# THE DATASHEET OF

# P8208NLT

# SMT Current Sense Transformer

*P820X Series*

- ***Height:*** *5.5mm Max*
- ***Footprint:*** *8.4mm x 7.2mm Max*
- ***Current Rating:*** *up to 10A*
- ***Frequency Range:*** *20kHz to 1MHz*
- *Lower Primary DCR version available: PA1005.XXX series*

**Electrical Specifications @ 25°C – Operating Temperature -40°C to +130°C**

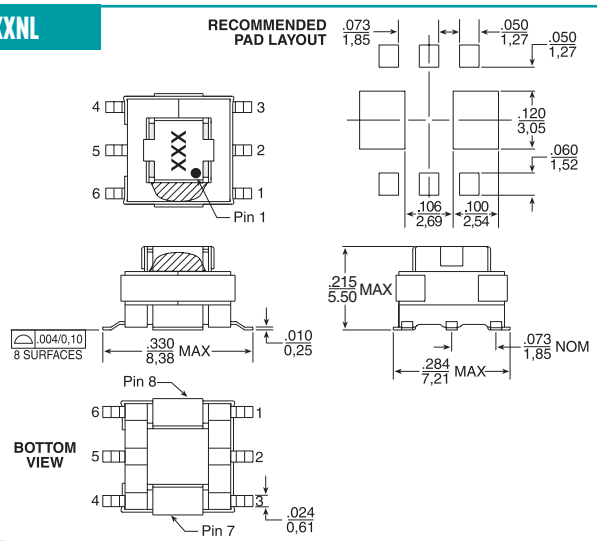
| Part [6,7] Number | Turns Ratio | Current [2] Rating (A) | Secondary Inductance (mH MIN) | DCR (mΩ MAX) | | Hipot ($V_{RMS}$) |
|---|---|---|---|---|---|---|
| | | | | Primary (8-7) | Secondary (1-3) | |
| **P8202NL** | 1:20 | 10 | 0.08 | 6 | 550 | 500 |
| **P8203NL** | 1:30 | 10 | 0.18 | 6 | 870 | 500 |
| **P8204NL** | 1:40 | 10 | 0.32 | 6 | 1140 | 500 |
| **P8205NL** | 1:50 | 10 | 0.50 | 6 | 1500 | 500 |
| **P8206NL** | 1:60 | 10 | 0.72 | 6 | 2250 | 500 |
| **P8207NL** | 1:70 | 10 | 0.98 | 6 | 4700 | 500 |
| **P8208NL** | 1:100 | 10 | 2.00 | 6 | 5500 | 500 |
| **P8209NL** | 1:125 | 10 | 3.00 | 6 | 6500 | 500 |

**Notes:**

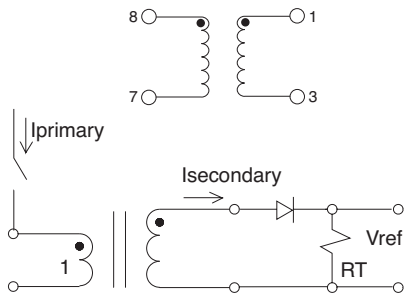
1. The temperature of the component (ambient temperature plus temperature rise) must be within the specified operating temperature range.
2. The maximum current rating is based upon temperature rise of the component and represents the DC current which will cause a typical temperature rise of 40C with no airflow.
3. To calculate the value of the terminating resistor (Rt) use the following formula:
   Rt (Ω) = Vref * N / (Ipeak_primary)
4. 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.
5. Part number **P8222** to **P8229** are reverse polarity versions of **P820X**.
6. Optional Tape & Reel packaging can be ordered by adding a "**T**" suffix to the part number (i.e. P8202NL becomes P8202NL**T**). Pulse complies to industry standard tape and reel specification EIA481.
7. The "**NL**" suffix indicates an RoHS-compliant part number. Non-NL suffixed parts are not necessarily RoHS compliant, but are electrically and mechanically equivalent to NL versions. If a part number does not have the "**NL**" suffix, but an RoHS compliant version is required, please contact Pulse for availability.

## Mechanical

**PXXXXNL**




## Schematic




APPLICATION CIRCUIT

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

**Dimension:** Inches / mm  Unless otherwise specified, all tolerances are ± .010 / 0,25

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