

# SMT Current Sense Transformer

Ruggedized



- ⊗ Current Rating: up to 15 A
- ⊗ Frequency Range: 50 kHz to 500 kHz
- ⊗ Height: 7.1mm Max
- ⊗ Footprint: 14.6mm x 12.6mm Max
- ⊗ Moisture Sensitivity Level : 1

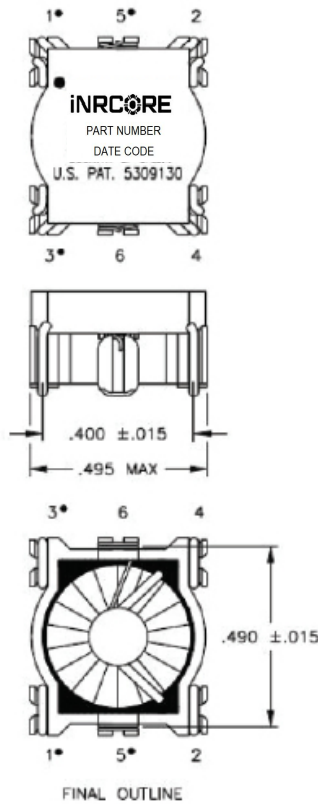
## Electrical Specifications @ 25 °C – Operating Temperature – 40 °C to +130 °C

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

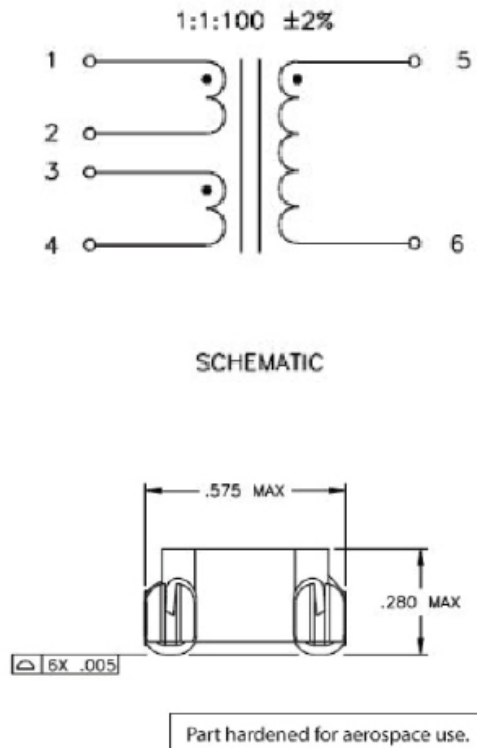
Notes:

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:  $R_t \Omega = V_{REF} * N / (I_{peak\_primary})$ .
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 :  
 $B_{pk} = 14.29 * V_{ref} * (Duty\_Cycle\_Max) * 10^5 / (N * Freq\_kHz)$  for bi-polar current applications divide Bpk as calculated above by 2.
5. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PL1170 becomes **PL1170T**).

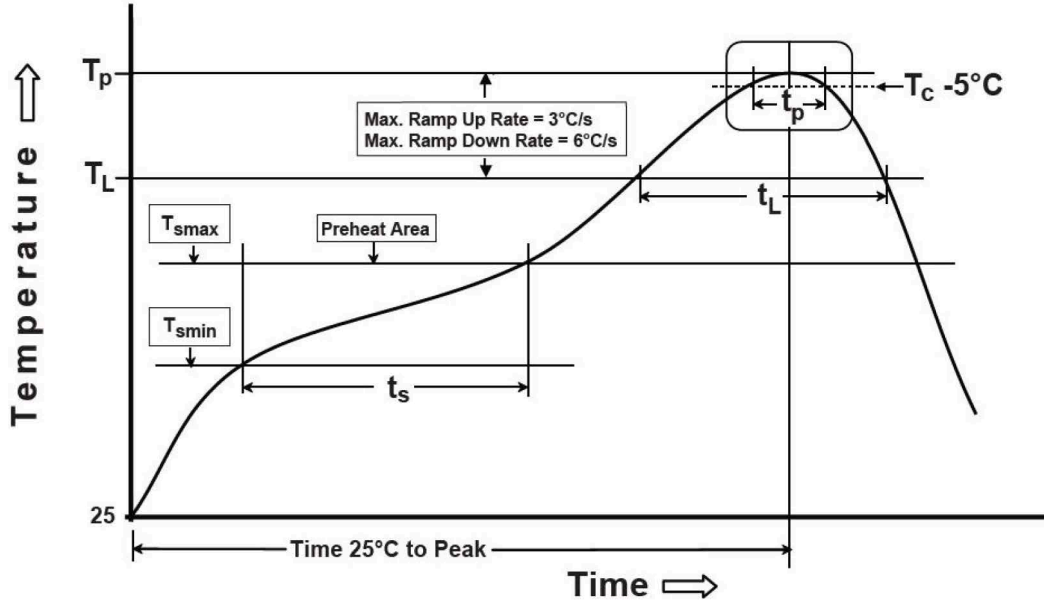
### Mechanical



### Electrical Schematic



## Tin/Lead Recommended Reflow Profile (Based on J-STD-020D)



T <sub>SMIN</sub> (°C)	T <sub>SMAX</sub> (°C)	T <sub>L</sub> (°C)	T <sub>P</sub> (°C MAX)	t <sub>s</sub> (s)	t <sub>L</sub> (s)	t <sub>p</sub> (s MAX)	Ramp-up rate (T <sub>L</sub> to T <sub>P</sub> )	Ramp-down rate (T <sub>P</sub> to T <sub>L</sub> )	Time 25°C to peak temperature (s MAX)
100	150	183	235	60-120	60-150	20	3°C/s MAX	6°C/s MAX	360

Notes:

1. All temperatures measured on the package leads.
2. Maximum times of reflow cycle: 2.

### For More Information

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