81W PoE Transformer

For TI Industrial POE Isolated Flyback Reference Design

- Developed for Texas Instruments 81W Industrial POE Isolated Flyback reference design, PMP20058
- Operates with input voltage of 8 – 18 V
- 54 V, 1.5 A isolated output
- 1500 Vrms, one minute isolation (hipot) from primary and aux to secondary.

Core material  Ferrite
Terminations  ROHS tin-silver over tin over copper plated steel
Weight  49.7 g
Ambient temperature  -40°C to +105°C
Maximum part temperature  +145°C
Storage temperature  Component: -40°C to +105°C.
                     Tray packaging: -40°C to +80°C
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  120 per tray
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>Inductance at 0 A (\pm5% (\mu H))</th>
<th>DCR max (mOhms)</th>
<th>Leakage inductance max (\mu H)</th>
<th>Turns ratios</th>
<th>Ip_{pk} (A)</th>
<th>Output (Vrms)</th>
<th>Isolation (Vrms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UA7962-AL</td>
<td>10</td>
<td>5</td>
<td>38</td>
<td>1 : 2</td>
<td>15.5</td>
<td>54 V, 1.5 A</td>
<td>1500</td>
</tr>
</tbody>
</table>

1. Inductance is for the primary, measured at 300 kHz, 0.3 Vrms.
2. DCR for the primary is with the two windings connected in series (pin 2 and 3 to be connected).
3. Leakage inductance is for the primary windings with the secondary windings shorted.
4. Turns ratios are with the primary windings connected in series (pin 2 and 3 to be connected).

5. Peak primary current drawn at minimum input voltage.
6. Aux winding output is 20 mA.
7. Isolation (hipot) is measured from primary to secondary for one minute.
8. Electrical specifications at 25°C.

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

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**UA7962-AL**

**Recommended PC Board Layout**

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Dimensions are in **inches/mm**