Flyback Transformers

For Texas Instruments
LM5180-Q1 Flyback Converter

- Three output versions optimized for typical design applications of TI's LM5180-Q1 flyback converter
- Designed to operate up to 350 kHz with 4.5 – 70 V input
- 1500 Vrms, one minute isolation between primary and secondary

Core material: Ferrite
Terminations: RoHS tin-silver-copper over tin over nickel over phosph bronze. Other terminations available at additional cost.
Weight: 2.05 – 2.15 g
Ambient temperature: -40°C to +85°C
Max Part Temperature: +125°C (ambient + temperature rise)
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: 300/13” reel

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance at 0 A² ±10% (µH)</th>
<th>Inductance at 2A³ (µH)</th>
<th>DCR max (Ohms)⁴</th>
<th>Leakage inductance max (µH)⁵</th>
<th>Turns ratio</th>
<th>Power (W)</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pri</td>
<td>sec1</td>
<td>sec2</td>
<td>pri : sec1</td>
<td>pri : sec2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YA8779-BLD</td>
<td>30</td>
<td>24</td>
<td>0.140</td>
<td>0.013</td>
<td>—</td>
<td>0.380</td>
<td>1 : 0.330</td>
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<tr>
<td>YA8916-BLD</td>
<td>30</td>
<td>27</td>
<td>0.360</td>
<td>0.695</td>
<td>0.392</td>
<td>0.565</td>
<td>1 : 1</td>
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<td>1 : 0.52</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15 V, 0.20 A (sec1)</td>
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<td></td>
<td></td>
<td>8 V, 0.20 A (sec2)</td>
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<tr>
<td>YA8864-BLD</td>
<td>30</td>
<td>27</td>
<td>0.180</td>
<td>0.680</td>
<td>0.180</td>
<td>0.295</td>
<td>1 : 1.5</td>
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<td></td>
<td>1 : 0.40</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20 V, 0.10 A (sec1)</td>
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<td></td>
<td></td>
<td></td>
<td>5 V, 0.30 A (sec2)</td>
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</tbody>
</table>

   * Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).
2. Inductance is for the primary, measured at 300 kHz, 0.1 Vrms, 0 A dc.
3. Minimum inductance for the primary, measured at 300 kHz, 0.1 Vrms, 2 A dc.
4. Sec1 DCR for YA8779 is with windings connected in parallel.
5. Leakage Inductance is for the primary, measured with secondary windings shorted together.
6. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.
Flyback Transformers — YA8779, YA8916, YA8864

**YA8779, YA8916, YA8864**

Dimensions are in **inches / mm**

- **YA8779**
  - **10.5 max**
  - **7.4**

- **YA8864**
  - **10.2 max**
  - **2.49**

**Schematics**

**YA8779**

- **Pr**: 1
- **Sec**: 8
- **5 V, 1.20 A**

**YA8916**

- **Pr**: 1
- **Sec**: 8
- **15 V, 0.20 A**

**YA8864**

- **Pr**: 1
- **Sec**: 8
- **20 V, 0.10 A**

*Connect pin 5 to 6 and pin 7 to 8 on the PC board*