

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 ^{3,4} Number | Turns Ratio | Pri-Sec Isolation | MAX ¹ V* μ sec | Primary Inductance (μ H MIN) | Leakage ² Inductance (μ H 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 |
| PO926NL | 1:1:1 | 1500 Vdc | 23.8 | 300 | 0.50 | 2.00 | 2.00 | 8.0 x 6.6 x 5.3 |
| PO544NL | 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:

1. The Maximum volt- μ 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* μ sec rating) = (voltage applied to the primary) * dutycycle / Frequency = V * alpha / Freq_Hz = V * μ 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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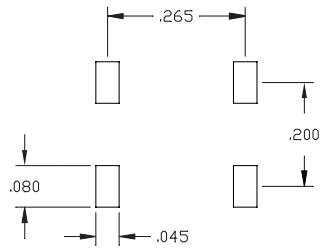
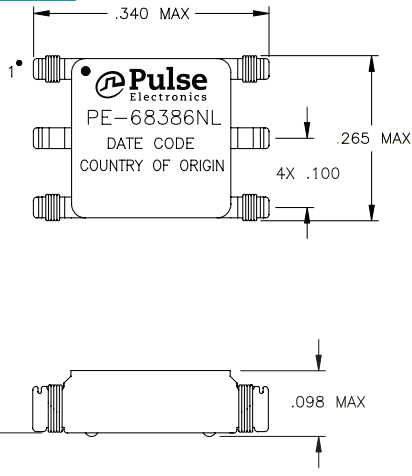
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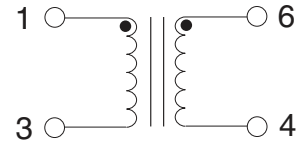
Mechanicals

Schematics

PE-68386NL



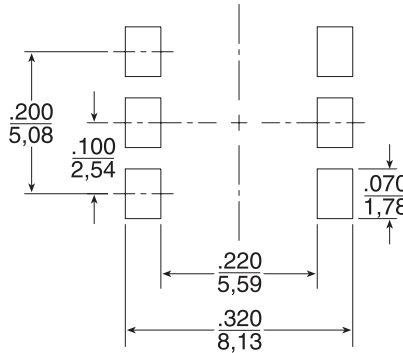
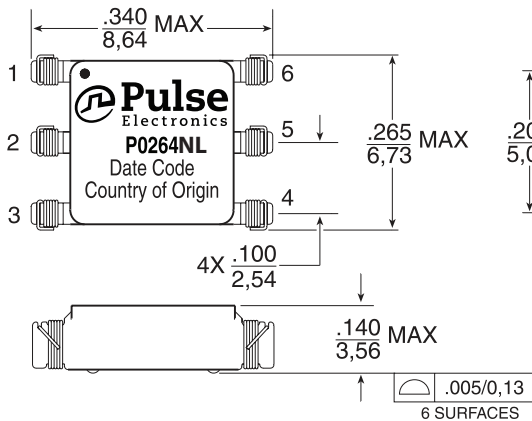
SUGGESTED PAD LAYOUT



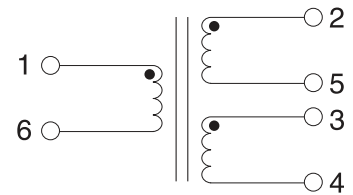
Weight0.28 grams
Tape & Reel1500/reel
Tube60/tube

Dimension: $\frac{\text{Inches}}{\text{mm}}$
 Unless otherwise specified, all tolerances are $\pm \frac{.010}{0,25}$

PA0264NL



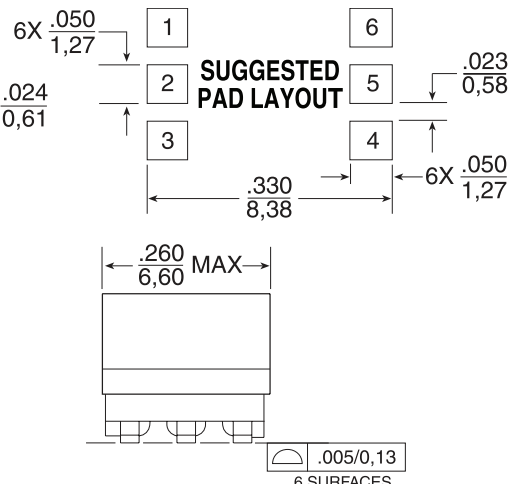
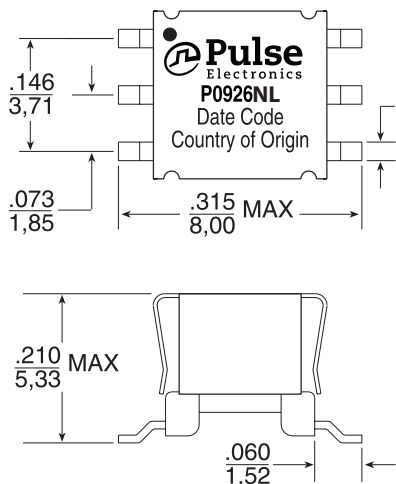
SUGGESTED PAD LAYOUT



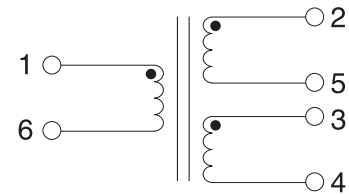
Weight0.28 grams
Tape & Reel1500/reel
Tube60/tube

Dimension: $\frac{\text{Inches}}{\text{mm}}$
 Unless otherwise specified, all tolerances are $\pm \frac{.010}{0,25}$

P0926NL



SUGGESTED PAD LAYOUT



Weight0.48 grams
Tape & Reel1000/reel
Tube80/tube

Dimension: $\frac{\text{Inches}}{\text{mm}}$
 Unless otherwise specified, all tolerances are $\pm \frac{.010}{0,25}$

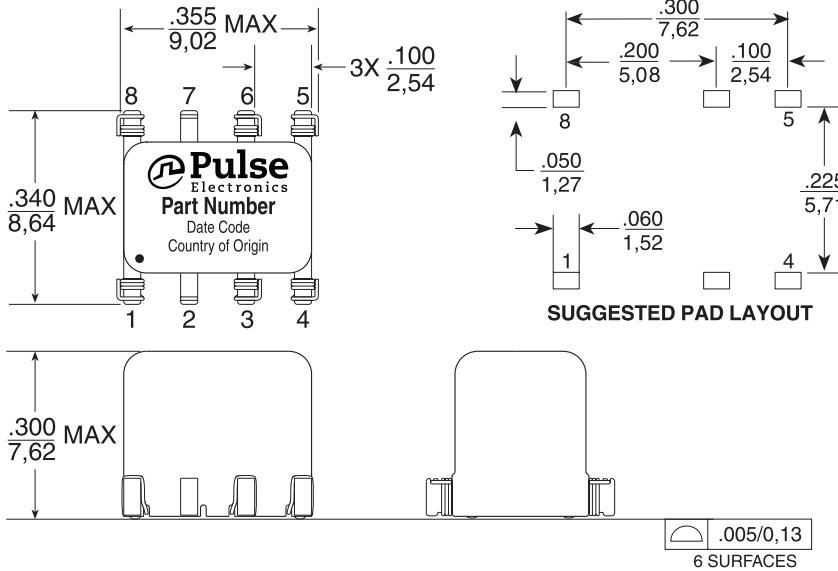
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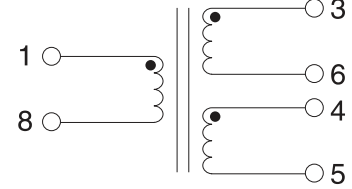
Mechanicals (continued)

Schematics

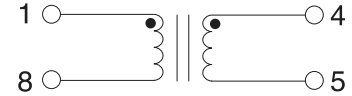
P0544NL, PA0297, PA0510, PA0184NL



P0544 / PA0297 / PA0510



PA0184



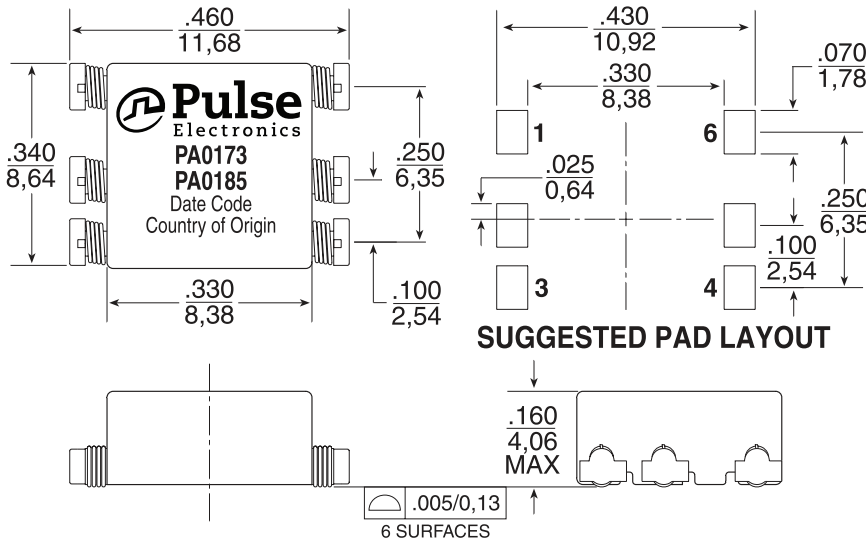
Weight0.60 grams
Tape & Reel40/reel
Tube50/tube

Dimension: Inches
mm

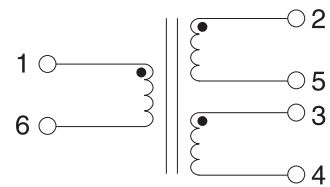
Unless otherwise specified, all tolerances are $\pm \frac{.010}{0,25}$

*for PA0184 the pads for pins 3 and 6 in the suggested pad layout should not be used in the layout

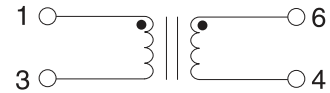
PA0173, PA0185



PA0173



PA0185



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

Dimension: Inches
mm

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

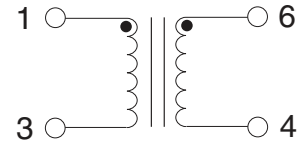
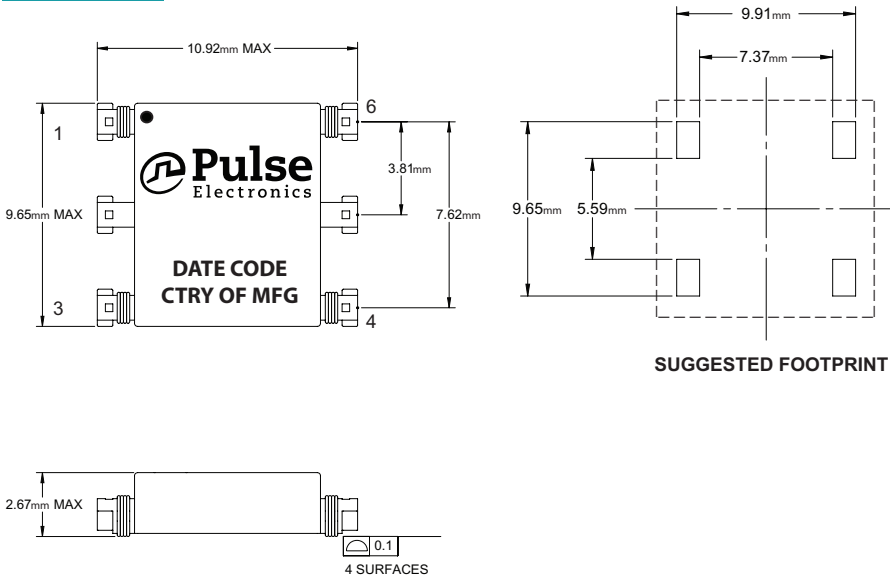
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Mechanicals (continued)

Schematics

PA3493NL

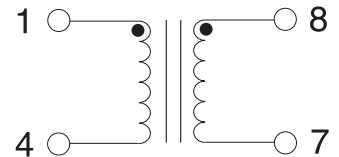
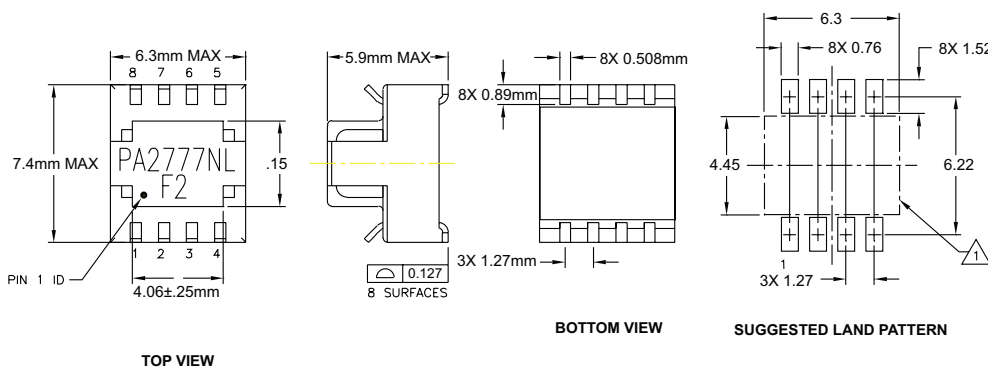


Weight0.31 grams
 Tape & Reel1250/reel
 Tube50/tube

Dimension: mm

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

PA2777NL



Weight0.32 grams
 Tape & Reel850/reel
 Tube120/tube

Dimension: mm

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

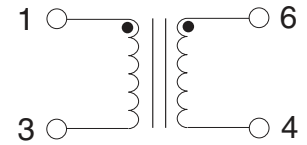
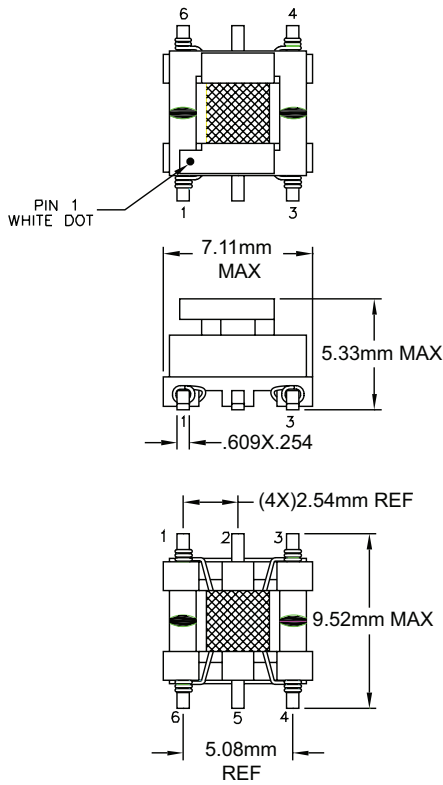
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Mechanicals (continued)

Schematics

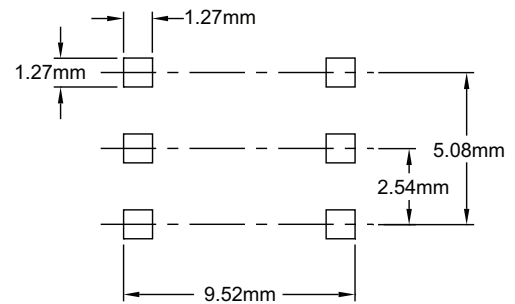
PA1323NL



Weight0.4 grams
 Tape & Reel700/reel
 Tube225/tube

Dimension: mm

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



SUGGESTED PCB LAYOUT