Gate Drive Transformer

For ON Semiconductor
NCP1652 and NCP4302

- Designed for ON Semiconductor for use with the NCP1652 PFC Controller and the NCP4302 Flyback Controller.
- Requires only 1.5 cm² of board space
- 1500 Vrms primary to secondary isolation
- Can be used from 20 kHz to 250 kHz.

**Core material** Ferrite

**Terminations** RoHS compliant tin-silver (96.5/3.5) over tin over nickel over phosph bronze. Other terminations available at additional cost.

**Weight** 1.35 g

**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 refloows 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** 500/13” reel; Plastic tape: 24 mm wide, 0.36 mm thick, 20 mm pocket spacing, 6.13 mm pocket depth

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

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### Specifications

<table>
<thead>
<tr>
<th>Part number1</th>
<th>Turns ratio</th>
<th>Primary inductance2 ±20 % (mH)</th>
<th>Leakage inductance3 max (µH)</th>
<th>Primary DCR max (Ohms)</th>
<th>Secondary DCR max (Ohms)</th>
<th>Volt-time product4 (V-µsec) max</th>
<th>Capacitance pri to sec max (pF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA2099-AL...</td>
<td>1:1</td>
<td>3.79</td>
<td>13.0</td>
<td>2.30</td>
<td>2.85</td>
<td>221</td>
<td>13.0</td>
</tr>
</tbody>
</table>

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

   **Packaging:**
   - **D** = 13” machine ready reel. EIA-481 embossed plastic tape (500 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 D instead.

2. Inductance measured at 100 kHz, 0.3 Vrms, 0 A dc.

3. Leakage inductance measured at 100 kHz, 0.3 Vrms with secondary pins shorted.

4. Based on Bsat of the core at 25°C and number of turns of the primary.

5. Capacitance measured at 100 kHz, 0.3 Vrms.

6. Electrical specifications at 25°C.

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

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