Flyback Transformer
For Silicon Labs Si88xxx 5kV
Isolated DC-DC Converter

• Developed for use with Silicon Labs Si88xxx isolated dc-dc-converter reference designs.
• 5000 Vrms, one minute isolation from primary to secondary
• Designed to meet reinforced insulation class with 8 mm creepage and clearance.
• AEC-200 Grade 1 qualified (−40°C to +125°C ambient)

Core material Ferrite
Terminations RoHS tin-silver-copper (95.5/3.8/0.7) over tin over nickel over phos bronze.
Ambient temperature −40°C to +125°C
Maximum part temperature +160°C
Storage temperature Component: −40°C to +160°C.
Tape and reel packaging: −40°C to +80°C
Resistances 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 700 per 13″ reel Plastic tape: 32 mm wide, 0.40 mm thick, 16 mm pocket spacing, 5.72 mm pocket depth
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>Inductance (µH)</th>
<th>Leakage</th>
<th>DCR max (Ohms)</th>
<th>Turns ratio</th>
<th>Isolation (Vrms)</th>
<th>Isat (A)</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>UA7902-AL__</td>
<td>7 – 24</td>
<td>25.0</td>
<td>0.971</td>
<td>0.075</td>
<td>3:1</td>
<td>5000</td>
<td>1.3</td>
<td>5 V, 0.4 A</td>
</tr>
</tbody>
</table>

1. When ordering, specify a packaging code:

UA7902-ALD
Packaging:
D = 13″ machine ready reel. EIA-481 embossed plastic tape.
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 on an Agilent/HP 4284 at 250 kHz, 0.1 Vrms, 0 Adc.
3. Leakage inductance measured between pins 1 and 3 at 250 kHz, 0.1 Vrms, 0 Adc with all secondary pins shorted.
4. DCR for secondary is for the windings connected in parallel.
5. Isolation (hipot) measured between windings for one minute.
6. DC current that causes an inductance drop of 30% (typ) from its value without current
7. Electrical specifications at 25°C.

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

Recommended Land Pattern

Dimensions are in inches