Flyback Transformers

For Analog Devices
Isolated Micropower Management Unit

- Optimized for use with the isolated flyback regulator in Analog Devices isolated micropower management unit.
- Ideal for wide input voltage range 4.5 V to 60 V
- Select the ZA9384-AL for higher efficiency and the ZA9644-AE for a smaller package size
- Low Leakage inductance

Core material Ferrite
Terminations RoHS tin-silver-copper (95.5/3.8/0.7) over tin over nickle over phos bronze.
Weight ZA9384-AL 2.7 g, ZA9644-AE 1.985 g
Ambient temperature −40°C to +85°C
Maximum part temperature +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
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

<table>
<thead>
<tr>
<th>Part number</th>
<th>Input voltage (V)</th>
<th>L² ±10% (µH)</th>
<th>L³ at 0.4 A min (µH)</th>
<th>Isat max (A)</th>
<th>Leakage L⁵ max (µH)</th>
<th>DCR max (Ohms)</th>
<th>Turns ratio</th>
<th>Isolation (Vrms)</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZA9384-ALD</td>
<td>4.5 – 60</td>
<td>470</td>
<td>423</td>
<td>0.80</td>
<td>4.0</td>
<td>1.1</td>
<td>1.6</td>
<td>1:1</td>
<td>6000</td>
</tr>
<tr>
<td>ZA9644-AED</td>
<td>4.5 – 60</td>
<td>470</td>
<td>376</td>
<td>0.49</td>
<td>3.8</td>
<td>1.8</td>
<td>1.8</td>
<td>1:1</td>
<td>6000</td>
</tr>
</tbody>
</table>

2. Inductance is for the primary, measured on an Agilent/HP 4284 at 100 kHz, 0.1 Vrms, 0 Adc.
3. Minimum inductance is for the primary, measured on an Agilent/HP 4284 at 100 kHz, 0.1 Vrms, 0.4 Adc.
4. DC current that causes an inductance drop of 30% (typ) from its value without current
5. Leakage inductance is for the primary with secondary winding shorted together.
6. Isolation (hipot) measured between windings for one minute
7. Electrical specifications at 25°C.
Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

Schematic

ZA9384-AL

ZA9644-AE

L vs Current

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### Transformers for Analog Devices

**ZA9384-AL**

![Diagram of ZA9384-AL](Image)

**Dimensions**

- Length: 0.602 max
- Width: 0.575 ref
- Height: 0.650 max

**Recommended Land Pattern**

- Width: 0.069 1.75
- Height: 0.512 13.0
- Center: 0.098 2.5

**Packaging**

- 300 per reel, 13" reel
- Plastic tape: 32 mm wide, 0.42 mm thick, 20 mm pocket spacing, 10.69 mm pocket depth

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**ZA9644-AE**

![Diagram of ZA9644-AE](Image)

**Dimensions**

- Length: 0.364 max
- Width: 0.394 max

**Recommended Land Pattern**

- Width: 0.063 1.60
- Height: 0.193 4.9
- Center: 0.097 2.45

**Packaging**

- 400 per reel, 13" reel
- Plastic tape: 32 mm wide, 0.40 mm thick, 20 mm pocket spacing, 7.6 mm pocket depth

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**Notes:**

- Dimensions are in inches and mm.
- Packaging information provided for reference.

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