### 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.

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

**Primary winding**
- Inductance (min)¹
  - SD250-1L: 1.5 mH
  - SD250-2L: 1.5 mH
  - SD250-3L: 1.5 mH
  - SD250-4L: 1.5 mH
- Leakage inductance (max)¹
  - SD250-1L: 4.0 µH
  - SD250-2L: 4.0 µH
  - SD250-3L: 4.0 µH
  - SD250-4L: 4.0 µH
- DCR
  - SD250-1L: 0.4Ω
  - SD250-2L: 0.4Ω
  - SD250-3L: 0.4Ω
  - SD250-4L: 0.4Ω
- Volt-time product
  - SD250-1L: 375 V-µsec
  - SD250-2L: 375 V-µsec
  - SD250-3L: 375 V-µsec
  - SD250-4L: 375 V-µsec

**Secondary winding(s)**
- Capacitance, pri to sec (max)
  - SD250-1L and 2: 50 pF
  - SD250-3 and 4: 50 pF
- DCR, each section (max)
  - SD250-1L and 2: 0.75Ω
  - SD250-3 and 4: 2.5Ω

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

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**Technical Specifications**

- Weight: 15.6 – 16.8 g
- Termination: Tin-silver over tin over copper
- Packaging: 49 per tray

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**Recommended board layout**

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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.

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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.

![Volt-Time vs Primary Turns*](image)

![Turns Per Layer vs Wire Size*](image)

* Applies to both 0.95” and 1.20” high bobbins.

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

**Core**

- Initial permeability
- $A_c$ (core cross-sectional area)
- $l_e$ (mean magnetic path length)

<table>
<thead>
<tr>
<th></th>
<th>0.95” high bobbins</th>
<th>1.20” high bobbins</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\mu$</td>
<td>2000$\mu$</td>
<td>2000$\mu$</td>
</tr>
<tr>
<td>$A_c$ (cm²)</td>
<td>0.40 cm²</td>
<td>0.80 cm²</td>
</tr>
<tr>
<td>$l_e$ (cm)</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>