## Base/Gate Driver Transformers

- Lower cost than toroidal equivalents
- Frequency range of 10 – 250 kHz and up
- Industry standard pin centers
- 3750 Vrms, one minute isolation (hipot) between primary and secondary windings; 1500 Vrms, one minute between secondaries
- UL1446 Class B (130°C) Insulation System (UL File E83628)

Coilcraft Designer's Kit No. P404 contains samples of four standard driver transformers. To order, contact Coilcraft or visit [http://order.coilcraft.com](http://order.coilcraft.com) to purchase on-line.

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>SD250-1L</th>
<th>SD250-2L</th>
<th>SD250-3L</th>
<th>SD250-4L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turns ratio ±3% (pri:sec)</td>
<td>1 : 1</td>
<td>1 : 1.5</td>
<td>1 : 1</td>
<td>1 : 1.5 : 1.5</td>
</tr>
</tbody>
</table>

**Primary winding**

- Inductance (min) | 1.5 mH | 1.5 mH | 1.5 mH | 1.5 mH |
- Leakage inductance (max) | 4.0 µH | 4.0 µH | 4.0 µH | 4.0 µH |
- DCR | 0.4 Ω | 0.4 Ω | 0.4 Ω | 0.4 Ω |
- Volt-time product | 375 V-µsec | 375 V-µsec | 375 V-µsec | 375 V-µsec |

**Secondary winding(s)**

- Capacitance, pri to sec (max) | 50 pF | 50 pF | 50 pF | 50 pF |
- DCR, each section (max) | 0.75 Ω | 2.5 Ω | 0.75 Ω | 2.5 Ω |

1. Measured at 1 Vrms, 15.75 kHz.
2. Operating temperature range –40°C to +85°C.
3. Electrical specifications at 25°C.

### Recommended board layout

- Pins 7 and 9 are not present on SD250-1 and SD250-2

**Dimensions**

- Weight: 15.6 – 16.8 g
- Termination: Tin-silver over tin over copper
- Packaging: 64 per tray

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This product may not be used in medical or high risk applications without prior Coilcraft approval.

Specification subject to change without notice.

Please check web site for latest information.
Custom Version Specifications

In addition to the standard base/gate driver transformers shown here, Coilcraft can provide custom versions to meet your specifications.

Our two basic structures are the 0.95” high part shown and a 1.20” high version. Both are available with either single or double sections.

Please use the information below to determine the performance characteristics available.

**Core**

<table>
<thead>
<tr>
<th></th>
<th>0.95” high bobbins</th>
<th>1.20” high bobbins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial permeability</td>
<td>2000µ</td>
<td>2000µ</td>
</tr>
<tr>
<td>$A_c$ (core cross-sectional area)</td>
<td>0.40 cm²</td>
<td>0.80 cm²</td>
</tr>
<tr>
<td>$l_c$ (mean magnetic path length)</td>
<td>4.90 cm</td>
<td>4.80 cm</td>
</tr>
</tbody>
</table>

**Bobbin**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>UL94V-0, 130°C</td>
</tr>
<tr>
<td>Number of terminals available</td>
<td>10</td>
</tr>
<tr>
<td>Number of wiring sections available</td>
<td>1 or 2</td>
</tr>
</tbody>
</table>