. (T_{psmax}) Time (t_s) from (T_{psmin} to T_{psmax})	150 °C 200 °C 60~120 seconds
Ramp Up Rate (T_L to T_P)	3 °C / second max.
Liquidous Temperature (T_L) Time (t_L) maintained above T_L	217 °C 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



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