SMT Current Sense Transformers

PL1170

- *Maximum Reflow Temperature: 235˚C*
- *Storage Temperature: -55˚C to +135˚C*
- *Moisture Sensitivity Level (MSL): 3*
- *Height: 7.1mm Max*
- *Footprint: 14.6mm x 12.6mm Max*
- *Current Rating: up to 15 A*
- *Can be made available in a RoHS configuration by a special request (Sn100 lead finish)*
- *Frequency Range: 50kHz to 500kHz*

Electrical Specifications @ 25ºC – Operating Temperature -40ºC to +125ºC

Part Number	Turns Ratio	Current Rating (A)	Secondary Inductance (mH MIN)	DCR (mΩ MAX)		Hipot (Vrms)
				Primary (1, 3-2, 4)	Secondary (5-6)	
PL1170	1:1:100	15	14.8	1.5	930	500

Notes:

1. The temperature of the component (ambient temperature plus the temperature rise) must be within the specified operating temperature range.
2. The maximum current rating is based upon temperature rise of the component and represents the dc current which will cause a typical temperature rise of 40˚C with no air flow when both single turn windings connected in parallel.
3. To calculate the value of the terminating resistor (Rt), use the following formula:

   Rt Ω = V_{REF} * N / (Ipeak_primary)

4. The peak flux density of the device must remain below 2000 Gauss. To calculate the peak flux density for a uni-polar current use the formula below:

   Bpk = 14.29 * Vref * (Duty_Cycle_Max) * 10 5 (N * Freq_kHz)
   * for bi-polar current applications divide Bpk as calculated above by 2.

5. Optional Tape & Reel can be ordered by adding a "**T**" suffix to the part number (i.e. PL1170 becomes PL1170**T**).

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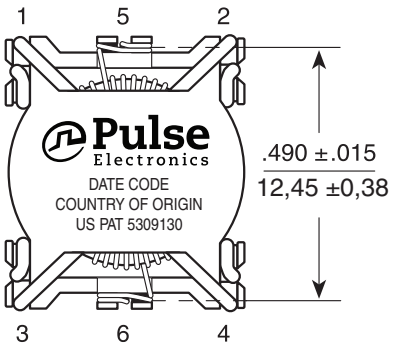
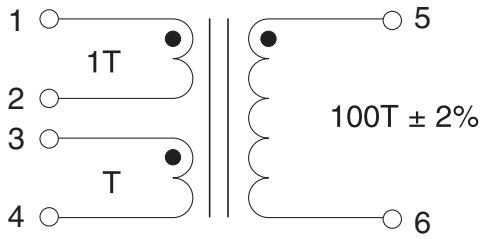
PL1170

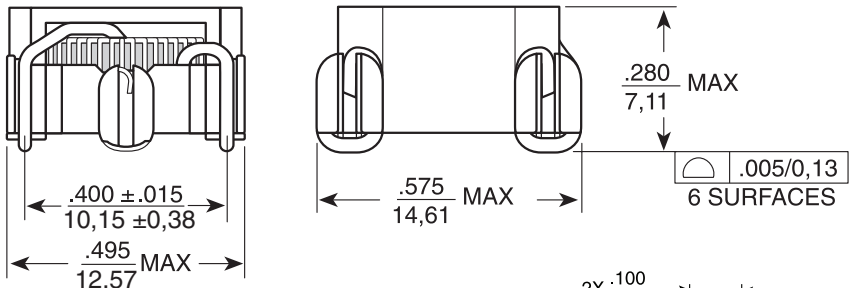
Mechanical

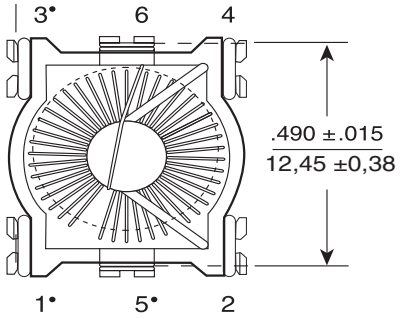
Schematic

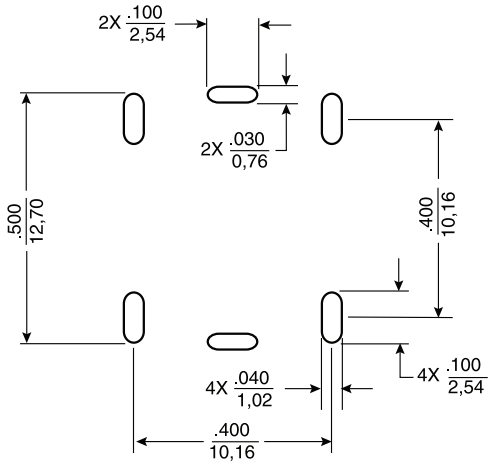
PL1170











SUGGESTED PAD LAYOUT

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