

# SMT Gate Drive Transformers

>1500VDC Basic and Functional Insulation



- Ⓢ >1500V<sub>DC</sub> isolation (380V<sub>rms</sub> continuous)
- Ⓢ Basic insulation (1.4mm creepage/clearance) and functional available
- Ⓢ Operating frequency: 50kHz and up

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

Part Number <sup>3,4</sup>	Turns Ratio	Pri-Sec Isolation	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>Functional Insulation</b>								
PE-68386NL	1:1	1500 Vdc	9.7	785	0.46	0.60	0.60	8.6 x 6.7 x 2.5
P0926NL	1:1:1	1500 Vdc	23.8	300	0.50	2.00	2.00	8.0 x 6.6 x 5.3
✓ P0544NL	1:1:1	1500 Vdc	45.1	3300	0.80	1.25	1.25	9.0 x 8.6 x 7.6
✓ PA0264NL	1:1:1	1000 Vrms	12.7	1140	0.65	0.75	0.75	8.6 x 6.7 x 3.6
PA1323NL	1:1	1500 Vrms	21.7	600	2.0	1.25	1.25	9.5 x 7.1 x 5.3
<b>Basic Insulation (1.4mm creepage and clearance between Primary and Secondary)</b>								
PA0173NL	1:1:1	1500 Vrms	17.2	980	0.75	0.62	0.88	11.8 x 8.8 x 4.0
PA0185NL	1:1	1500 Vrms	17.2	980	0.75	0.88	0.62	11.8 x 8.8 x 4.0
PA0184NL	1:1	1500 Vrms	27.2	1200	0.50	0.91	0.91	9.0 x 8.6 x 7.6
PA0297NL	2:1:1	1500 Vrms	27.2	1200	0.60	0.91	0.46	9.0 x 8.6 x 7.6
PA2777NL	1:1	1500 Vrms	9.3	335.2	0.36	0.70	0.70	7.1 x 6.1 x 5.5
PA0510NL	2.5:1:1	1500 Vrms	27.2	1200	0.68	0.91	0.380	9.0 x 8.6 x 7.6
PA3493NL	1.25:1	1650 Vrms	23	656	1.3	1.03	0.85	10.9 x 9.7 x 2.7

### Notes:

1. The Maximum volt- $\mu$ sec rating limits the peak flux density to 2200 Gauss when used in a unipolar drive application. For bi-polar drive applications, a maximum volt-sec of two times this rating is acceptable (ie: 2\* (volt\* $\mu$ sec rating) = (voltage applied to the primary) \* dutycycle / Frequency = V \* alpha / Freq\_Hz = V \*  $\mu$ sec
2. Leakage inductance is measured at primary terminals with all secondaries shorted.
3. Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (i.e. P0544NL becomes P0544NLT). Pulse complies to industry standard tape and reel specification EIA481.
4. The "NL" suffix indicates an RoHS-compliant part number.
5. The temperature of the component (ambient plus temperature rise) must be within the stated operating temperature range.
6. Continuous isolation voltage confirmed by 125°C/1000hrs accelerated aging with the bias voltage applied between primary and secondary windings.

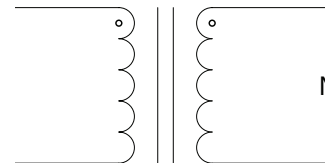
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## Mechanicals

## Schematics

### PE-68386NL

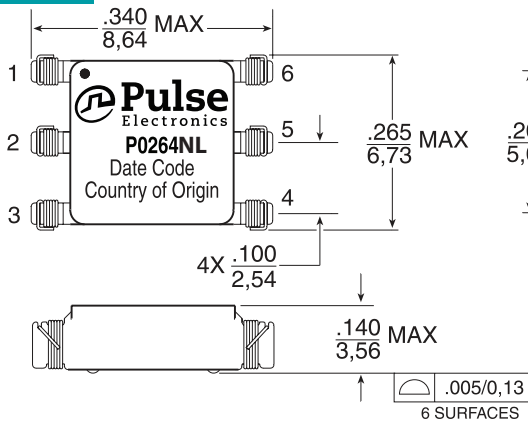


Weight .....0.28grams  
 Tape & Reel .....1500/reel  
 Tube .....60/tube  
 Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
 Unless otherwise specified,  
 all tolerances are:  $\pm \frac{.010}{.25}$

## Mechanicals

## Schematics

### PA0264NL



Weight .....0.28grams  
 Tape & Reel .....1500/reel  
 Tube .....60/tube  
 Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
 Unless otherwise specified,  
 all tolerances are:  $\pm \frac{.010}{.25}$

## Mechanicals

## Schematics

### P0926NL



Weight .....0.48grams  
 Tape & Reel .....1000/reel  
 Tray .....120/tray  
 Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
 Unless otherwise specified,  
 all tolerances are:  $\pm \frac{.010}{.25}$

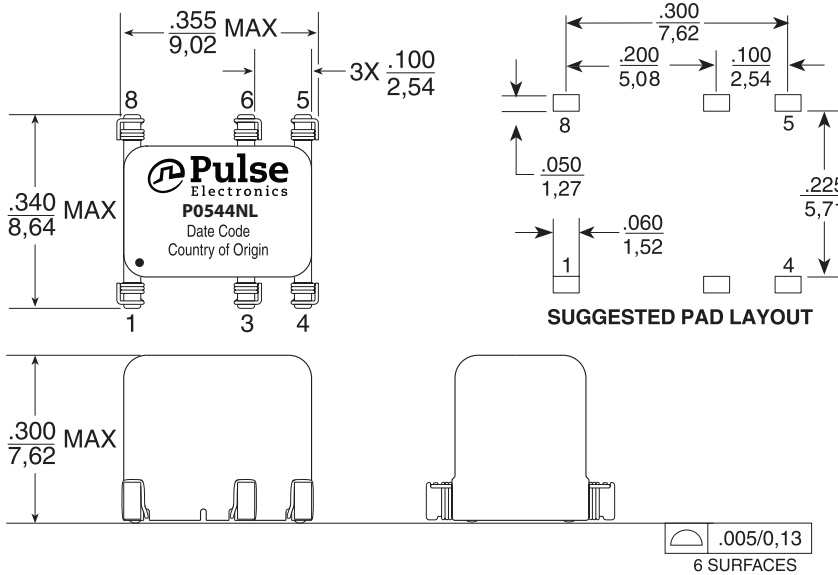
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## Mechanicals (continued)

## Schematics

### PO544NL

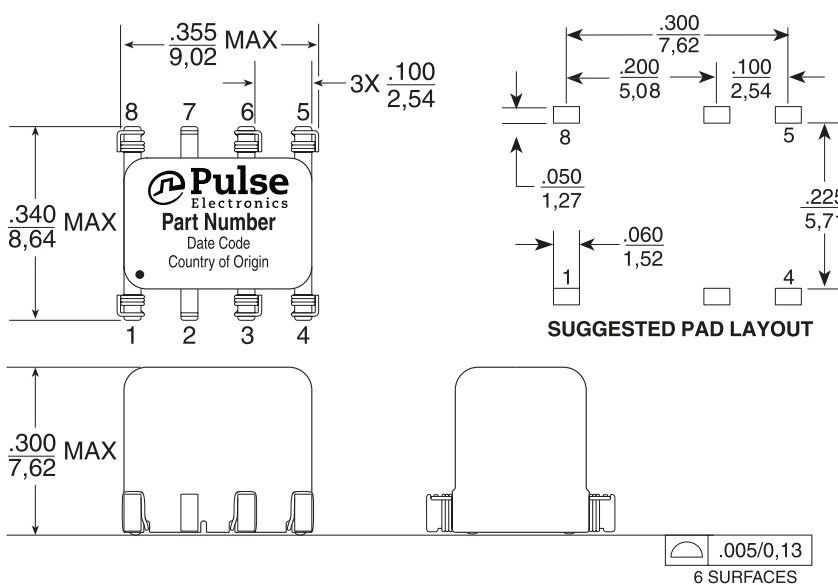


Weight .....0.60grams  
 Tape & Reel .....400/reel  
 Tube .....50/tube  
 Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
 Unless otherwise specified,  
 all tolerances are:  $\pm \frac{.010}{0.25}$

## Mechanicals

## Schematics

### PA0297NL, PA0510NL, PA0184NL



Weight .....0.60grams  
 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 PA0184 the pads for pins 3 and 6 in the suggested pad layout should not be used in the layout

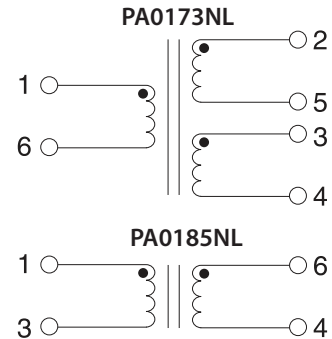
# SMT Gate Drive Transformers

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## Mechanicals (continued)

## Schematics

### PA0173NL, PA0185NL

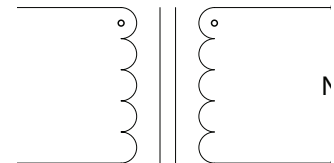
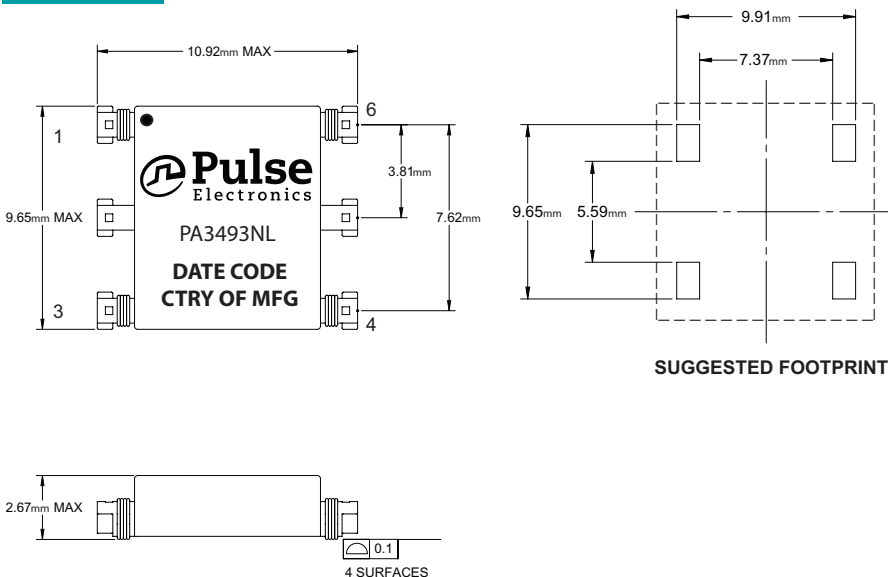


Weight .....0.48grams  
 Tape & Reel .....900/reel  
 Tube .....60/tube  
 Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
 Unless otherwise specified,  
 all tolerances are:  $\pm \frac{0.10}{0.25}$

## Mechanicals

## Schematics

### PA3493NL



Weight .....0.31grams  
 Tape & Reel .....1250/reel  
 Tube .....50/tube  
 Dimensions: mm  
 Unless otherwise specified,  
 all tolerances are:  $\pm 0.25$

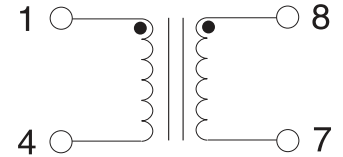
# SMT Gate Drive Transformers

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## Mechanicals (continued)

## Schematics

### PA2777NL

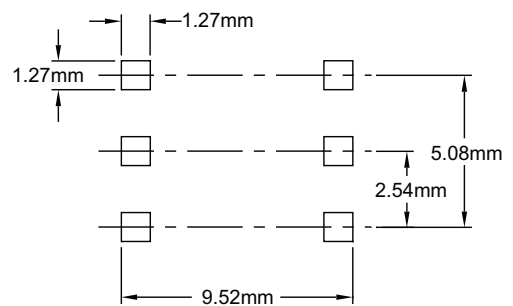
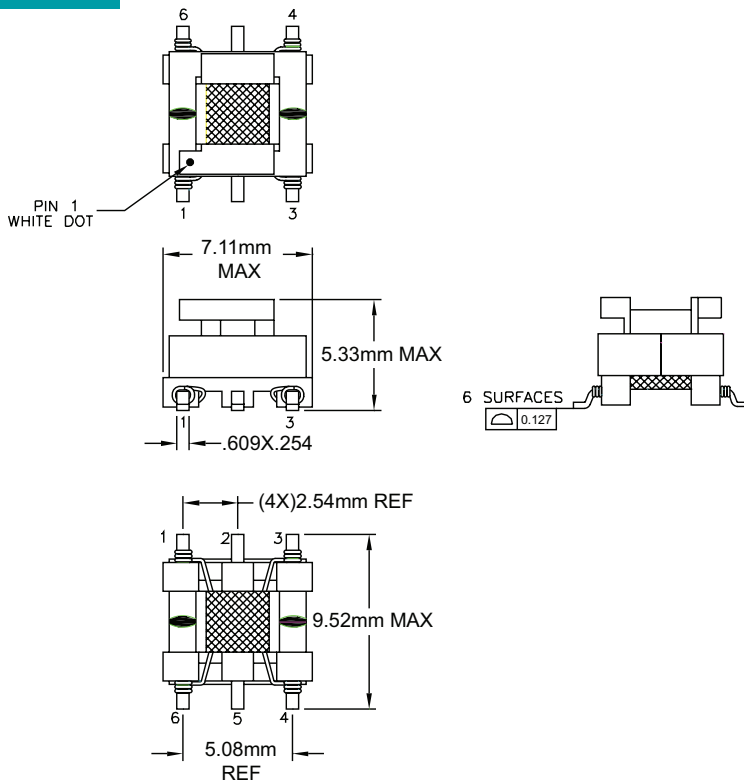


**Weight** .....0.32grams  
**Tape & Reel** .....850/reel  
**Tube** .....120/tube  
**Dimensions:** mm  
 Unless otherwise specified,  
 all tolerances are: ±0.25

## Mechanicals

## Schematics

### PA1323NL



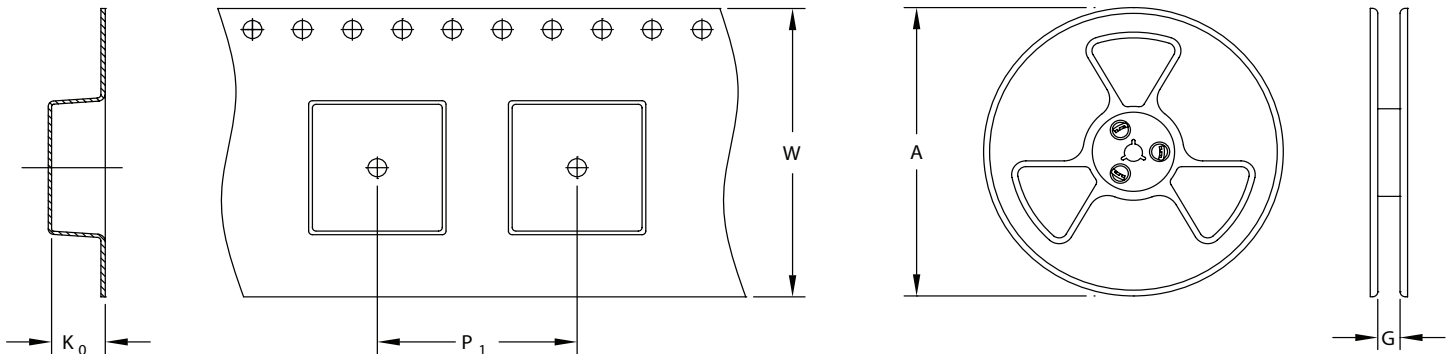
SUGGESTED PCB LAYOUT

**Weight** .....0.4grams  
**Tape & Reel** .....700/reel  
**Tray** .....225/tray  
**Dimensions:** mm  
 Unless otherwise specified,  
 all tolerances are: ±0.25

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## TAPE & REEL INFO



SURFACE MOUNTING TYPE, REEL/TAPE LIST

PART NUMBER	REEL SIZE (mm)		TAPE SIZE (mm)			QTY
	A	G	$P_1$	W	$K_0$	PCS/REEL
PE-68386NLT	Ø330	16.4	12	16	3.05	1500
P0926NLT	Ø330	16.4	12	16	5.33	1000
P0544NLT	Ø330	24.4	16	24	8.13	400
PA0264NLT	Ø330	24.4	16	24	3.81	800
PA1323NLT	Ø330	16.4	12	16	5.55	870
PA0173NLT	Ø330	24.4	16	24	4.32	900
PA0185NLT	Ø330	24.4	16	24	4.32	900
PA0184NLT	Ø330	24.4	16	24	8.13	400
PA0297NLT	Ø330	24.4	16	24	8.13	400
PA2777NLT	Ø330	16.4	12	16	6.10	850
PA0510NLT	Ø330	24.4	16	24	8.13	400
PA3493NLT	Ø330	24.4	16	24	2.80	1250

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