

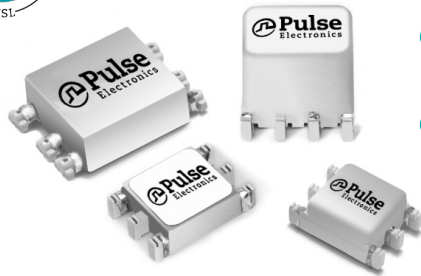


**THE DATASHEET OF  
PA2004NL**



# 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\* (volt\* $\mu$ sec rating) Volt\* $\mu$ sec = (voltage applied to the primary) \* dutycycle / Frequency = V \* alpha / Freq\_Hz = V \*  $\mu$ 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

**PA2001NL**

**SUGGESTED PAD LAYOUT**

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

**Dimensions:** Inches / mm

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

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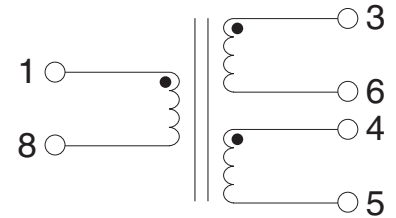
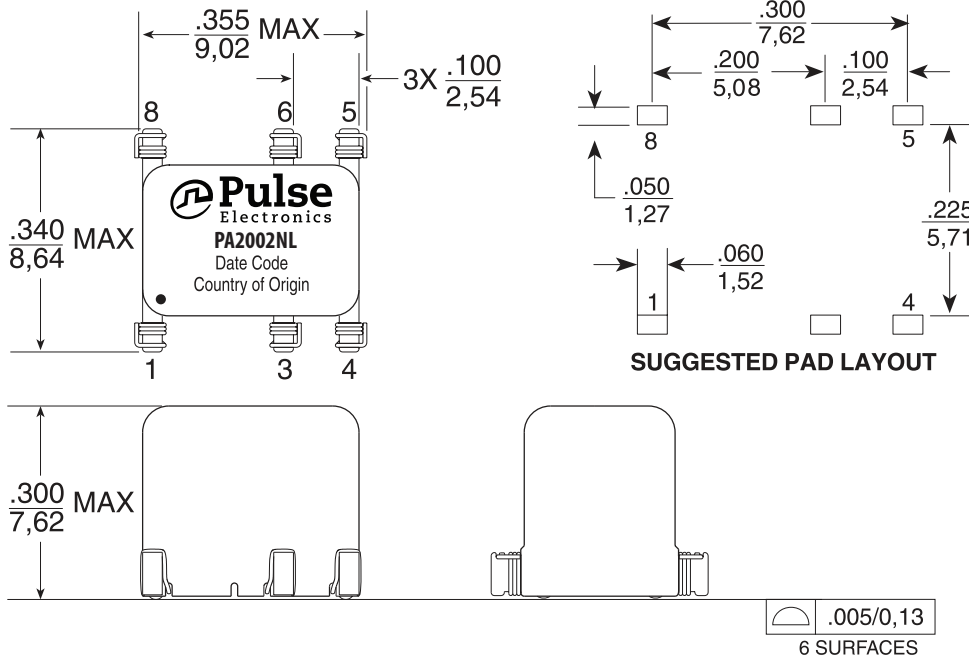
PA200xNL Basic and Operational Insulation



## Mechanicals (CONTINUED)

## Schematics

### PA2002NL



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

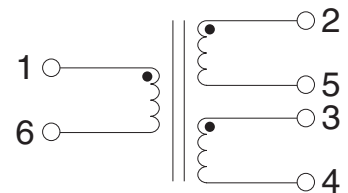
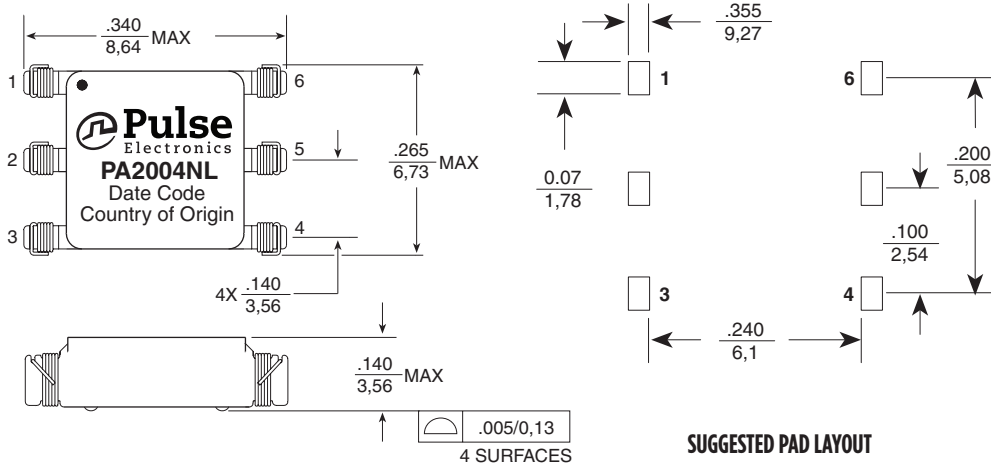
Dimensions:  $\frac{\text{Inches}}{\text{mm}}$

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

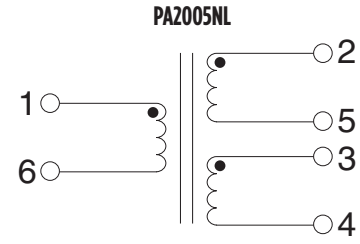
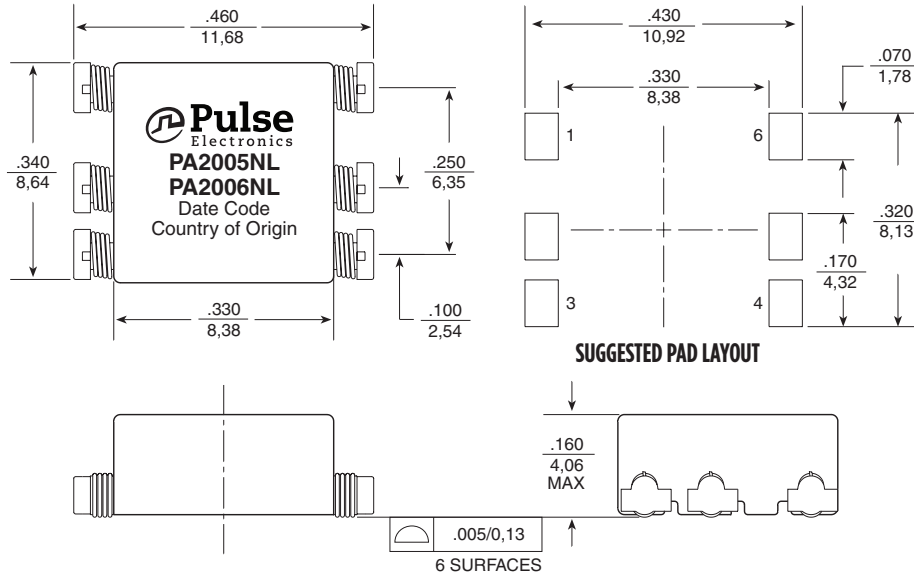
PA200xNL Basic and Operational Insulation



## Mechanical (CONTINUED)

## Schematic

### PA2005NL, PA2006NL



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

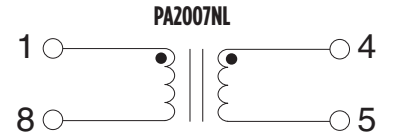
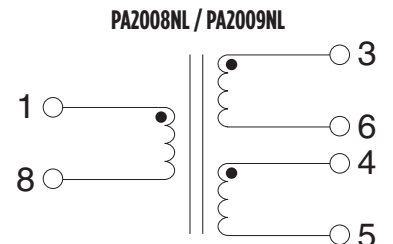
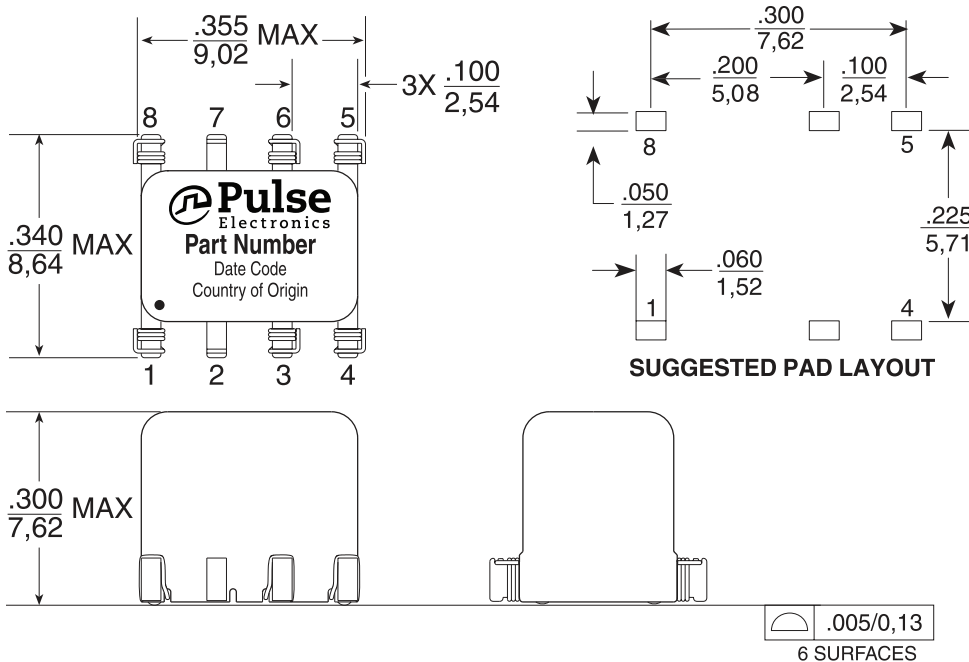
Dimensions:  $\frac{\text{Inches}}{\text{mm}}$

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

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PA200xNL Basic and Operational Insulation



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