






# SMT Current Sense Transformers

PA1005.XXXNL and PM2165.XXXNL



-  **Height:** 5.5mm Max
-  **Footprint:** 8.4mm x 7.2mm Max
-  **Current Rating:** up to 20A
-  **Frequency Range:** 20kHz to 1MHz
-  **Low Primary DCR version of P820X**

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

Part Number		Turns Ratio	Current Rating <sup>2</sup> (A)	Secondary Inductance (mH MIN)	DCR (mΩ MAX)		Hipot (V <sub>RMS</sub> )
Commerical	Automotive <sup>7</sup>				Primary (8-7)	Secondary (1-3)	
PA1005.020NL	PM2165.020NL	1:20	20	0.08	0.75	550	1000
PA1005.030NL	PM2165.030NL	1:30	20	0.18	0.75	870	1000
PA1005.040NL	PM2165.040NL	1:40	20	0.32	0.75	1140	1000
PA1005.050NL	PM2165.050NL	1:50	20	0.5	0.75	1500	1000
PA1005.060NL	PM2165.060NL	1:60	20	0.72	0.75	2250	1000
PA1005.070NL	PM2165.070NL	1:70	20	0.98	0.75	4750	1000
PA1005.100NL	PM2165.100NL	1:100	20	2.00	0.75	5500	1000
PA1005.125NL	PM2165.125NL	1:125	20	3.00	0.75	6500	500

### 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.
- To calculate value of terminating resistor (Rt) use the following formula:  

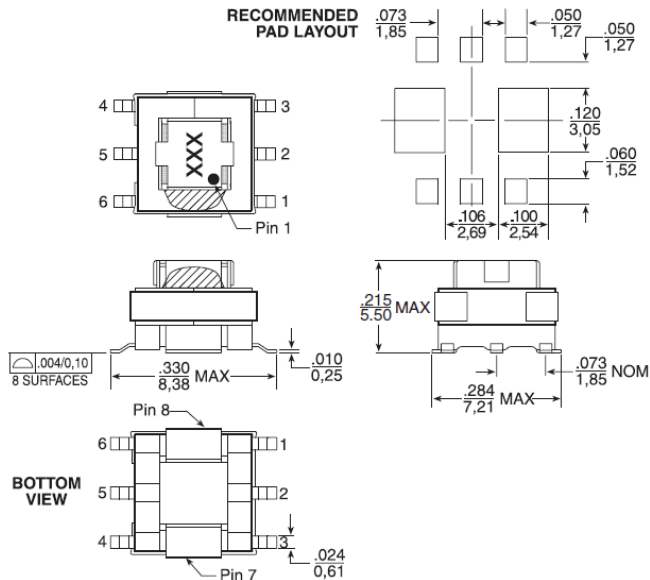
$$R_t (W) = V_{ref} * N / (I_{peak\_primary})$$
- The peak flux density of the device must remain below 2000 Gauss. To calculate the peak flux density for uni-polar current use following formula:  

$$B_{pk} = 37.59 * V_{ref} * (Duty\_Cycle\_Max) * 10^5 / (N * Freq\_kHz)$$
 \* for bi-polar current applications divide Bpk (as calculated above) by 2.
- Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PA1005.020NL becomes PA1005.020NLT). 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.
- The PM2165.XXXNL part numbers are AEC-Q200 and IATF16949 certified. The mechanical dimensions are 100% tested in production but do not necessarily meet a product capability index (Cpk) >1.33 and therefore may not strictly conform to PPAP.

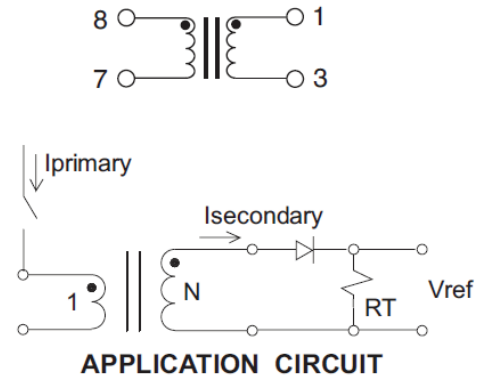
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## Mechanical

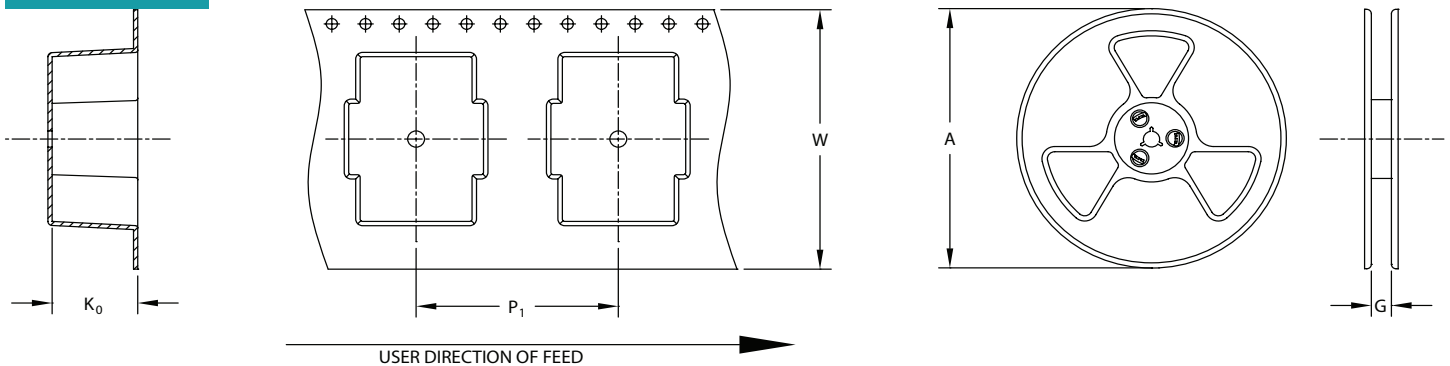


## Schematic



Weight .....0.34grams    **Dimensions:** Inches  
 Tape & Reel .....900/reel    Unless otherwise specified,    mm  
 Tray .....120/tray    all tolerances are: ± <sup>0.10</sup>/<sub>0.25</sub>

## TAPE & REEL INFO



### SURFACE MOUNTING TYPE, REEL/TAPE LIST

PART NUMBER	REEL SIZE (mm)		TAPE SIZE (mm)			QTY
	A	G	P <sub>1</sub>	W	K <sub>0</sub>	PCS/REEL
PA1005.XXXNL/PM2165.XXXNL	Ø330	16.4	12	16	5.65	900

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