

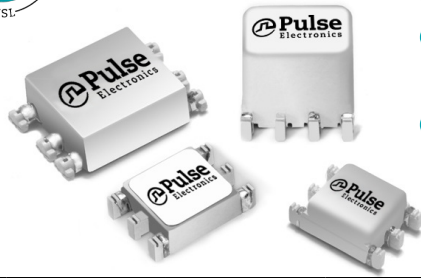


**THE DATASHEET OF  
PA2007NL**



# High Isolation Power Transformers

PA200xNL Basic and Operational Insulation



- 1500Vrms isolation (380Vrms continuous)
- Basic insulation (1.4mm creepage/clearance) and operational available
- Operating frequency: 50kHz and up

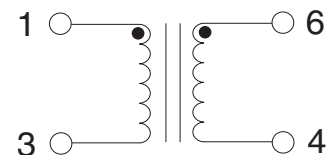
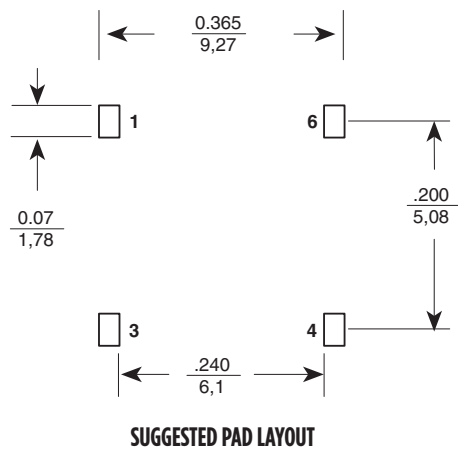
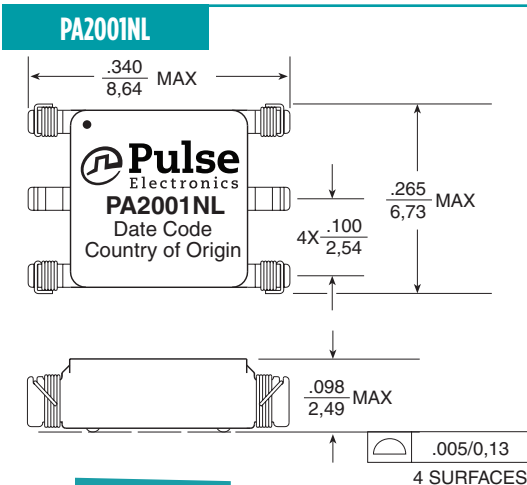
## Electrical Specifications @ 25°C - Operating Temperature -40°C to 130°C<sup>5</sup>

| Part <sup>3,4</sup> Number   | Turns Ratio | Pri-Sec Isolation (VRMS) | MAX <sup>1</sup> V* $\mu$ sec | Primary Inductance ( $\mu$ H MIN) | Leakage <sup>2</sup> Inductance ( $\mu$ H MAX) | DCR Primary ( $\Omega$ MAX) | DCR Secondary ( $\Omega$ MAX) | Package Size (L x W x H) (mm MAX) |
|--|-------------|--------------------------|-------------------------------|-----------------------------------|--|-----------------------------|-------------------------------|-----------------------------------|
| <b>OPERATIONAL INSULATION</b>  |             |                          |                               |                                   |  |                             |                               |                                   |
| PA2001NL   | 1:1         | 1500                     | 12                            | 403                               | 0.46   | 0.60                        | 0.60                          | 8.6 x 6.7 x 2.5                   |
| PA2002NL   | 1:1:1       | 1500                     | 60                            | 1800                              | 0.60   | 1.60                        | 1.60                          | 9.0 x 8.6 x 7.6                   |
| PA2004NL   | 1:1:1       | 1500                     | 20                            | 437                               | 0.85   | 0.85                        | 0.85                          | 8.6 x 6.7 x 3.6                   |
| <b>BASIC INSULATION (1.4MM CREEPAGE AND CLEARANCE BETWEEN PRIMARY AND SECONDARY)</b> |             |                          |                               |                                   |  |                             |                               |                                   |
| PA2005NL   | 1:1:1       | 1500                     | 26                            | 840                               | 0.75   | 1.05                        | 1.05                          | 11.8 x 8.8 x 4.0                  |
| PA2006NL   | 1:1         | 1500                     | 26                            | 864                               | 0.75   | 0.82                        | 0.82                          | 11.8 x 8.8 x 4.0                  |
| PA2007NL   | 1:1         | 1500                     | 53                            | 1490                              | 0.80   | 1.15                        | 1.15                          | 9.0 x 8.6 x 7.6                   |
| PA2008NL   | 2:1:1       | 1500                     | 52                            | 1425                              | 0.80   | 1.15                        | 0.575                         | 9.0 x 8.6 x 7.6                   |
| PA2009NL   | 2.5:1:1     | 1500                     | 47                            | 1486                              | 0.80   | 1.15                        | 0.425                         | 9.0 x 8.6 x 7.6                   |

- Notes:**
- The maximum volt- $\mu$ sec limits the peak flux density to 2800 Gauss when used in a unipolar drive application. For bi-polar drive applications, a maximum volt- $\mu$ sec of two times this rating is acceptable (i.e.  $2 * (\text{volt} * \mu\text{sec rating})$ ).  $\text{Volt} * \mu\text{sec} = (\text{voltage applied to the primary}) * \text{duty cycle} / \text{Frequency} = V * \alpha / \text{Freq\_Hz} = V * \mu\text{sec}$
  - Leakage inductance is measured at primary terminals with all secondaries shorted.
  - Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. PA2002NL becomes PA2002NLT). Pulse complies to industry standard tape and reel specification EIA481.
  - The "NL" suffix indicates an RoHS-compliant part number.
  - The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.
  - Continuous isolation voltage confirmed by 125°C/1000hrs accelerated aging with the bias voltage applied between primary and secondary windings.

## Mechanical

## Schematic



Weight .....0.28 grams  
 Tape & Reel .....1500/reel  
 Tube .....60/tube

Dimensions:  $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified, all tolerances are  $\pm .010 / 0,25$

# High Isolation Power Transformers

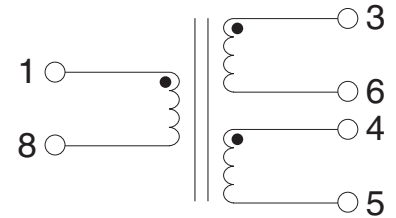
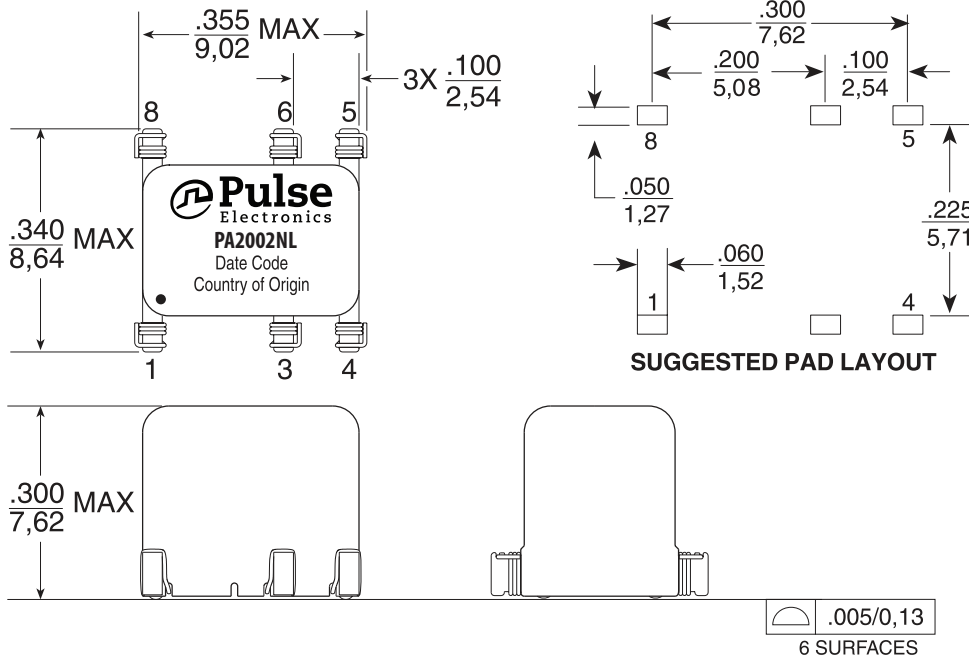
PA200xNL Basic and Operational Insulation



## Mechanicals (CONTINUED)

## Schematics

### PA2002NL



Weight .....0.60 grams  
 Tape & Reel .....400/reel  
 Tube .....50/tube

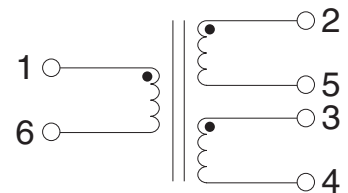
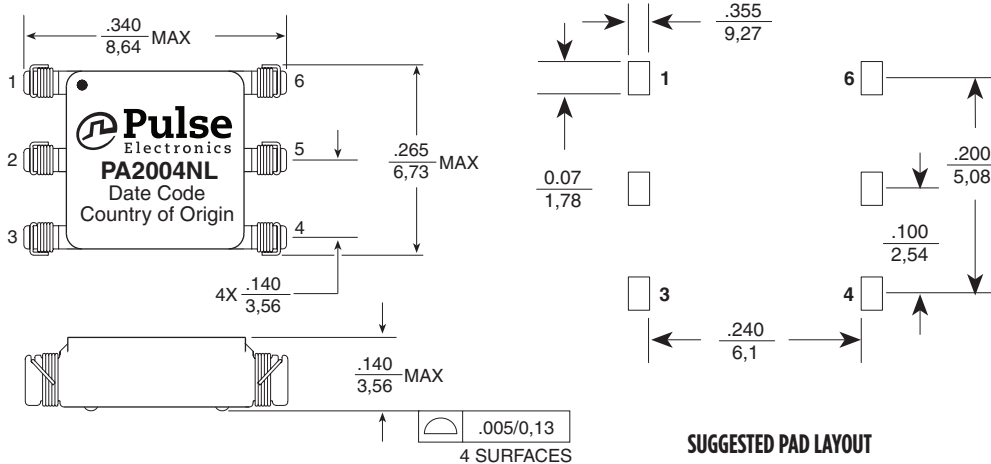
Dimensions:  $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified,  
 all tolerances are  $\pm \frac{.010}{0,25}$

## Mechanicals

## Schematics

### PA2004NL



Weight .....0.23 grams  
 Tape & Reel .....800/reel  
 Tube .....75/tube

Dimensions:  $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified,  
 all tolerances are  $\pm \frac{.010}{0,25}$

# High Isolation Power Transformers

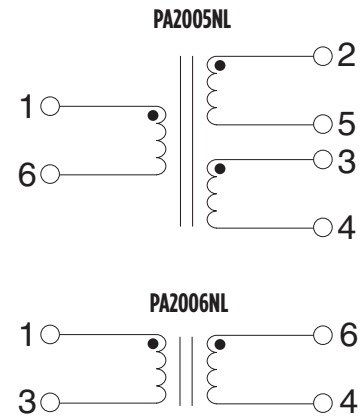
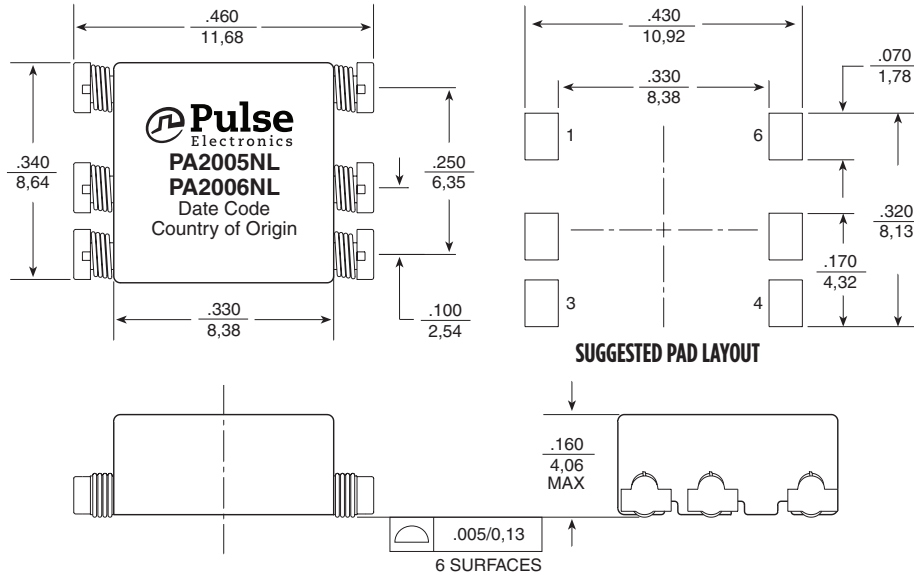
PA200xNL Basic and Operational Insulation



## Mechanical (CONTINUED)

## Schematic

PA2005NL, PA2006NL



Weight .....0.48 grams  
Tape & Reel .....900/reel  
Tube .....60/tube

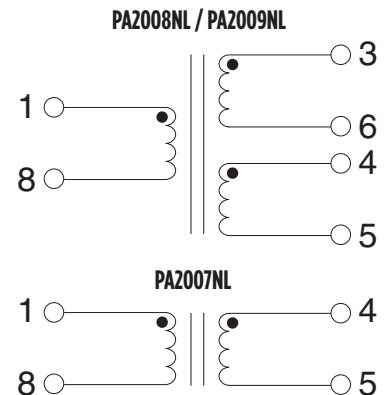
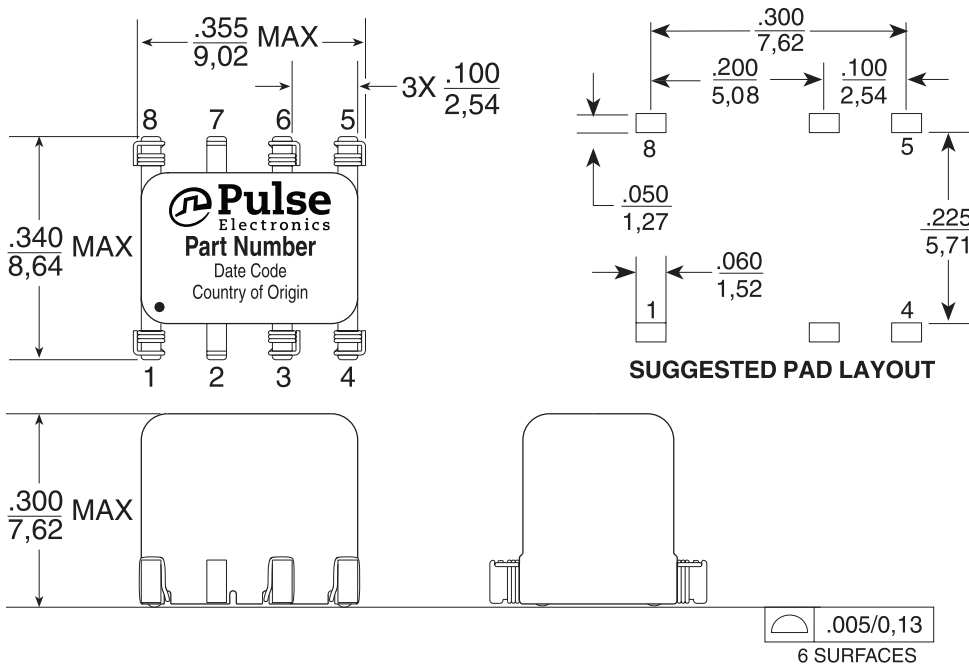
Dimensions:  $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified,  
all tolerances are  $\pm \frac{.010}{0,25}$

## Mechanicals

## Schematics

PA2007NL, PA2008NL, PA2009NL



Weight .....0.60 grams  
Tape & Reel .....400/reel  
Tube .....50/tube

Dimensions:  $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified,  
all tolerances are  $\pm \frac{.010}{0,25}$

\* for PA2007NL the pads for pins 3 and 6 in the suggested pad layout should not be used in the layout

# High Isolation Power Transformers

PA200xNL Basic and Operational Insulation



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