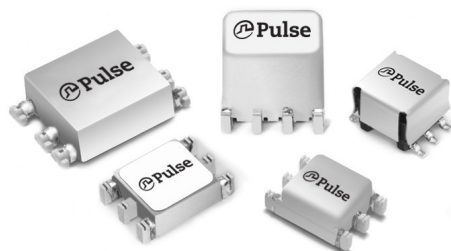


SMT Gate Drive Transformers

>1500VDC Basic and Functional Insulation



- ⚙ >1500V_{DC} isolation (380V_{rms} 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°C⁵

Part Number ^{3,4}	Turns Ratio	Pri-Sec Isolation	MAX ¹ V*μsec	Primary Inductance (μH MIN)	Leakage ² Inductance (μH MAX)	DCR Primary (Ω MAX)	DCR Secondary (Ω MAX)	Package Size (L x W x H) (mm MAX)
Functional Insulation								
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
Basic Insulation (1.4mm creepage and clearance between Primary and Secondary)								
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:

- The Maximum volt-μsec 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*μsec rating) = (voltage applied to the primary) * dutycycle / Frequency = V * alpha / Freq_Hz = V * μsec
- 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. P0544NL becomes P0544NLT). 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.

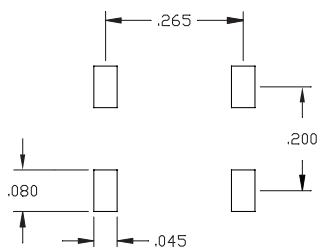
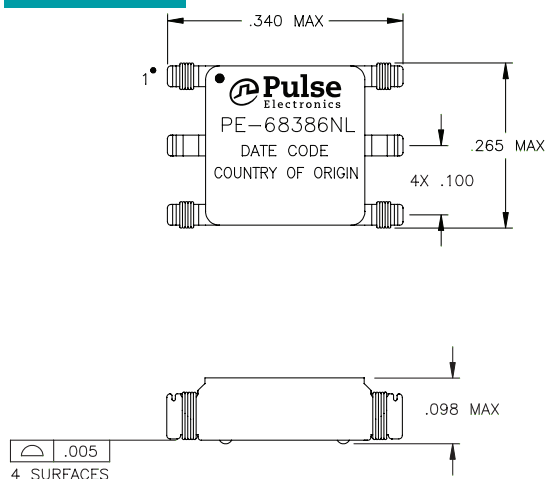
SMT Gate Drive Transformers

>1500VDC Basic and Functional Insulation

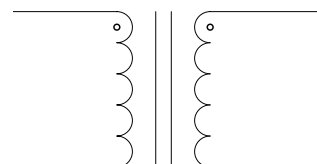
Mechanicals

Schematics

PE-68386NL



SUGGESTED PAD LAYOUT

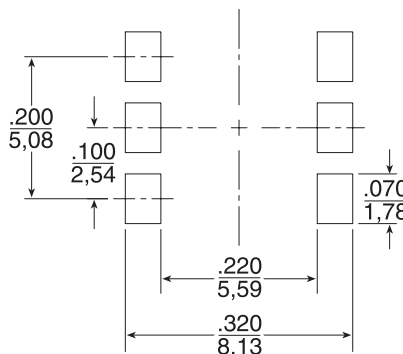
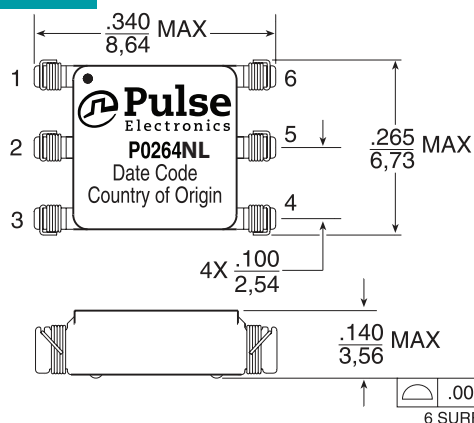


Weight0.28grams
Tape & Reel1500/reel
Tube60/tube
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are: $\pm \frac{.010}{.25}$

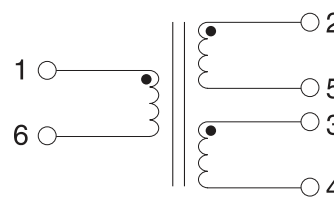
Mechanicals

Schematics

PA0264NL



SUGGESTED PAD LAYOUT

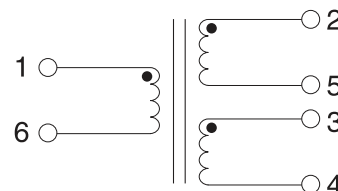
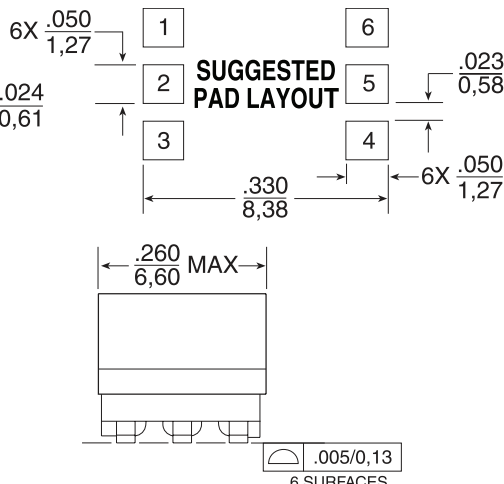
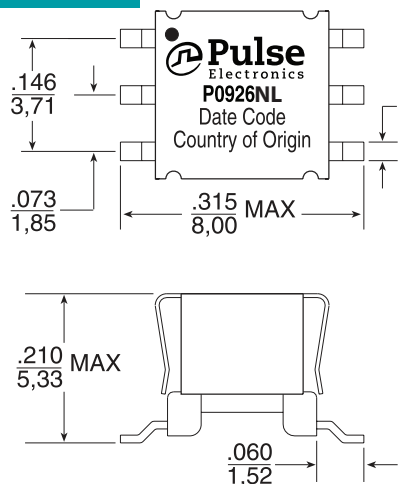


Weight0.28grams
Tape & Reel1500/reel
Tube60/tube
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are: $\pm \frac{.010}{.25}$

Mechanicals

Schematics

P0926NL



Weight0.48grams
Tape & Reel1000/reel
Tray120/tray
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are: $\pm \frac{.010}{.25}$

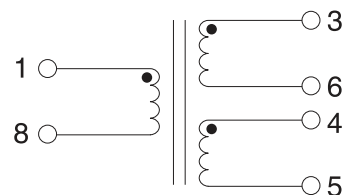
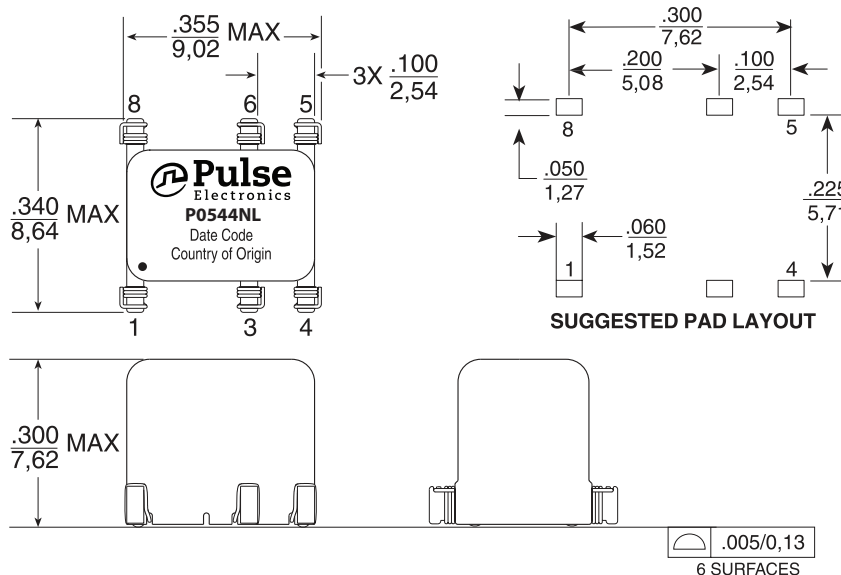
SMT Gate Drive Transformers

>1500VDC Basic and Functional Insulation

Mechanicals (continued)

Schematics

P0544NL

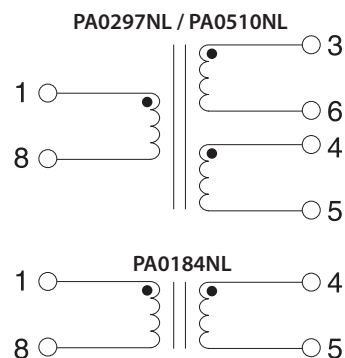
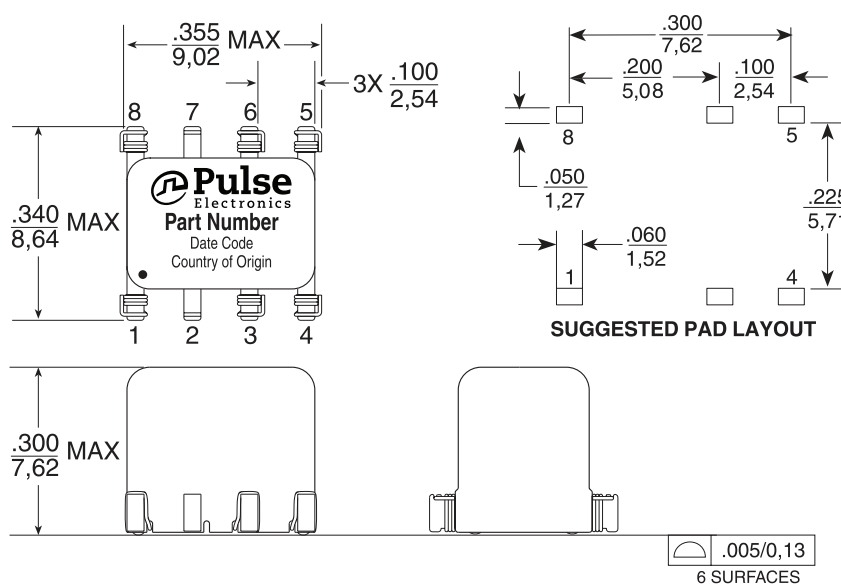


Weight0.60grams
Tape & Reel400/reel
Tube50/tube
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are: $\pm \frac{.010}{0,25}$

Mechanicals

Schematics

PA0297NL, PA0510NL, PA0184NL



Weight0.60grams
Tape & Reel400/reel
Tube50/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

>1500VDC Basic and Functional Insulation



(continued)

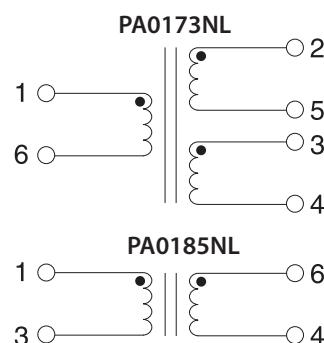
Schematics

Pulse Electronics
PART NUMBER
Date Code
Country of Origin

Top View Dimensions:
 Width: .460 (11,68)
 Height: .340 (8,64)
 Pin Pitch: .250 (6,35)
 Pin Width: .100 (2,54)
 Pin Spacing: .330 (8,38)

Side View Dimensions:
 Pin Height: .025 (0,64)
 Pin Thickness: .030 (0,76)
 Pin Spacing: .330 (8,38)

Suggested Pad Layout Dimensions:
 Pad Width: .160 (4,06) MAX
 Pad Spacing: .100 (2,54)
 Pad Thickness: .005 (0,13) 6 SURFACES



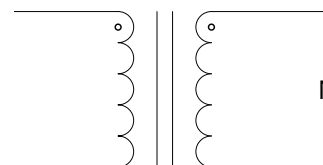
Weight0.48grams
Tape & Reel900/reel
Tube60/tube

Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are: $\pm \begin{smallmatrix} .010 \\ .75 \end{smallmatrix}$

Mechanicals

Schematics

The mechanical drawing illustrates the dimensions of the PA3493NL package. The top view shows a square package with a width of 10.92mm MAX and a height of 7.62mm. The package features a central square area with the Pulse Electronics logo and the text "PA3493NL", "DATE CODE", and "CTRY OF MFG". The package is mounted on a PCB with four solder pads, numbered 1 through 4. The distance between the pads is 9.65mm MAX. The package is shown in a side view with a height of 2.67mm MAX. The suggested footprint shows a square area with a width of 9.91mm and a height of 9.65mm. The package is centered within the footprint, with a distance of 5.59mm from the center to the edges. The footprint is labeled "SUGGESTED FOOTPRINT".



Weight0.31grams
Tape & Reel1250/reel
Tube50/tube

Dimensions: mm
Unless otherwise specified,
all tolerances are: ± 0.25

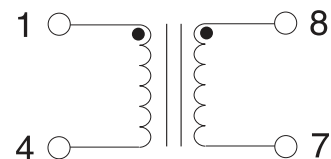
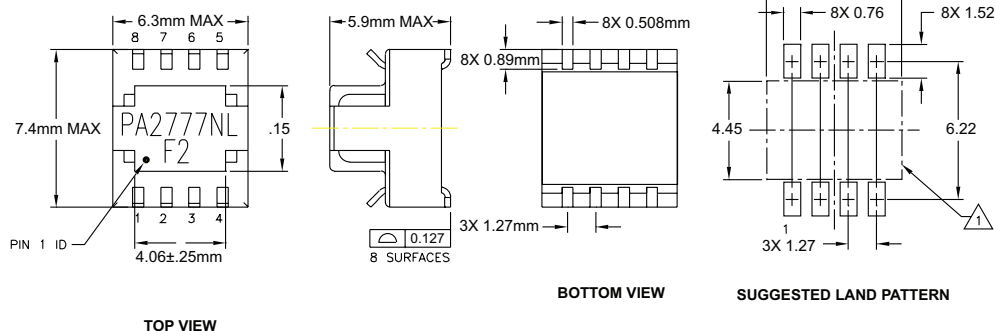
SMT Gate Drive Transformers

>1500VDC Basic and Functional Insulation

Mechanicals (continued)

Schematics

PA2777NL

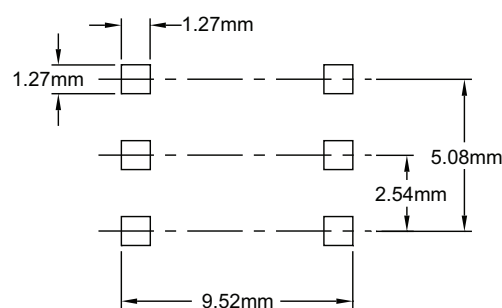
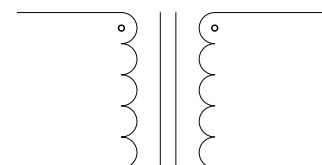
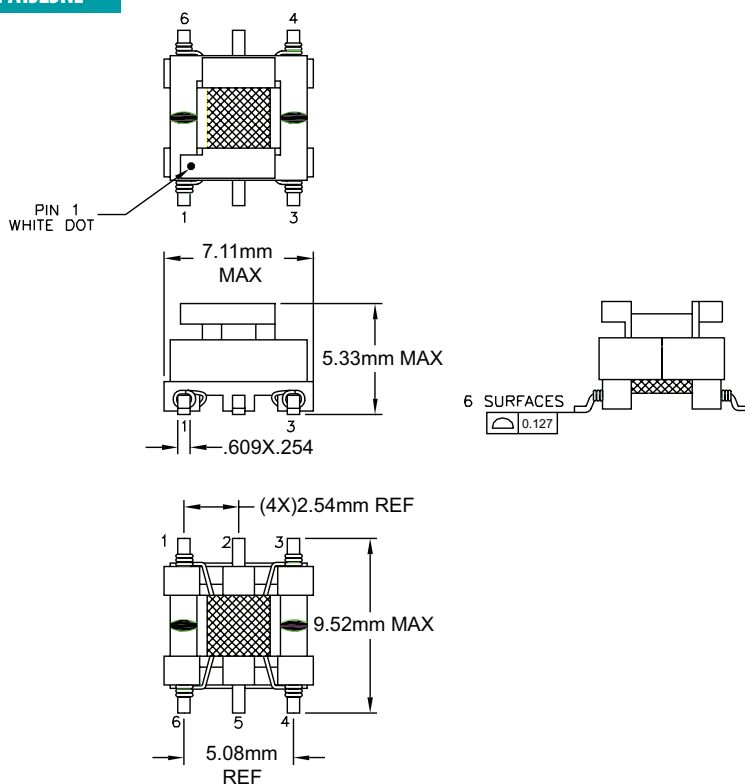


Weight0.32grams
Tape & Reel850/reel
Tube120/tube
Dimensions: mm
 Unless otherwise specified,
 all tolerances are: ±0.25

Mechanicals

Schematics

PA1323NL



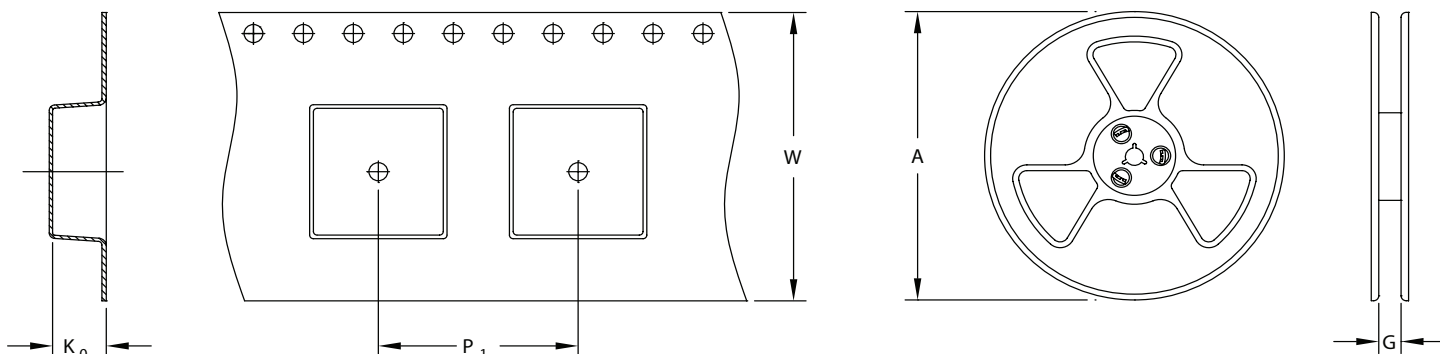
SUGGESTED PCB LAYOUT

Weight0.4grams
Tape & Reel700/reel
Tray225/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 PCS/REEL
	A	G	P_1	W	K_0	
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 21 62786973

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.