PoE Flyback Transformer for Si3406x

- Developed for Silicon Labs Si3406, Si34601 and Si34062 30W PD Flyback converter
- Designed to meet 30 W PoE IEEE 802.3at-2009 standard.
- Optimized for 220 kHz with 36 – 57 input voltage; Can also operate from 100 kHz to 500 kHz
- Isolation: 1500 Vrms, one minute pri and aux to sec; 500 Vrms pri to aux

Core material Ferrite
Terminations RoHS tin-silver-copper over tin over nickel over phos bronze.
Weight 13.1 g
Ambient temperature –40°C to +85°C
Maximum part temperature +125°C (ambient + temp 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 175 per 13” reel Plastic tape: 44 mm wide, 0.4 mm thick, 32 mm pocket spacing, 11.9 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>Inductance at 0 A²</th>
<th>Inductance at Ipk³</th>
<th>DCR max (Ohms)</th>
<th>Leakage inductance max</th>
<th>Turns ratio</th>
<th>Ipk³ (A)</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>CX9642-AL</td>
<td>±15% (µH)</td>
<td>max (µH)</td>
<td>pri sec aux</td>
<td>max (µH) pri : sec</td>
<td>pri : aux:</td>
<td>3.0</td>
<td>5.0V, 6 A</td>
</tr>
<tr>
<td>CX9642-AL-D</td>
<td>70.0</td>
<td>60.0</td>
<td>0.08 0.0027 0.36</td>
<td>1.0 1:0.136 1:0.409</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:
   - CX9642-AL-D
   Packaging: D = 13” machine-ready reel. EIA-481 embossed plastic tape (175 parts per full reel). 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 333.3 kHz, 0.1 Vrms, 0 Adc.
3. Peak primary current drawn at minimum input voltage.
4. DCR is with the windings connected in parallel.
5. Leakage inductance is for the primary winding with the secondary windings shorted.
6. Turns ratio is with the primary and the secondary windings connected in parallel.
7. Output is with the secondary windings connected in parallel. Output of the auxiliary winding is 14.5 V, 25 mA
8. Electrical specifications at 25°C.

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

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Part number: CX9642-AL
Inductance at 0 A²: 70.0 µH
Inductance at Ipk: 60.0 µH
DCR max (Ohms): 0.08 pri, 0.0027 sec, 0.36 aux
Leakage inductance max: 1.0 pri:sec, 1:0.136 pri:aux
Turns ratio: 1:0.409
Ipk³ (A): 3.0
Output: 5.0V, 6 A

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Dimensions are in inches/mm

Recommended Land Pattern

Dot indicates pin 1

Internal code

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This product may not be used in medical or high risk applications without prior Coilcraft approval. Specification subject to change without notice. Please check web site for latest information.