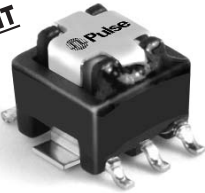


# SMT CURRENT SENSE TRANSFORMERS

## P820X Series



-  **Height:** 5.1mm 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

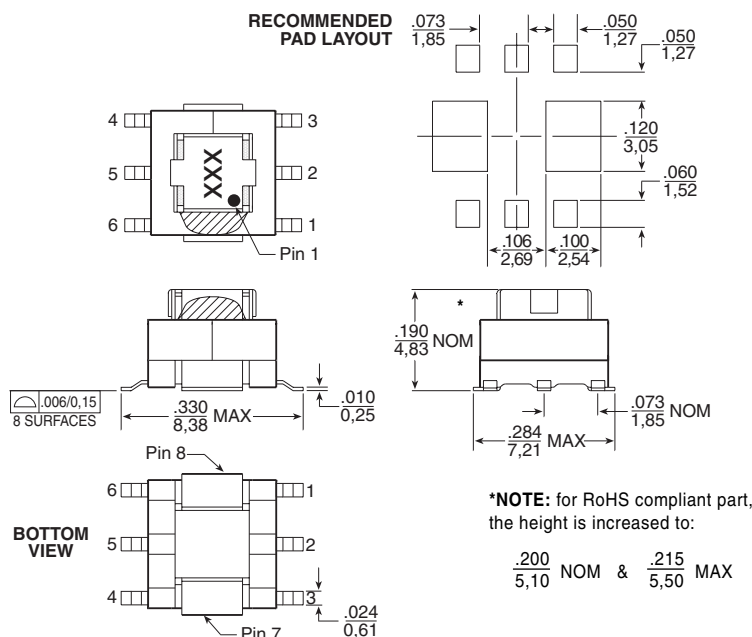
Part <sup>6,7</sup> Number	Turns Ratio	Current Rating (A)	Secondary Inductance (mH MIN)	DCR (mΩ MAX)		Hipot (V <sub>RMS</sub> )
				Primary (8-7)	Secondary (1-3)	
P8202NL	1:20	10	0.08	6	550	500
P8203NL	1:30	10	0.18	6	870	500
P8204NL	1:40	10	0.32	6	1140	500
P8205NL	1:50	10	0.50	6	1500	500
P8206NL	1:60	10	0.72	6	2250	500
P8207NL	1:70	10	0.98	6	4750	500
P8208NL	1:100	10	2.00	6	5500	500
P8209 <sup>7</sup>	1:125	10	3.00	6	6500	500

#### NOTES:

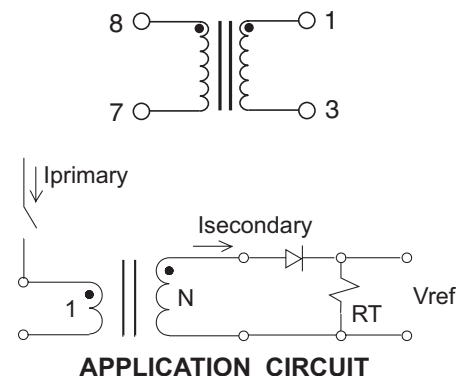
- The temperature of the component (ambient temperature plus temperature rise) must be within the specified operating temperature range.
- The maximum current rating is based upon temperature rise of the component and represents the DC current which will cause a typical temperature rise of 40°C with no airflow when both one turn windings connected in parallel.
- To calculate the value of the terminating resistor (R<sub>t</sub>) use the following formula:  $R_t (\Omega) = V_{ref} * N / (I_{peak\_primary})$
- 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<sub>PK</sub> (as calculated above) by 2.
- Part numbers **P8222** to **P8229** are reverse polarity versions of **P820X**.
- Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. P8202 becomes P8202T). Pulse complies to industry standard tape and reel specification EIA481.
- 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



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