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

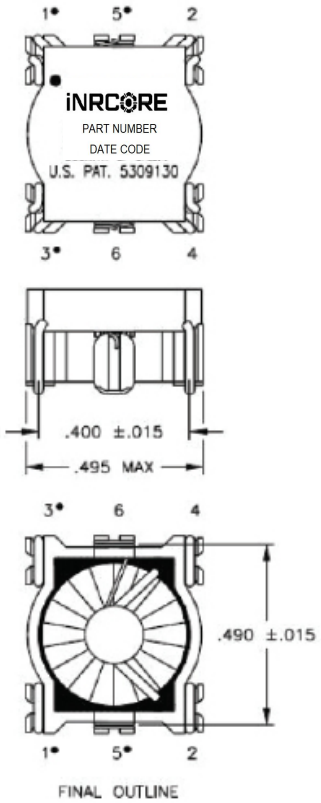
Electrical Specifications @ 25 °C – Operating Temperature – 40 °C to +130 °C

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

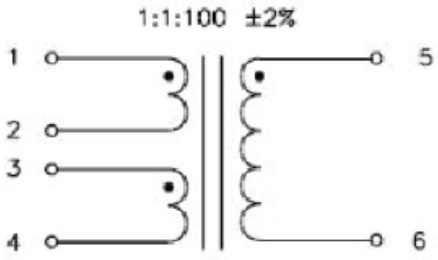
Notes:

1. The temperature of the component (ambient temperature plus the temperature rise) must be within the specified oper-ating 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 = VREF * 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 cur-rent 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 packaging can be ordered by adding a "T" suffix to the part number (i.e. PL1170 becomes **PL1170T**).

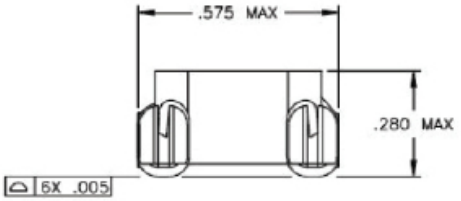
Mechanical



Electrical Schematic

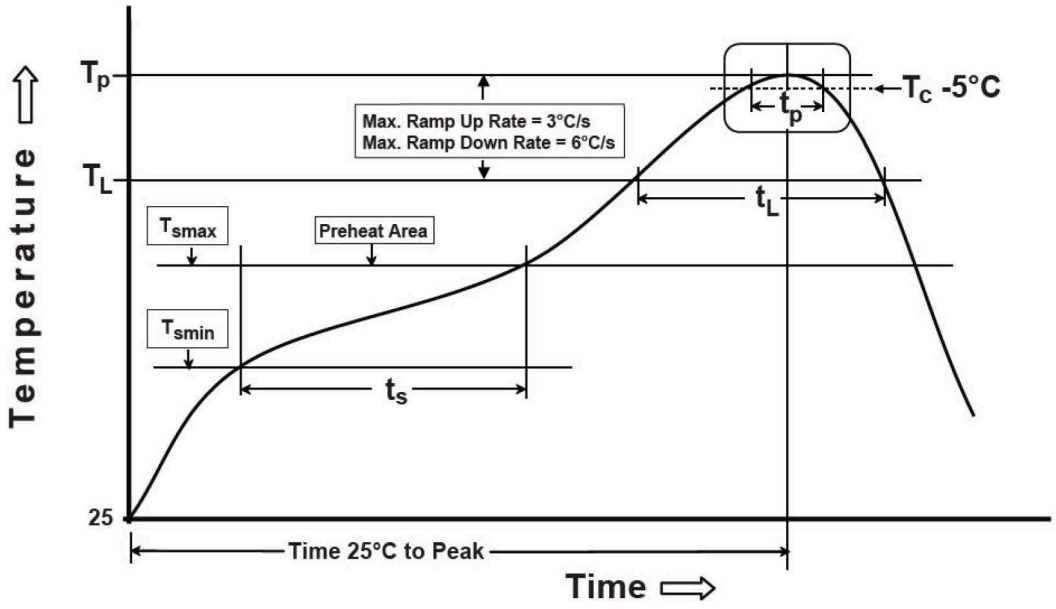


SCHEMATIC



Part hardened for aerospace use.

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



T_{SMIN} (°C)	T_{SMAX} (°C)	T_L (°C)	T_P (°C MAX)	t_S (s)	t_L (s)	t_P (s MAX)	Ramp-up rate (T_L to T_P)	Ramp-down rate (T_P to T_L)	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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