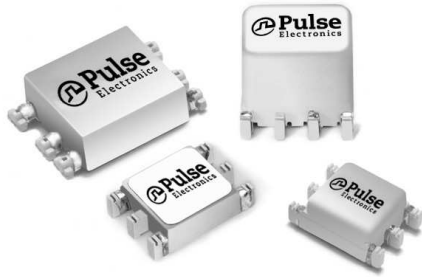


# SMT Gate Drive Transformers

PA200xNL Basic and Operational Insulation



- Higher Volt- $\mu$ sec capability
- 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>1,2</sup> Number	Turns Ratio	Pri-Sec Insulation (VRMS)	MAX <sup>1</sup> V* $\mu$ sec	Primary Inductance ( $\mu$ H MIN)	Leakage 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	16	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	28	840	0.75	1.05	1.05	11.8 x 8.8 x 4.0
PA2006NL	1:1	1500	28	864	0.75	0.82	0.82	11.8 x 8.8 x 4.0
PA2007NL	1:1	1500	55.5	1490	0.80	1.15	1.15	9.0 x 8.6 x 7.6
PA2008NL	2:1:1	1500	55.5	1425	0.80	1.15	0.575	9.0 x 8.6 x 7.6
PA2009NL	2.5:1:1	1500	55.5	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 2200 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.

## 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  $\pm .010/0.25$

USA 858 674 8100    Germany 49 7032 7806 0    Singapore 65 6287 8998    Shanghai 86 21 62787060    China 86 755 33966678    Taiwan 886 3 4356768

# SMT Gate Drive Transformers

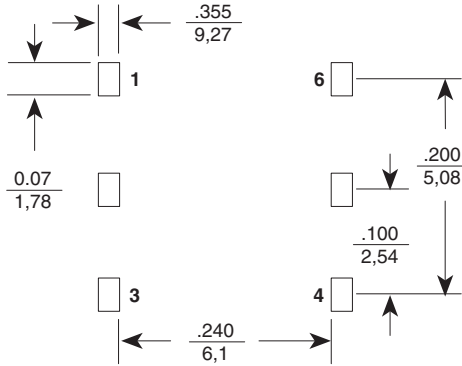
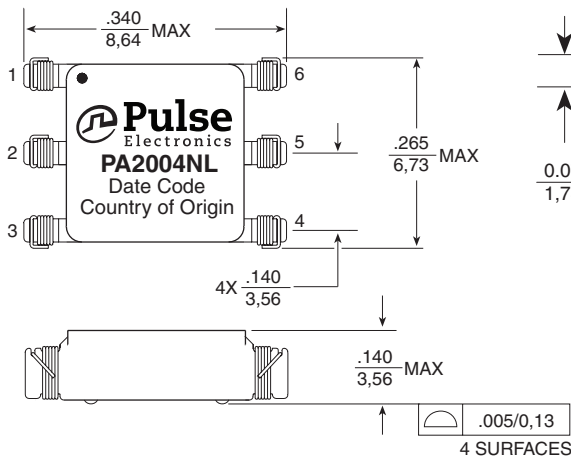
PA200xNL Basic and Operational Insulation



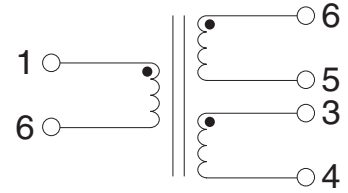
## Mechanicals (CONTINUED)

## Schematics

### PA2004NL



SUGGESTED PAD LAYOUT

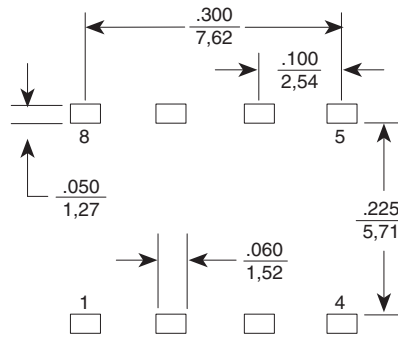
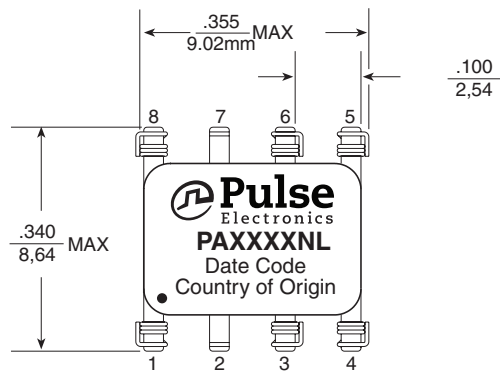


Weight .....0.23 grams  
Tape & Reel .....800/reel  
Tube .....75/tube

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

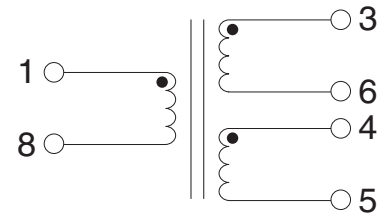
Unless otherwise specified,  
all tolerances are  $\pm \frac{.010}{0,25}$

### PA2002NL, PA2007NL, PA2008NL, PA2009NL

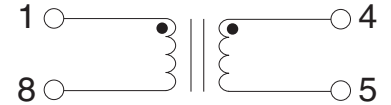


SUGGESTED PAD LAYOUT

### PA2002NL / PA2008NL / PA2009NL



### PA2007NL



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

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

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

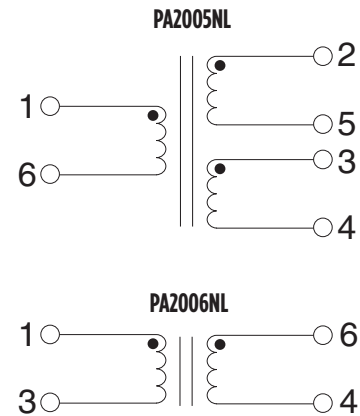
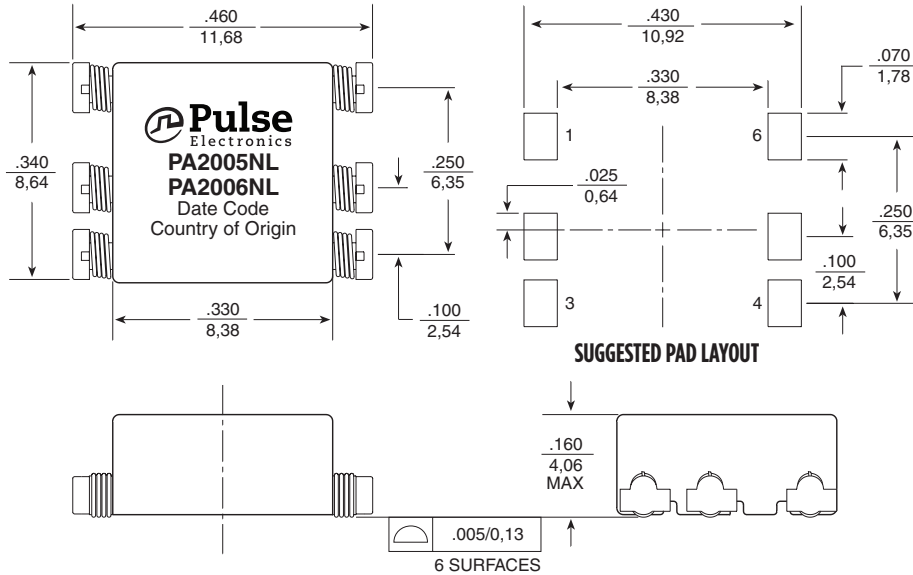
# SMT Gate Drive Transformers

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  $\pm \frac{.010}{0,25}$

## For More Information

**Pulse Worldwide Headquarters**  
12220 World Trade Drive  
San Diego, CA  
92128  
U.S.A.

**Pulse Europe**  
Zeppelinstrasse 15  
71083 Herrenberg  
Germany

**Pulse China Headquarters**  
B402, Shenzhen Academy of  
Aerospace Technol-  
ogy Bldg.  
10th Kejian Road  
High-Tech Zone  
Nanshan District  
Shenzhen, PR China  
518057  
Tel: 86 755 3396678  
Fax: 86 755 33966700

**Pulse North China**  
Room 2704/2705  
Super Ocean Finance  
Ctr.  
2067 Yan An Road  
West  
Shanghai 200336  
China  
Tel: 86 21 62787060  
Fax: 86 2162786973

**Pulse South Asia**  
135 Joo Seng Road  
#03-02  
PM Industrial Bldg.  
Singapore 368363  
Tel: 65 6287 8998  
Fax: 65 6287 8998

**Pulse North Asia**  
3F, No. 198  
Zhongyuan Road  
Zhongli City  
Taoyuan County 32068  
Taiwan R. O. C.  
Tel: 886 3 4356768  
Fax: 886 3 4356823 (Pulse)  
Fax: 886 3 4356820 (FRE)

Tel: 858 674 8100  
Fax: 858 674 8262

Tel: 49 7032 78060  
Fax: 49 7032 7806 135

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners. © Copyright, 2013. Pulse Electronics, Inc. All rights reserved.