## SMT Planar Transformer

For TI UCC2897 12 V/150 W Active Clamp Forward

- Developed for Texas Instruments UCC2897 Active Clamp Forward (PMP9720 reference design)
- Designed for 48 – 60 Vdc input; 12 V, 13 A
- High efficiency; excellent DCR; very low leakage inductance; 1500 Vrms, one minute primary to secondary isolation.
- Provides 0.009” (0.229 mm) clearance above the seating plane

**Core material**: Ferrite  
**Terminations**: Matte tin over nickel over brass.  
**Weight**: 12.7 g  
**Ambient temperature**: −40°C to +125°C  
**Maximum part temperature**: +165°C (ambient + temp rise)  
**Storage temperature**: Component: −40°C to +125°C.  
**Resistance to soldering heat**: Max three 40 second reflo ws 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**: 36 per tray  
**PCB washing**: Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

### Specifications

<table>
<thead>
<tr>
<th>Parts number</th>
<th>Turns</th>
<th>Primary Inductance</th>
<th>Leakage Inductance</th>
<th>DCR max (mOhms)</th>
<th>Volt-time product type</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA7040-AL</td>
<td>6</td>
<td>N1: 6, N2: 6, Sec: 3, Aux: 3</td>
<td>50</td>
<td>0.55</td>
<td>10.75</td>
<td>100</td>
</tr>
</tbody>
</table>

1. Inductance is for the primary, measured on Agilent/HP 4284A at 200 kHz, 0.5 Vrms, 0 Adc with primary windings connected in parallel.  
2. Leakage Inductance is for the primary, measured at 200 kHz, 0.5 Vrms, 0 Adc with primary windings connected in parallel and all secondary pins shorted.  
3. Primary DCR measured with primary windings connected in parallel  
4. Volt-time product is based on primary windings connected in parallel.  
5. Output of the secondary, 12 V 13 A, is from pins 11 – 8. Output of the aux winding is 12 V.  
6. Electrical specifications at 25°C.  

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.
RA7040-AL SMT Planar Transformer

Dot indicates pin 1

Internal code

Dimensions are in inches

Recommended Land Pattern

Recommended Land Pattern

Dimensions are in mm