SMT Current Sense Transformers

ER11 PAS/PMS6322.XXXNLT SERIES

- **Current Rating:** up to 50A
- **Footprint:** 12.8mm x 20.5mm x 7.5mm Max
- **Frequency Range:** 20kHz to 1MHz
- **Insulation:** Reinforced, 10mm creepage and clearance
- **Hipot Isolation:** 5000 Vdc, 6 sec
- **Voltage Rating:** Up to 1000 Vpk

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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Commerical</th>
<th>Automotive</th>
<th>Turns Ratio</th>
<th>Current Rating</th>
<th>Secondary Inductance (mH MIN)</th>
<th>DCR (mΩ MAX)</th>
<th>Hipot (Vdc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAS6322.030NLT</td>
<td>PAS6322.030NLT</td>
<td>1:30</td>
<td>50</td>
<td>0.30</td>
<td>0.5</td>
<td>240</td>
<td>5000</td>
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<tr>
<td>PAS6322.050NLT</td>
<td>PAS6322.050NLT</td>
<td>1:50</td>
<td>1.1</td>
<td>0.5</td>
<td>600</td>
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<tr>
<td>PAS6322.100NLT</td>
<td>PAS6322.100NLT</td>
<td>1:100</td>
<td>4.5</td>
<td>0.5</td>
<td>2600</td>
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<td>4200</td>
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<tr>
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<td>1:150</td>
<td>10</td>
<td>0.5</td>
<td>6000</td>
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<tr>
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<td>12000</td>
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</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 value of terminating resistor (Rt) use the following formula:
   
   \[ Rt \ (W) = \frac{V_{ref} \times N}{I_{peak\_primary}} \]

4. The peak flux density of the device must remain below 2000 Gauss. To calculate the peak flux density for uni-polar current use following formula:
   
   \[ B_{pk} = 18.2 \times V_{ref} \times (Duty\_Cycle\_Max) \times 10^5 / (N \times Freq\_kHz) \]

   * 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. PAS6322.XXXNL becomes PAS6322.XXXNLT). Pulse complies to industry standard tape and reel specification EIA481.

6. Creepage & Clearance is in accordance with IEC 61558-1 for reinforced insulation to a working voltage of 300Vrms (for basic insulation to a working voltage of 1000Vrms) based on material group III, pollution degree 2, OVC II and 5000M altitude.

7. Rated voltage is based on a positive partial discharge test (discharge < 10pC) during the design phase (not production tested), in accordance with IEC 60664 for basic insulation. In an application which requires a reinforced insulation barrier, a rated voltage of the equivalent peak voltage of the 300Vrms (sinusoidal) working voltage, 424Vpk, is defined and confirmed by partial discharge testing.
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For More Information:
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