

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 ^{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)	
P8202	1:20	10	0.08	6	550	500
P8203	1:30	10	0.18	6	870	500
P8204	1:40	10	0.32	6	1140	500
P8205	1:50	10	0.50	6	1500	500
P8206	1:60	10	0.72	6	2250	500
P8207	1:70	10	0.98	6	4750	500
P8208	1:100	10	2.00	6	5500	500
P8209⁷	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_t) 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:

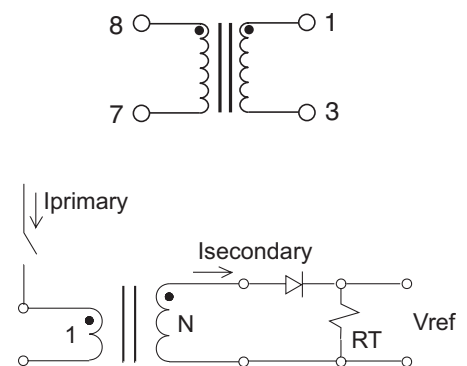
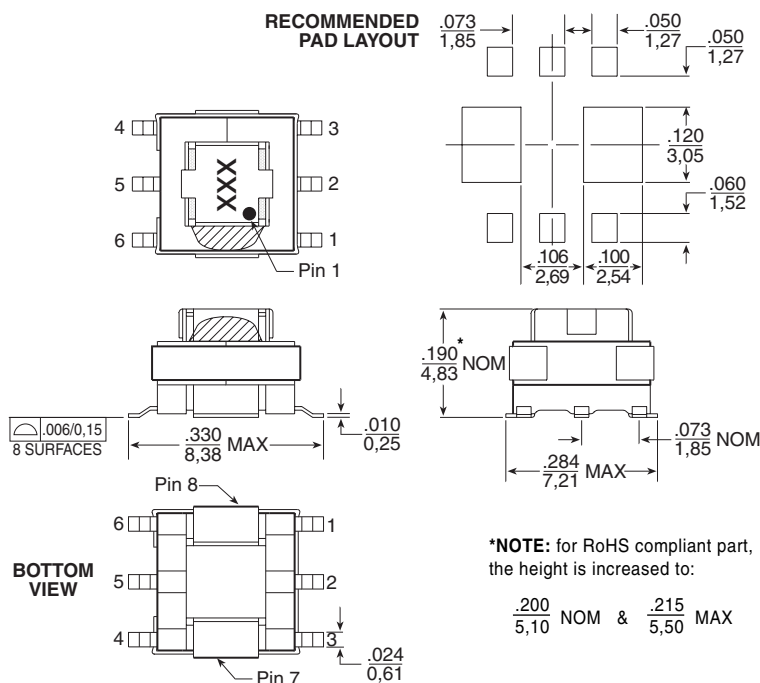
$$B_{PK} = 37.59 * V_{REF} * (Duty_Cycle_Max) * 10^5 / (N * Freq_kHz)$$

* for bi-polar current applications divide B_{PK} (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.
- To order RoHS compliant part, add the suffix "**NL**" to the part number (i.e. P8202 becomes P8202**NL** and P8202T becomes P8202**NLT**). Please note that the P8209 part is not available in an RoHS compliant version.

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 $\pm \frac{.010}{0,25}$