SMT Gate Drive Transformer

- Designed for transformer coupled MOSFET and IGBT gate drive circuits; operating frequency: 50 kHz to 2 MHz.
- 2250 Vdc, one minute primary to secondary isolation.
- Requires only 56 mm² of board space.
- Specified by National Semiconductor on AN-1521 for their POE+PHYTEREV-I/-E evaluation boards.
- Specified on the Microsemi PD70211EVB51F-12 evaluation board.

Core material: Ferrite
Terminations: RoHS compliant tin-silver over tin over nickel over phosphor bronze.

- Weight: 700 mg
- Ambient temperature: -40°C to +125°C
- Storage temperature: Component: -40°C to +125°C. Tape and reel packaging: -40°C to +80°C
- Resistance to soldering heat: Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles.
- Moisture Sensitivity Level (MSL): 1 (unlimited floor life at <30°C / 85% relative humidity)
- Failures in Time (FIT) / Mean Time Between Failures (MTBF): 38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332.

Packaging: 175/7” reel; 750/13” reel. Plastic tape: 24 mm wide, 0.4 mm thick, 12 mm pocket spacing, 7.0 mm pocket depth.

PCB Washing: Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf

---

### Specifications

<table>
<thead>
<tr>
<th>Part number</th>
<th>Turns ratio</th>
<th>Primary inductance</th>
<th>Leakage inductance</th>
<th>Primary DCR max</th>
<th>Secondary DCR max</th>
<th>Volt-time product</th>
<th>SRF min</th>
<th>Capacitance pri to sec max</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA2659-AL</td>
<td>1:1</td>
<td>296.0 µH</td>
<td>1.5 µH</td>
<td>0.795 Ohms</td>
<td>0.655 Ohms</td>
<td>34.2 V-µsec</td>
<td>1.39 MHz</td>
<td>21.9 pF</td>
</tr>
</tbody>
</table>

1. When ordering, please specify **packaging code**:

   - **FA2659-AL**
     - **Packaging**: C = 7” machine-ready reel. TIA-481 embossed plastic tape (175 parts per full reel).
     - B = Less than full reel. In tape, but not machine ready.
     - To have a leader and trailer added ($25 charge), use code letter C instead.
     - D = 13” machine-ready reel. TIA-481 embossed plastic tape. Factory order only, not stocked (750 parts per full reel).

2. Inductance measured at 100 kHz, 0.1 Vrms, 0 Adc.
3. Leakage inductance measured at 100 kHz, 0.1 Vrms with secondary pins shorted.
4. Based on Bsat of the core at 25°C and number of turns of the primary.
5. SRF measured with coils connected in series using an Agilent HP 4192 or equivalent.
6. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

---

**Dimensions are in inches/mm**

**Recommended Land Pattern**

---

Coilcraft Inc. 2017

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.