



Features

- IEEE 802.3 Ethernet compatible
- Compatible with 1G/2.5G/5G Base-T
- PoE+ capable
- Discrete transformers and common mode chip inductors for flexible PCB layout
- Pairing common mode chip inductor SRF2012A-801Y for EMI reduction
- Expanded temperature range: -40 to +85 °C
- RoHS compliant* and halogen free**

SM453230-231N7YP - 1 / 2.5 / 5 GbE Chip-LAN Transformer

Electrical Specifications @ 25 °C

Inductance (Pin 1-2 & 6-7 / short 3-4)
230 μ H min. @ 100 kHz, 0.1 V, 0 mA
200 μ H min. @ 100 kHz, 0.1 V, 15 mA
 Turns Ratio
 Pin 1-2 : 6-7 / short 3-4 : 1:1 $\pm$ 3 %
 Insertion Loss
 1-250 MHz.....-1.5 dB typ.
-2.3 dB max.
 Capacitance (Pin 3-5 / short 3-4)
35 pF typ.
 PoE+.....700 mA
 Hi-Pot (Pin 1-6, short 3-4)
1500 Vac, 60 s
 Operating Temperature.-40 °C to +85 °C
 Storage Temperature....-40 °C to +85 °C

Packaging Specifications

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

How To Order

SM453230 - 231 - N7 Y P

Model _____
 Packaging _____
 121 = Inductance code
 Termination _____
 N7 = Termination code
 Tolerance _____
 Y = Tolerance code
 Interface _____
 P = PoE

Additional Information

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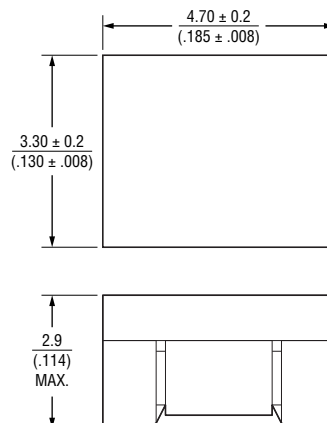
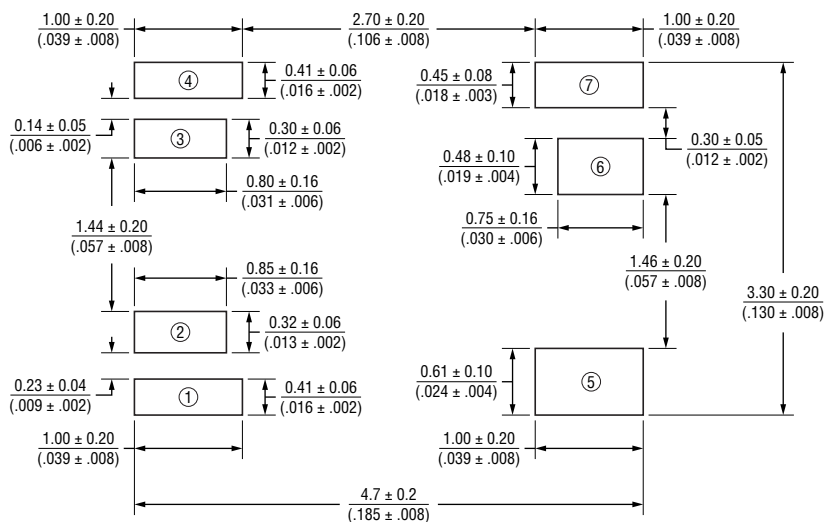
[SAMPLES](#)



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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.

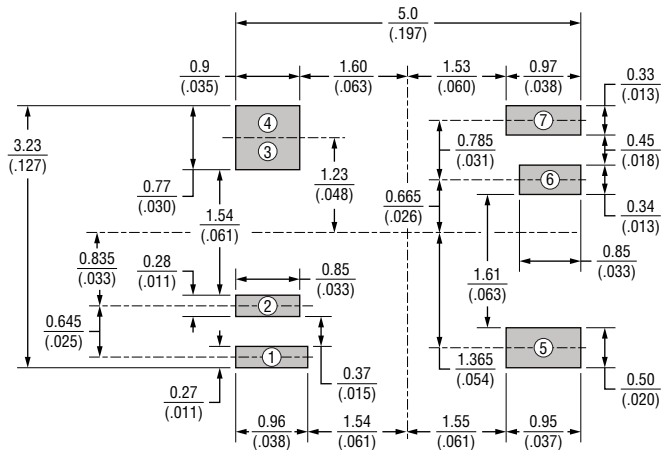
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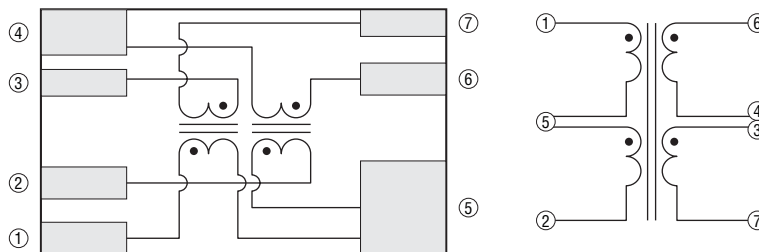
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Recommended Layout

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

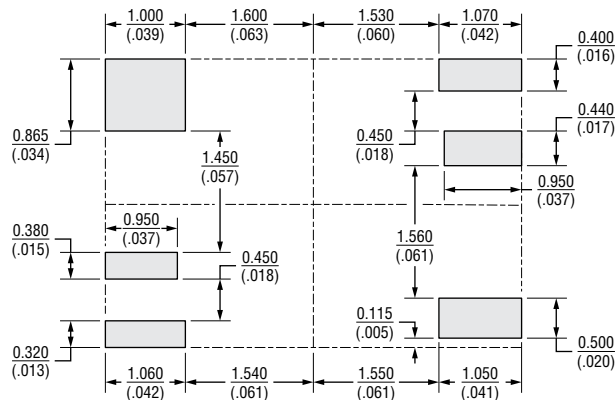


Electrical Schematic



Solder Paste Stencil Aperture Recommendation

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



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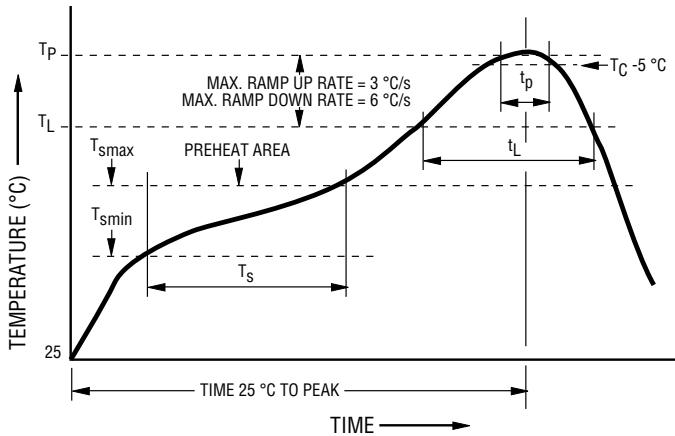
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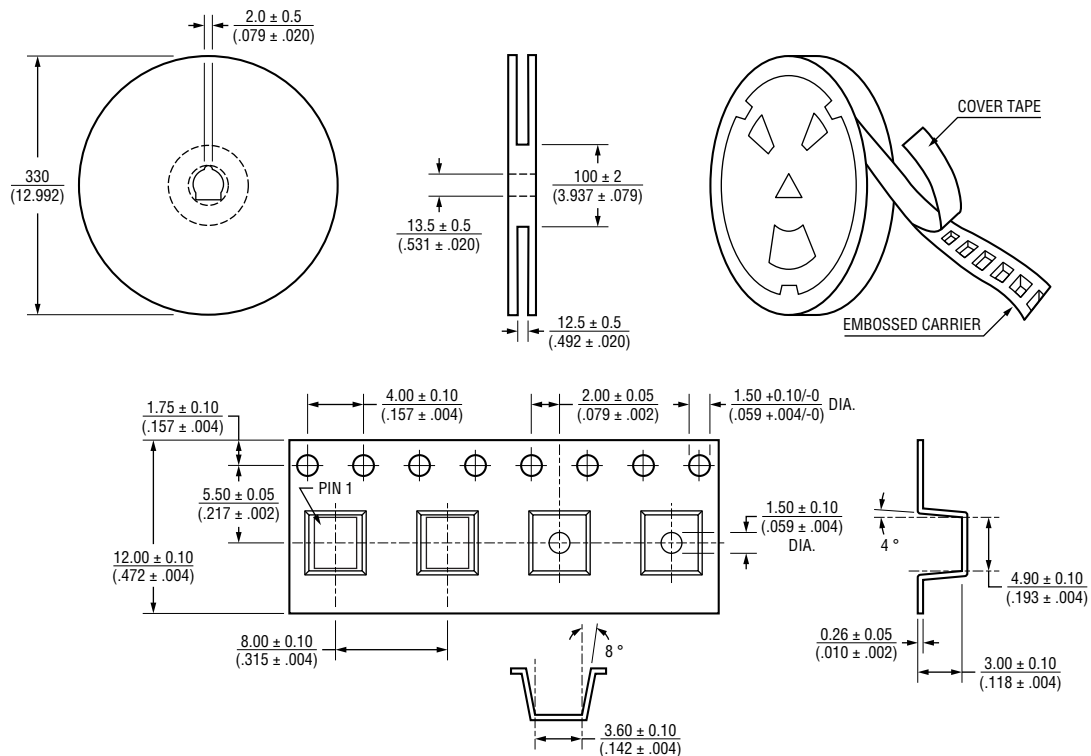
Solder Reflow Recommendations



Profile Feature	Pb-Free Assembly
Preheat / Soak:	
Temperature Min. (T_{sm})	150 °C
Temperature Max. (T_{smax})	200 °C
Time (t_s) from (T_{sm} 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



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