## 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 @ 25°C – Operating Temperature –40°C to +125°C									
				<b>DCR</b> (m $\Omega$ MAX)					
Part Number	Turns Ratio	Current Rating (A)	Secondary Inductance (mH MIN)	Primary (1, 3-2, 4)	Secondary (5-6)	<b>Hipot</b> (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 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  $\Omega = V_{REF} * N / (Ipeak primary)$ 

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**).

USA 858 674 8100 Germany 49 7032 7806 0 Singapore 65 6287 8998 Shanghai 86 21 62787060 China 86 755 33966678 Taiwan 886 3 4356768

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### **Mechanical Schematic PL1170** 5 2 **-**○ 5 1 0-1T .490 ±.015 100T ± 2% DATE CODE COUNTRY OF ORIGIN 12,45 ±0,38 US PAT 5309130 **○** 6 6 .280 7,11 MAX .005/0,13 $\frac{.575}{14,61}$ MAX $\longrightarrow$ .400 ± .015 6 SURFACES 10,15 ±0,38 $\frac{.495}{12,57}$ MAX $\longrightarrow$ 3° .490 ± .015 $12,45 \pm 0,38$ 5° 2 400 10,16 SUGGESTED PAD LAYOUT

#### For More Information

For More In	formation				
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