

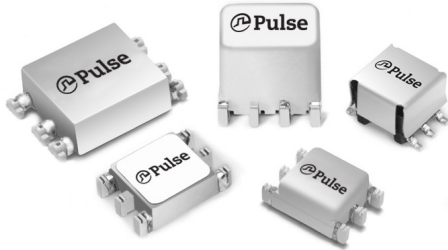


# THE DATASHEET OF PA0297NL



# 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.

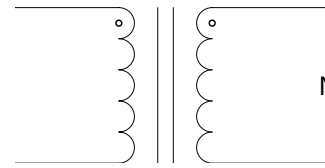
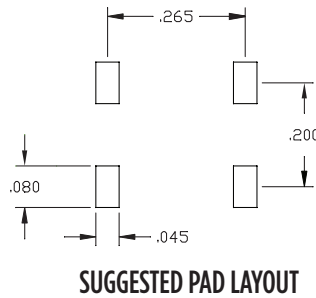
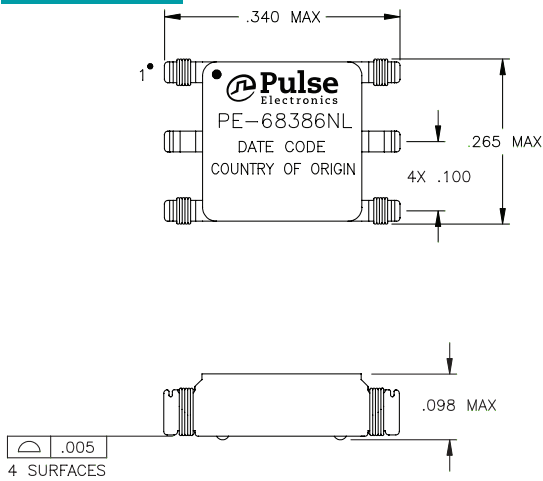
# SMT Gate Drive Transformers

>1500VDC Basic and Functional Insulation

## Mechanicals

## Schematics

### PE-68386NL

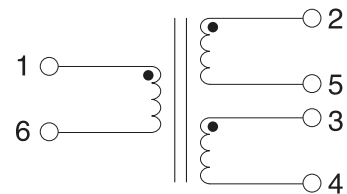
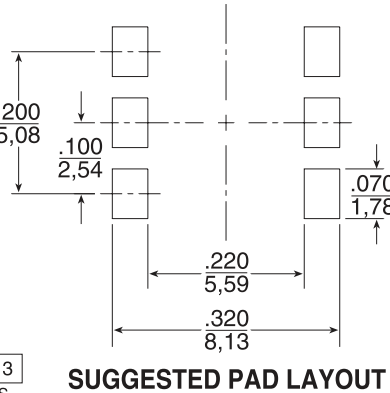
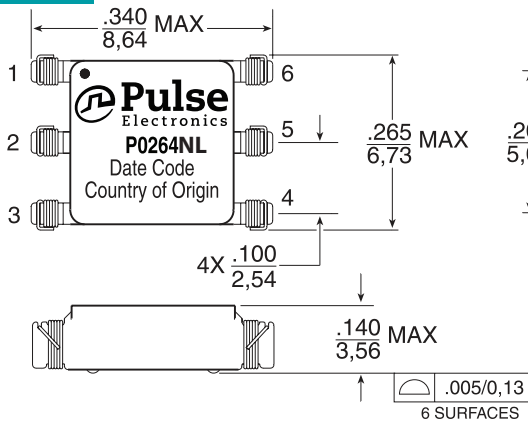


Weight .....0.28grams  
 Tape & Reel .....1500/reel  
 Tube .....60/tube  
 Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
 Unless otherwise specified,  
 all tolerances are:  $\pm \frac{.010}{.25}$

## Mechanicals

## Schematics

### PA0264NL

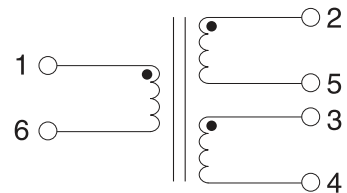
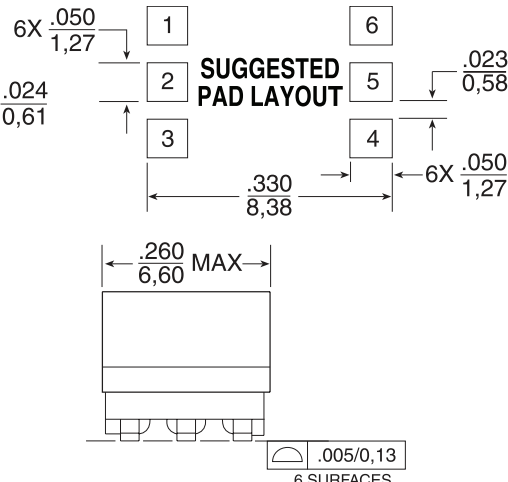
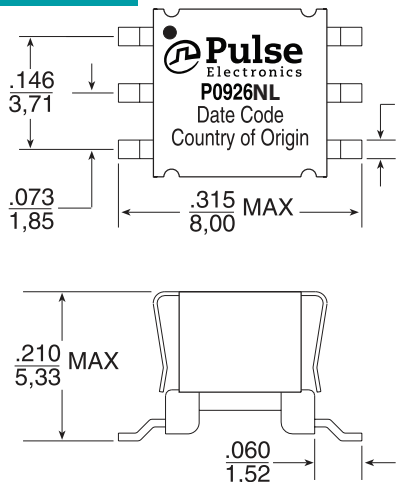


Weight .....0.28grams  
 Tape & Reel .....1500/reel  
 Tube .....60/tube  
 Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
 Unless otherwise specified,  
 all tolerances are:  $\pm \frac{.010}{.25}$

## 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:  $\pm \frac{.010}{.25}$

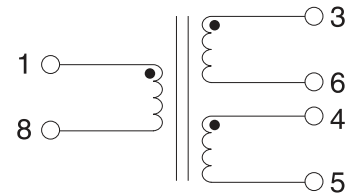
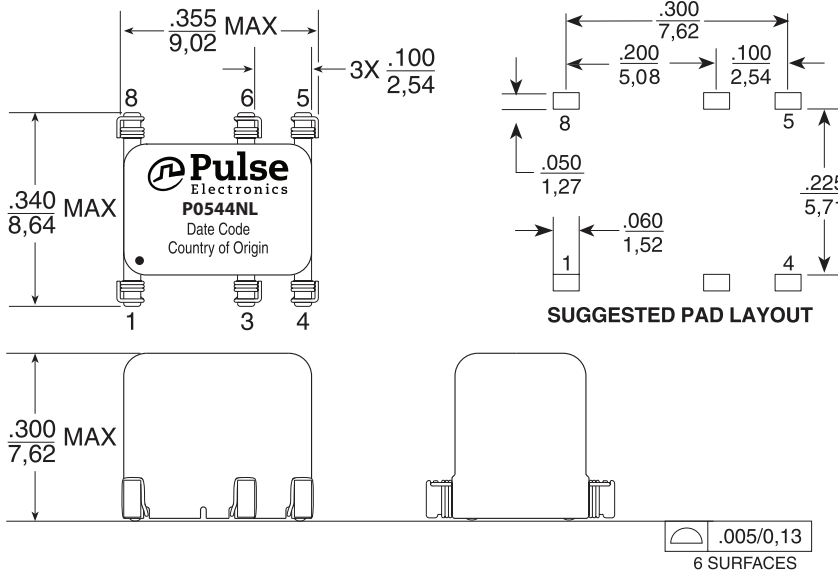
# SMT Gate Drive Transformers

>1500VDC Basic and Functional Insulation

## Mechanicals (continued)

## Schematics

### PO544NL

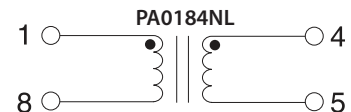
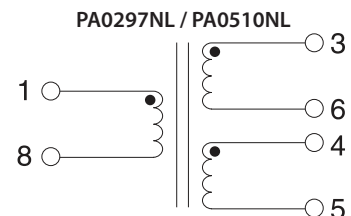
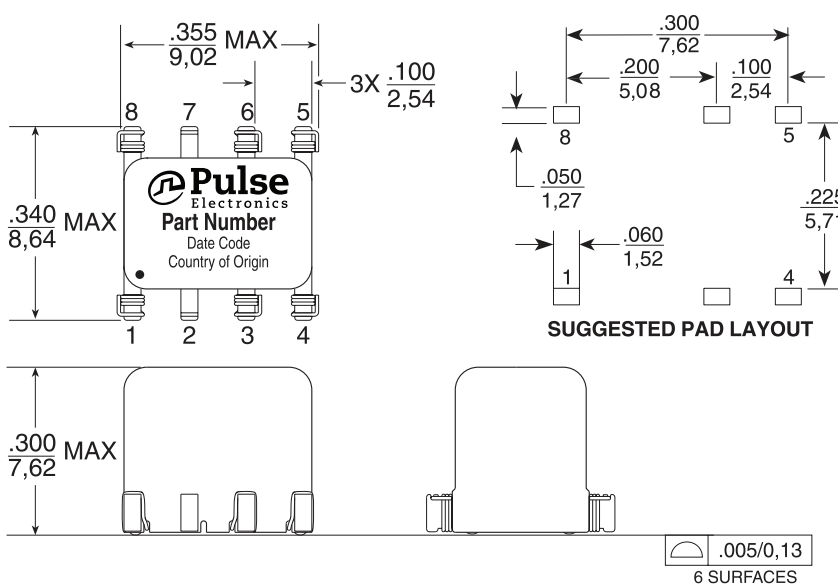


Weight .....0.60grams  
 Tape & Reel .....400/reel  
 Tube .....50/tube  
 Dimensions:  $\frac{\text{Inches}}{\text{mm}}$   
 Unless otherwise specified,  
 all tolerances are:  $\pm \frac{.010}{0.25}$

## 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

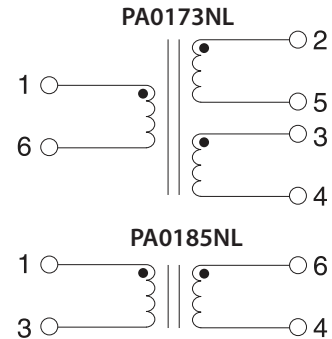
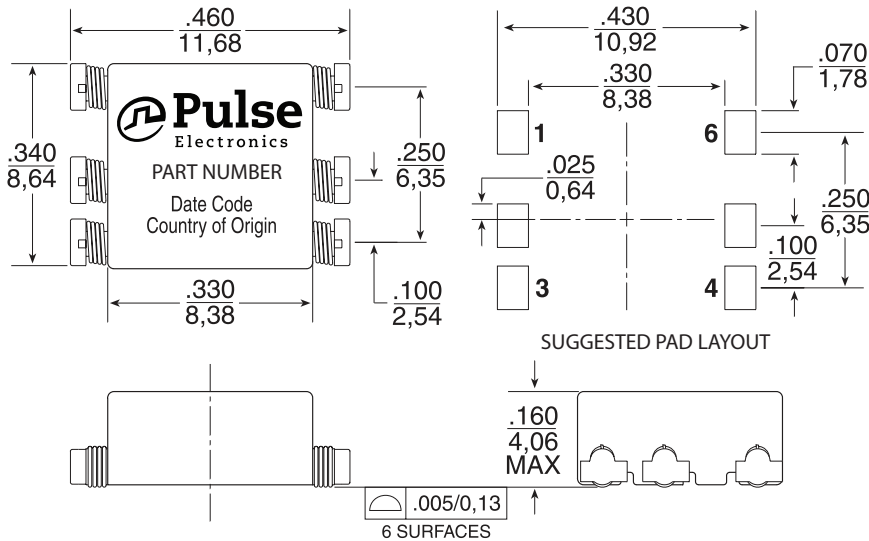
# SMT Gate Drive Transformers

>1500VDC Basic and Functional Insulation

## Mechanicals *(continued)*

## Schematics

### PA0173NL, PA0185NL

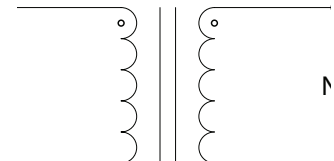
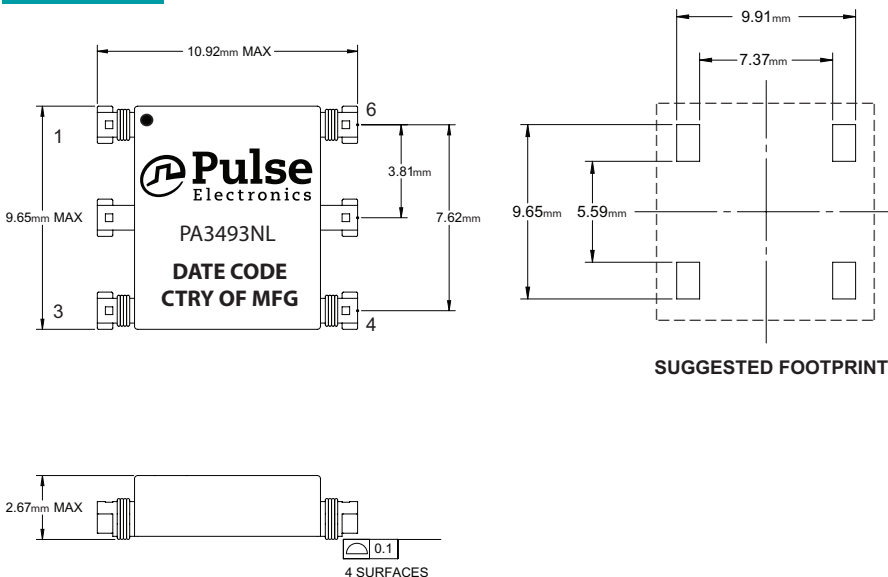


**Weight** .....0.48grams  
**Tape & Reel** .....900/reel  
**Tube** .....60/tube  
**Dimensions:**  $\frac{\text{Inches}}{\text{mm}}$   
 Unless otherwise specified,  
 all tolerances are:  $\pm \frac{0.10}{0.25}$

## Mechanicals

## Schematics

### PA3493NL



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

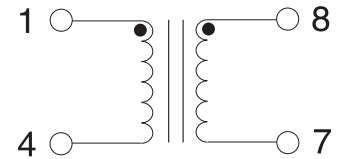
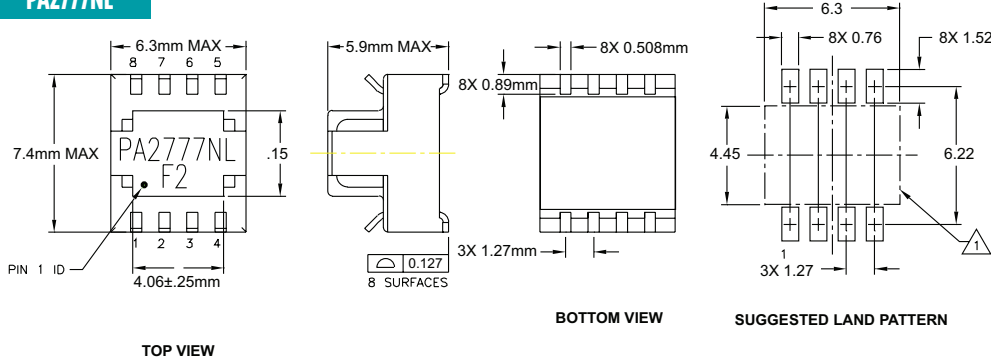
# SMT Gate Drive Transformers

>1500VDC Basic and Functional Insulation

## Mechanicals (continued)

## Schematics

### PA2777NL

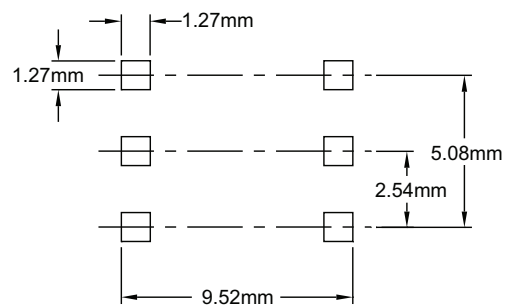
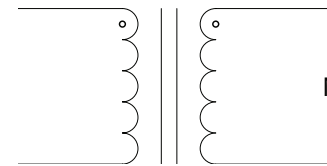
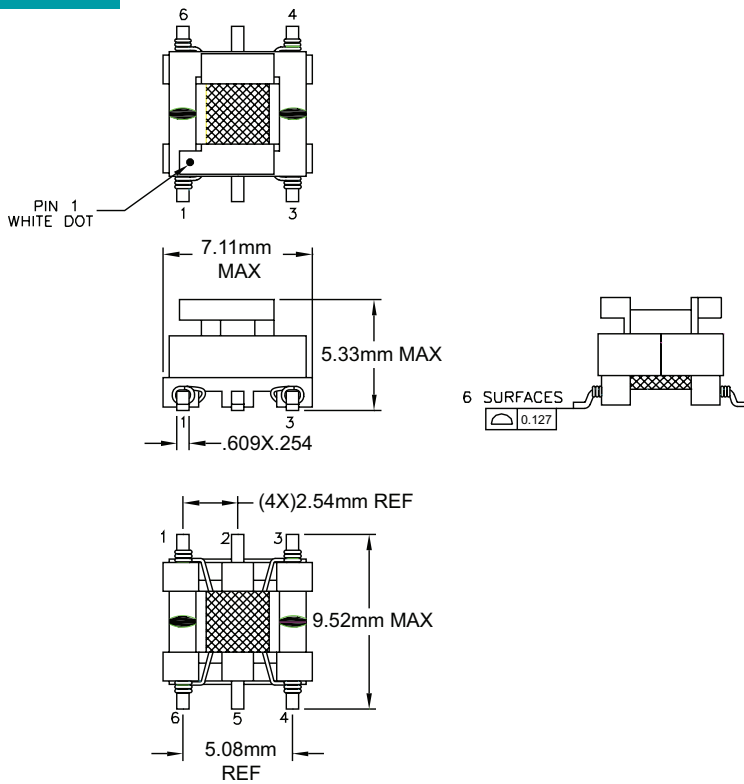


**Weight** .....0.32grams  
**Tape & Reel** .....850/reel  
**Tube** .....120/tube  
**Dimensions:** mm  
 Unless otherwise specified,  
 all tolerances are: ±0.25

## Mechanicals

## Schematics

### PA1323NL



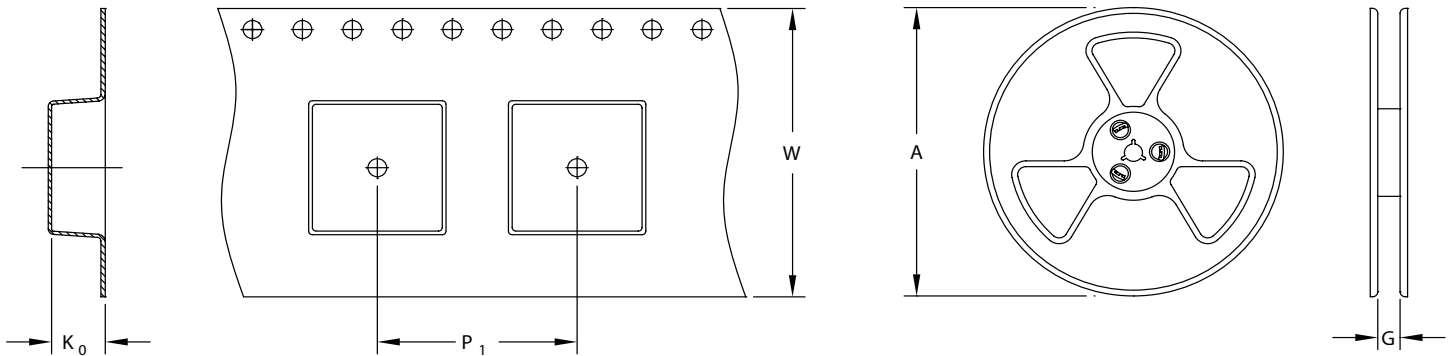
SUGGESTED PCB LAYOUT

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

# SMT Gate Drive Transformers

>1500VDC Basic and Functional Insulation

## TAPE & REEL INFO



SURFACE MOUNTING TYPE, REEL/TAPE LIST

PART NUMBER	REEL SIZE (mm)		TAPE SIZE (mm)			QTY
	A	G	P <sub>1</sub>	W	K <sub>0</sub>	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

## For More Information

### Pulse Worldwide Headquarters

15255 Innovation Drive Ste 100  
San Diego, CA 92128  
U.S.A.

### Pulse Europe

Pulse Electronics GmbH  
Am Rottland 12  
58540 Meinerzhagen  
Germany

### Pulse China Headquarters

Pulse Electronics (ShenZhen) CO., LTD  
D708, Shenzhen Academy of  
Aerospace Technology,  
The 10th Keji South Road,  
Nanshan District, Shenzhen,  
P.R. China 518057

### Pulse North China

Room 2704/2705  
Super Ocean Finance Ctr.  
2067 Yan An Road West  
Shanghai 200336  
China

### Pulse South Asia

3 Fraser Street 0428  
DUO Tower  
Singapore 189352

### Pulse North Asia

1F., No.111 Xiyuan Road  
Zhongli District  
Taoyuan City 32057  
Taiwan (R.O.C)

Tel: 858 674 8100  
Fax: 858 674 8262

Tel: 49 2354 777 100  
Fax: 49 2354 777 168

Tel: 86 755 33966678  
Fax: 86 755 33966700

Tel: 86 21 62787060  
Fax: 86 2162786973

Tel: 65 6287 8998  
Fax: 65 6280 0080

Tel: 886 3 4356768  
Fax: 886 3 4356820

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, 2020. Pulse Electronics, Inc. All rights reserved.

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

 [View PA0297NL on WIN SOURCE](#)

 [Pulse Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management