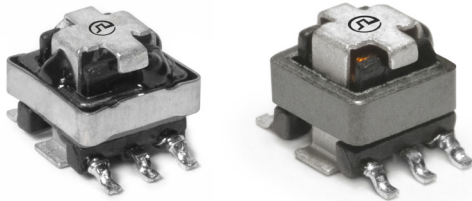


SMT Current Sense Transformers

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 ² (A) | Secondary Inductance (mH MIN) | DCR (mΩ MAX) | | Hipot (V _{RMS}) |
|--------------|-------------------------|-------------|------------------------------------|----------------------------------|------------------|--------------------|------------------------------|
| Commerical | Automotive ⁷ | | | | 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:

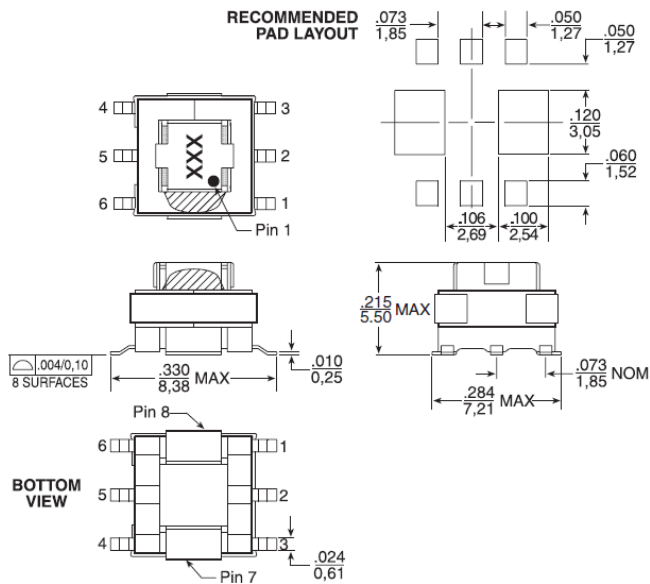
$$R_t (W) = V_{ref} * N / (I_{peak_primary})$$
- The peak flux density of the device must remain below 2000 Gauss. To calculate the peak flux density for uni-polar current use following formula:

$$B_{pk} = 37.59 * V_{ref} * (Duty_Cycle_Max) * 10^5 / (N * Freq_kHz)$$
 * 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.

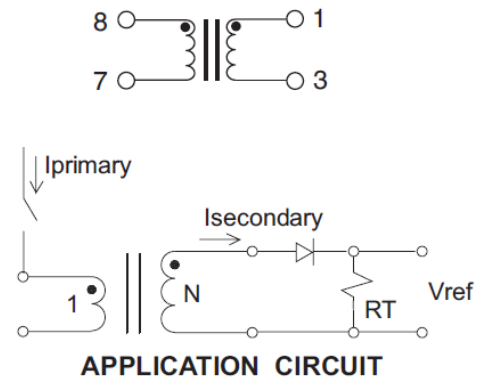
SMT Current Sense Transformers

PA1005.XXXNL and PM2165.XXXNL

Mechanical

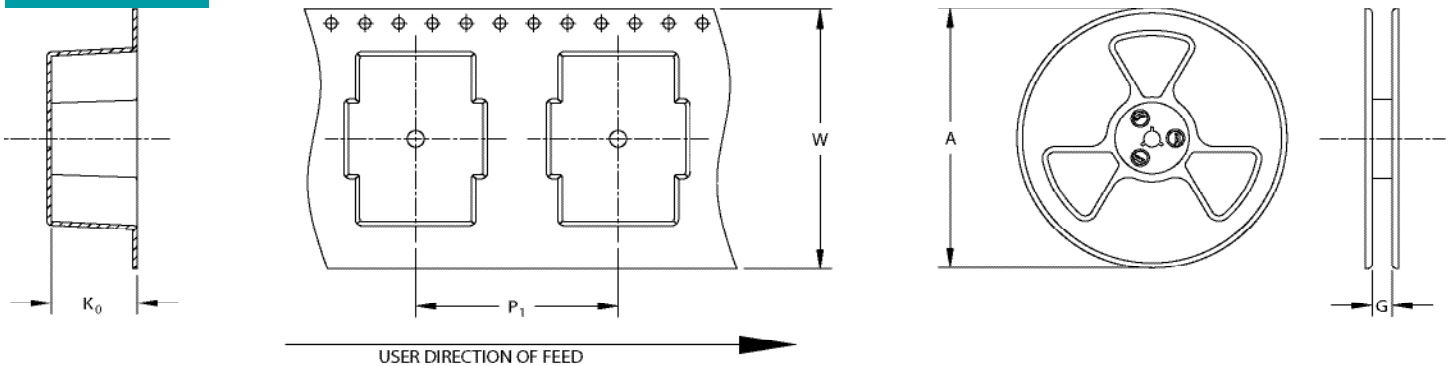


Schematic



Weight0.34grams **Dimensions:** Inches
 Tape & Reel900/reel Unless otherwise specified, mm
 Tray120/tray all tolerances are: ± ^{.010}/_{0.25}

TAPE & REEL INFO



| PART NUMBER | SURFACE MOUNTING TYPE, REEL/TAPE LIST | | | | | QTY PCS/REEL |
|---------------------------|---------------------------------------|------|----------------|----|----------------|-----------------|
| | REEL SIZE (mm) | | TAPE SIZE (mm) | | | |
| | A | G | P ₁ | W | K ₀ | |
| PA1005.XXXNL/PM2165.XXXNL | Ø330 | 16.4 | 12 | 16 | 5.65 | 900 |