Flyback Transformer
For Texas Instruments
TPS23753A PoE controller

- Flyback transformer for 10 W PoE applications
- Developed to work with TI TPS23753A PoE controller
- 1500 Vrms isolation (hipot), one minute from primary and bias to secondary and sync

**Core material** Ferrite
**Terminations** RoHS tin-silver (96.5/3.5) over tin over nickel over phos bronze.
**Weight** 6.2 g
**Ambient temperature** -40°C to +85°C
**Maximum part temperature** +125°C (ambient + temp rise)
**Storage temperature** Component: -40°C to +125°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 per 13” reel. Plastic tape: 32 mm wide, 0.5 mm thick, 28 mm pocket spacing, 12.93 mm pocket depth
**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

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<table>
<thead>
<tr>
<th>Part number</th>
<th>L at 0A (µH)</th>
<th>L at Ipk (µH)</th>
<th>DCR max (Ohms)</th>
<th>Pri</th>
<th>Sec</th>
<th>Bias</th>
<th>Sync</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA6340-AL_</td>
<td>133.0</td>
<td>123.7</td>
<td>0.330</td>
<td>0.0135</td>
<td>0.230</td>
<td>0.190</td>
<td></td>
</tr>
</tbody>
</table>

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

- **PA6340-ALD**
  - **Packaging:** D = 13” machine-ready reel. EIA-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 D instead.

2. Inductance is for the primary, measured at 1 kHz, 0.5 Vrms, 0 A dc.
3. Peak primary current (1.1 A) drawn at minute input voltage.

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**Leakage inductance**

<table>
<thead>
<tr>
<th>L1 (µH)</th>
<th>L2 (µH)</th>
<th>L3 (µH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.028</td>
<td>0.70</td>
<td>0.004/0.13</td>
</tr>
</tbody>
</table>

**Capacitance**

<table>
<thead>
<tr>
<th>C1 (pF)</th>
<th>C2 (pF)</th>
<th>C3 (pF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.080</td>
<td>2.03</td>
<td>0.590</td>
</tr>
</tbody>
</table>

**Turns ratio**

<table>
<thead>
<tr>
<th>Pri : Sec : Bias : Sync</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.50 : 70 : 0.167 : 0.361</td>
<td>5.0 V, 2.0 A</td>
</tr>
</tbody>
</table>

4. DCR for the primary is from pin 1 to pin 2.
5. Leakage inductance measured between pins 1 and 2 with all other windings shorted.
6. Capacitance is measured from pins 1.2 to pins 6.10 at 250 kHz, 0.5 Vrms.
7. Turns ratio is with the primary windings connected in series.
8. Output is between pins 7 and 10. Bias winding output is 10 V, 20 mA. Sync winding output is a 5 V sync FET gate drive signal.
9. Electrical specifications at 25°C.

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

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**Dimensions:**

- **PA6340-AL**: 2.03 mm X 6.99 mm
- **Recommended Land Pattern**: 0.500 max 12.70
- **Dimensions are in mm**