### SMT Current Sense Transformer

**PA1005QNL Series**

- **Height:** 5.5mm Max
- **Footprint:** 8.4mm x 7.2mm Max
- **Current Rating:** up to 20A
- **Frequency Range:** 20kHz to 1MHz

### Electrical Specifications @ 25°C — Operating Temperature -40°C to +125°C

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Turns Ratio</th>
<th>Current Rating (A)</th>
<th>Secondary Inductance (mH MIN)</th>
<th>DCR (mΩ Max)</th>
<th>Hipot (V RMS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Primary (8-7)</td>
<td>Secondary (1-3)</td>
</tr>
<tr>
<td>PA1005.020QNL</td>
<td>1:20</td>
<td>20</td>
<td>0.08</td>
<td>0.75</td>
<td>550</td>
</tr>
<tr>
<td>PA1005.030QNL</td>
<td>1:30</td>
<td>20</td>
<td>0.18</td>
<td>0.75</td>
<td>870</td>
</tr>
<tr>
<td>PA1005.040QNL</td>
<td>1:40</td>
<td>20</td>
<td>0.32</td>
<td>0.75</td>
<td>1140</td>
</tr>
<tr>
<td>PA1005.050QNL</td>
<td>1:50</td>
<td>20</td>
<td>0.50</td>
<td>0.75</td>
<td>1500</td>
</tr>
<tr>
<td>PA1005.060QNL</td>
<td>1:60</td>
<td>20</td>
<td>0.72</td>
<td>0.75</td>
<td>2250</td>
</tr>
<tr>
<td>PA1005.070QNL</td>
<td>1:70</td>
<td>20</td>
<td>0.98</td>
<td>0.75</td>
<td>4750</td>
</tr>
<tr>
<td>PA1005.100QNL</td>
<td>1:100</td>
<td>20</td>
<td>2.00</td>
<td>0.75</td>
<td>5500</td>
</tr>
<tr>
<td>PA1005.125QNL</td>
<td>1:125</td>
<td>20</td>
<td>3.00</td>
<td>0.75</td>
<td>6500</td>
</tr>
</tbody>
</table>

### Notes:

1. The temperature of 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.
3. To calculate the value of terminating resistor (Rt) use the following formula:
   
   \[ Rt (\Omega) = \frac{V_{ref} \times N}{I_{\text{peak primary}}} \]

4. The peak flux density of the device must remain below 2000 Gauss. To calculate the peak flux density for uni-polar current use the following formula:
   
   \[ B_{pk} = 37.59 \times V_{ref} \times \text{Duty Cycle Max} \times 10^5 / (N \times \text{Freq kHz}) \]

   * for bi-polar current applications divide Bpk (as calculated above) by 2.
5. Optional Tape & Reel packaging can be ordered by adding a “T” suffix to the part number (i.e., PA1005.020QNL becomes PA1005.020QNL T). Pulse complies to industry standard tape and reel specification EIA481.
6. The “NL” suffix indicates an RoHS-compliant part number.
SMT Current Sense Transformer

PA1005QNL Series

**Mechanical**

**Schematic**

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