

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:

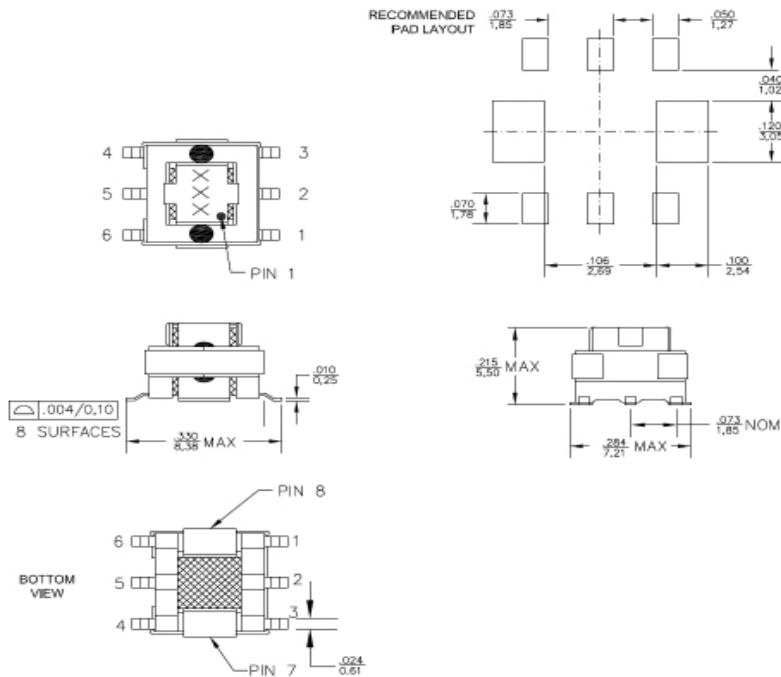
$$B_{pk} = 37.59 * V_{REF} * (Duty_Cycle_Max) * 10^5 / (N * Freq_kHz)$$

* 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.

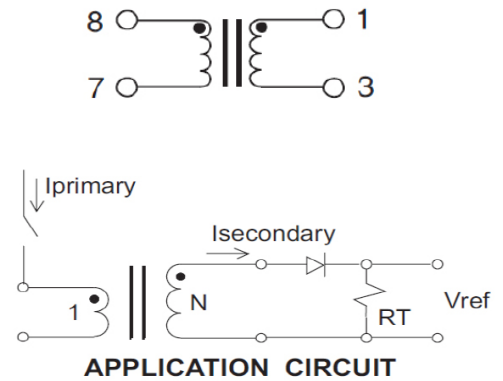
SMT Current Sense Transformer

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 $\pm \frac{.010}{0.25}$

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