

# SMT Current Sense Transformer

PA1005QNL Series



-  **Height:** 5.5mm Max
-  **Footprint:** 8.4mm x 7.2mm Max
-  **Current Rating:** up to 20A
-  **Frequency Range:** 50kHz to 1MHz

## Electrical Specifications @ 25°C — Operating Temperature -40°C to +125°C

Part <sup>5,6</sup> Number	Turns Ratio	Current <sup>2</sup> Rating (A)	Secondary Inductance (mH MIN)	DCR (mΩ Max)		Hipot (V <sub>RMS</sub> )
				Primary (8-7)	Secondary (1-3)	
PA1005.020QNL	1:20	20	0.08	0.75	550	900
PA1005.030QNL	1:30	20	0.18	0.75	870	900
PA1005.040QNL	1:40	20	0.32	0.75	1140	900
PA1005.050QNL	1:50	20	0.50	0.75	1500	900
PA1005.060QNL	1:60	20	0.72	0.75	2250	900
PA1005.070QNL	1:70	20	0.98	0.75	4750	900
PA1005.100QNL	1:100	20	2.00	0.75	5500	900
PA1005.125QNL	1:125	20	3.00	0.75	6500	900

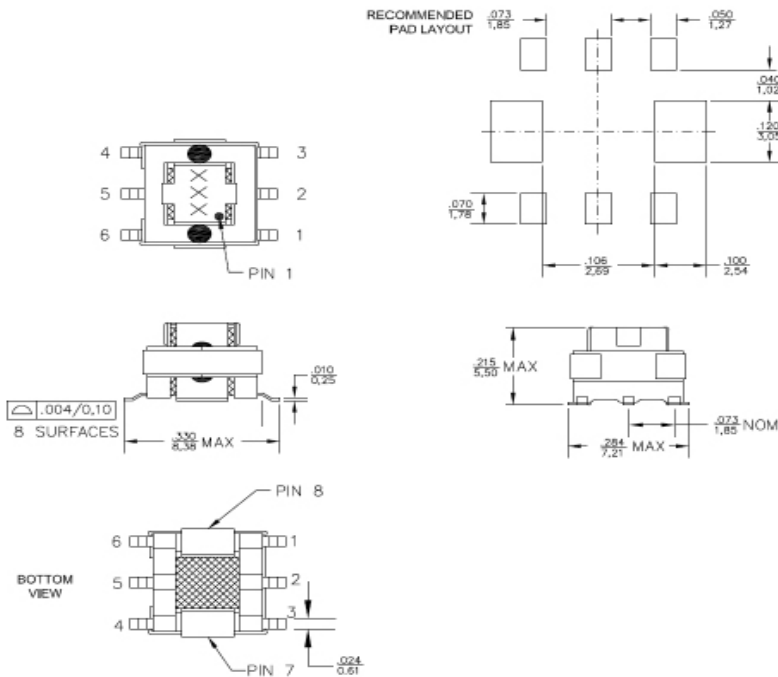
### NOTES:

- The temperature of 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 when both one turn windings connected in parallel.
- To calculate value of terminating resistor (R<sub>t</sub>) use the following formula:  
R<sub>t</sub> (W) = V<sub>REF</sub> \* N / (I<sub>peak\_primary</sub>)
- The peak flux density of the device must remain below 2000 Gauss. To calculate the peak flux density for uni-polar current use following formula:  
B<sub>pk</sub> = 37.59 \* V<sub>REF</sub> \* (Duty\_Cycle\_Max) \* 10<sup>5</sup> / (N \* Freq\_kHz)  
\* for bi-polar current applications divide B<sub>pk</sub> (as calculated above) by 2.
- Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PA1005.020QNL becomes PA1005.020QNLT). Pulse complies to industry standard tape and reel specification EIA481.
- The "NL" suffix indicates an RoHS-compliant part number.

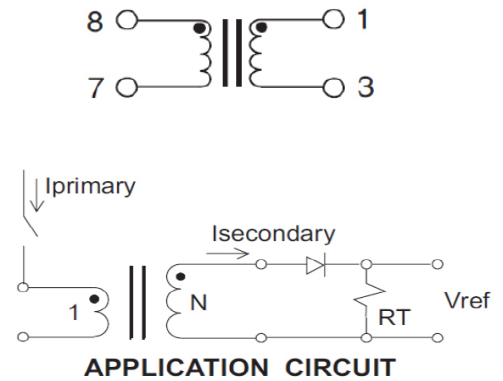
# SMT Current Sense Transformer

PA1005QNL Series

## Mechanical



## Schematic



Weight ..... 0.34 grams  
 Tray ..... .120/tray  
 Tape & Reel ..... 900/reel  
 Coplanarity ..... 0.004 inches

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

## For More Information

### Pulse Worldwide Headquarters

15255 Innovation Drive Ste 100  
 San Diego, CA 92128  
 U.S.A.

### Pulse Europe

Pulse Electronics GmbH  
 Am Rottland 12  
 58540 Meinerzhagen  
 Germany

### Pulse China Headquarters

Pulse Electronics (ShenZhen) CO., LTD  
 D708, Shenzhen Academy of  
 Aerospace Technology,  
 The 10th Keji South Road,  
 Nanshan District, Shenzhen, P.R.  
 China 518057

### Pulse North China

Room 2704/2705  
 Super Ocean Finance Ctr.  
 2067 Yan An Road West  
 Shanghai 200336  
 China

### Pulse South Asia

135 Joo Seng Road  
 #03-02  
 PM Industrial Bldg.  
 Singapore 368363

### Pulse North Asia

1F, No.111  
 Xiyuan Road  
 Zhongli District  
 Taoyuan City 32057  
 Taiwan (R.O.C)

Tel: 858 674 8100  
 Fax: 858 674 8262

Tel: 49 2354 777 100  
 Fax: 49 2354 777 168

Tel: 86 755 33966678  
 Fax: 86 755 33966700

Tel: 86 21 62787060  
 Fax: 86 2162786973

Tel: 65 6287 8998  
 Fax: 65 6280 0080

Tel: 886 3 4356768  
 Fax: 886 3 4356820

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners. © Copyright, 2019. Pulse Electronics, Inc. All rights reserved.