

# SMT CURRENT SENSE TRANSFORMERS

Ruggedized



- ⚙ Height: 10.2mm Max
- ⚙ Footprint: 19.9mm x 14.5mm Max
- ⚙ Current Rating: up to 35A
- ⚙ Frequency Range: 50kHz to 500kHz
- ⚙ Moisture Sensitivity Level: 1

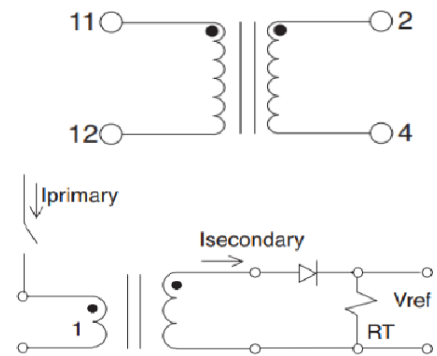
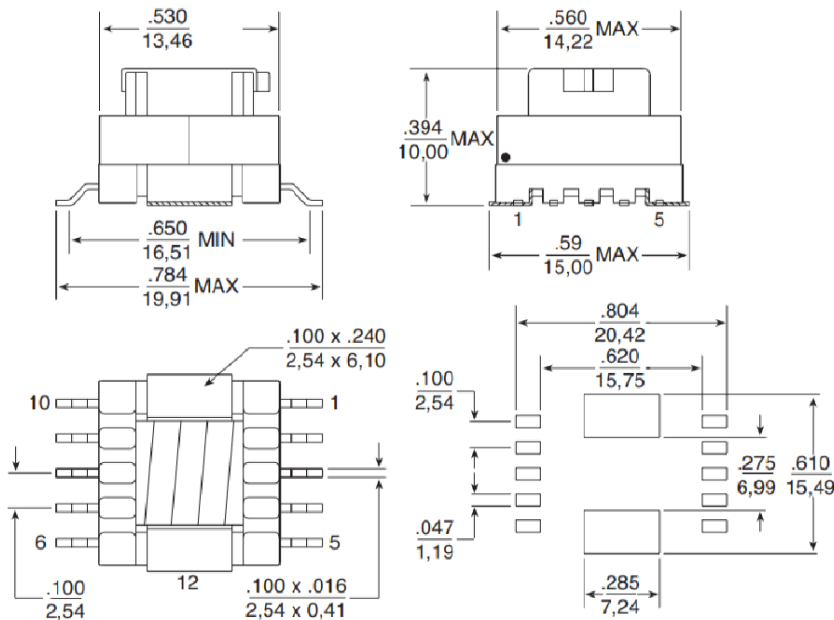
## Electrical Specifications @ 25 °C – Operating Temperature – 55 °C to +125 °C

Part 5,6 Number	Turns Ratio	Secondary Inductance (mH MIN)	DCR (mW MAX)		Hipot (VRMS)
			Primary	(11-12) Secondary (2-4)	
PL1839	50:1	1.4	0.42	700	1800
PL1808	100:1	5.6	0.42	1400	1800
PL1840	200:1	22.4	0.42	2900	1800

- NOTES:
- The temperature of the component (ambient temperature plus temperature rise) must be within the specified operating temperature range.
  - 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 airflow.
  - To calculate the value of the terminating resistor (Rt) use the following formula:  $R_t (W) = V_{REF} * N / (I_{peak\_primary})$
  - 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 following formula:  $BPK = 8.0 * V_{REF} * (Duty\_Cycle\_Max) * 105 / (N * Freq\_kHz)$  \* for bi-polar current applications divide BPK as calculated above by 2.
  - Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PL1839 becomes **PL1839T**).

### Mechanical

### Electrical Schematic



#### APPLICATION CIRCUIT

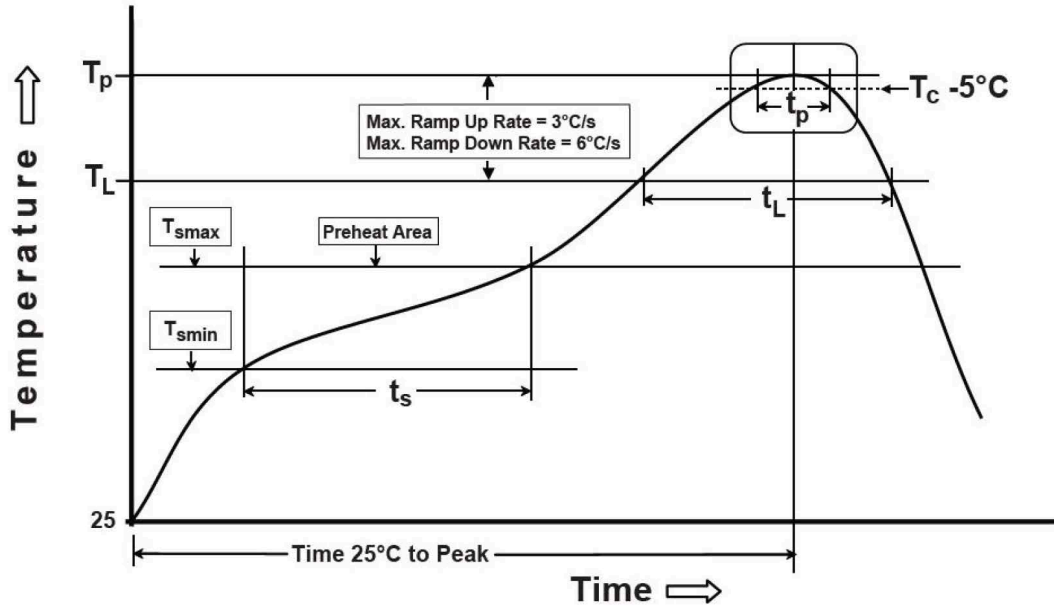
- Weight .....4.7 grams
- Tray .....100/tray
- Tape & Reel .....300/reel
- Coplanarity .....0.006 inches

Dimensions:  $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified, all tolerances are:  $\pm \frac{.010}{0.25}$



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



T <sub>S</sub> MIN (°C)	T <sub>S</sub> MAX (°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**

iNRCORE, LLC  
 311 Sinclair Road Bristol,  
 PA 19007-6812 U.S.A  
 Tel: + 1.215.781.6400  
 Fax: +1.215.7816430

**Global Sales Representatives and Locations:**  
<http://www.inrcore.com>

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