



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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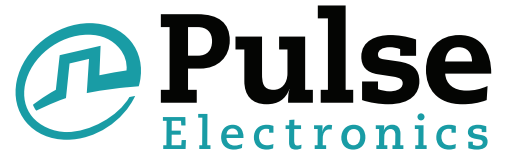
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# SMT CURRENT SENSE TRANSFORMERS

## P820X Series



**Height:** 5.5mm Max

**Footprint:** 8.4mm x 7.2mm Max

**Current Rating:** up to 10A

**Frequency Range:** 50kHz to 1MHz

**Lower Primary DCR version available:** PA1005.XXX series

### Electrical Specifications @ 25°C — Operating Temperature -40°C to +130°C

| Part <sup>6,7</sup><br>Number | Turns<br>Ratio | Current <sup>2</sup><br>Rating<br>(A) | Secondary<br>Inductance<br>(mH MIN) | DCR (mΩ MAX)     |                    | Hipot<br>(V <sub>RMS</sub> ) |
|-------------------------------|----------------|---------------------------------------|-------------------------------------|------------------|--------------------|------------------------------|
|                               |                |                                       |                                     | Primary<br>(8-7) | Secondary<br>(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                | 4750               | 500                          |
| P8208NL                       | 1:100          | 10                                    | 2.00                                | 6                | 5500               | 500                          |
| P8209NL                       | 1:125          | 10                                    | 3.00                                | 6                | 6500               | 500                          |

**NOTES:**

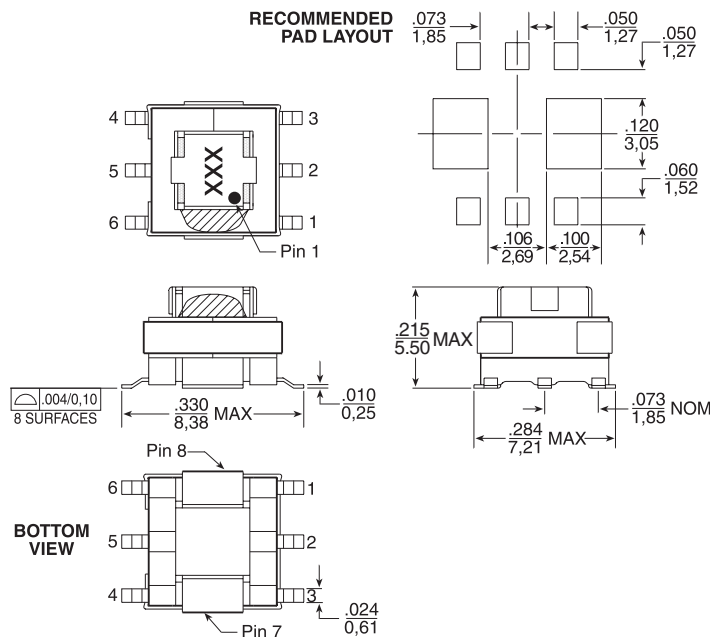
1. The temperature of the component (ambient temperature plus temperature rise) must be within the specified operating temperature range.
2. The maximum current rating is based upon temperature rise of the component and represents the DC current which will cause a typical temperature rise of 40°C with no airflow when both one turn windings connected in parallel.
3. To calculate the value of the terminating resistor (Rt) use the following formula:  $R_t (\Omega) = V_{ref} * N / (I_{peak\_primary})$
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:

$$B_{PK} = 37.59 * V_{REF} * (Duty\_Cycle\_Max) * 10^5 / (N * Freq\_kHz)$$

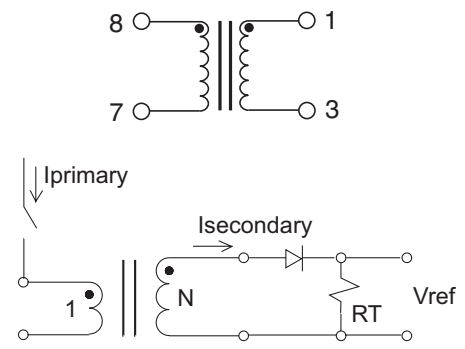
\* for bi-polar current applications divide B<sub>PK</sub> (as calculated above) by 2.

5. Part numbers **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 P8202NLT). 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



### Schematic



### APPLICATION CIRCUIT

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  $\pm \frac{.010}{.025}$