



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 ^{5,6} Number	Turns Ratio	Current ² Rating (A)	Secondary Inductance (mH MIN)	DCR (mΩ Max)		Hipot (V _{RMS})
				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_t) 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 uni-polar current use following formula:

$$B_{pk} = 37.59 * V_{REF} * (Duty_Cycle_Max) * 10^5 / (N * Freq_kHz)$$

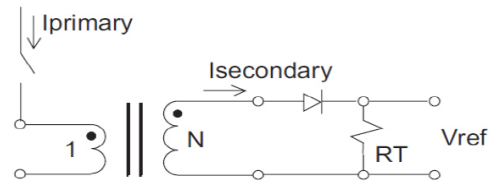
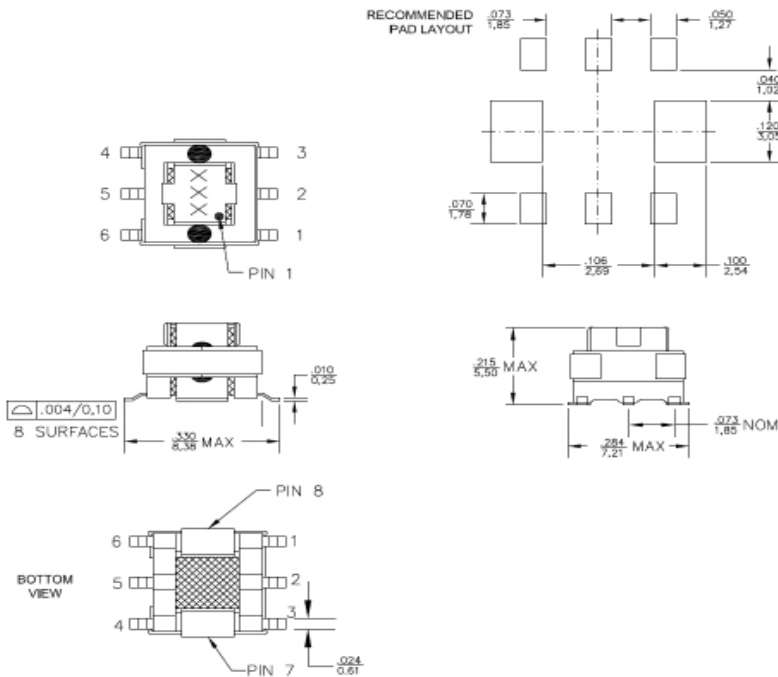
* for bi-polar current applications divide B_{pk} (as calculated above) by 2.
- Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PA1005.020QNL becomes PA1005.020QNLT). Pulse complies to industry standard tape and reel specification EIA481.
- The "NL" suffix indicates an RoHS-compliant part number.

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Mechanical

Schematic



APPLICATION CIRCUIT

Weight 0.34 grams
 Tray120/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

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