

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

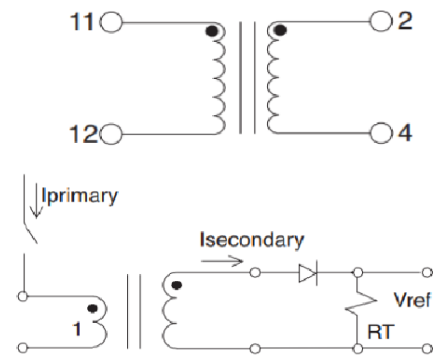
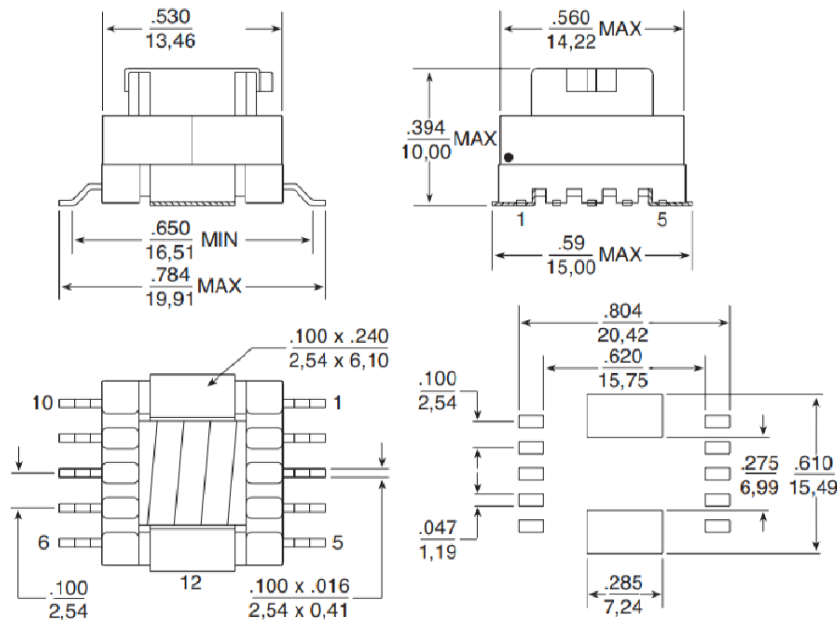
Electrical Specifications @ 25 °C – Operating Temperature – 55 °C to +125 °C

| 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

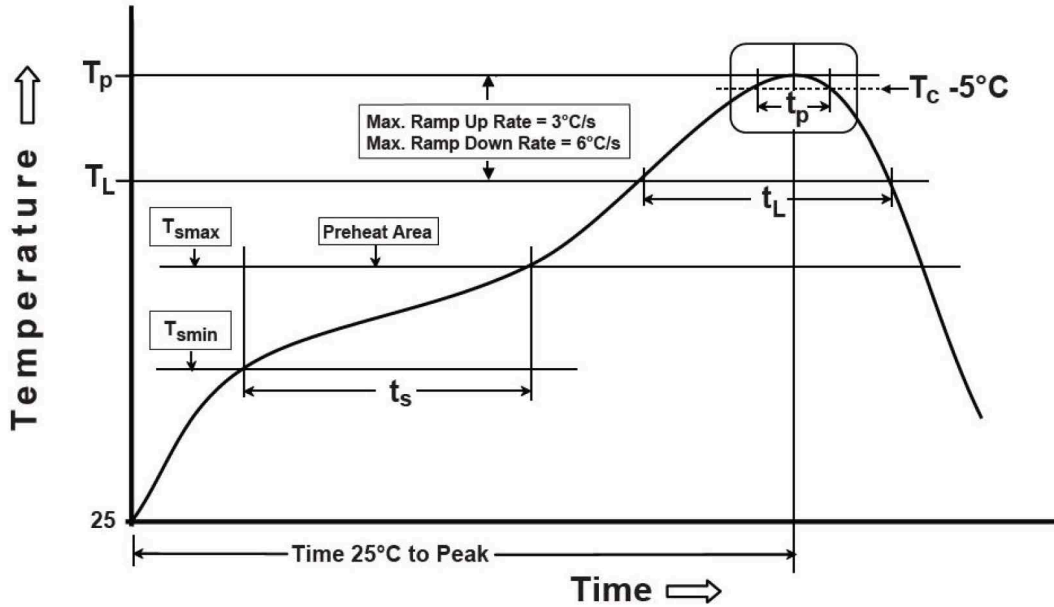
- Weight4.7 grams
- Tray100/tray
- Tape & Reel300/reel
- Coplanarity0.006 inches

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 _S MIN (°C) | T _S MAX (°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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