**Flyback Transformers**

For National Semiconductor

**LM5070 PoE Interface – 13 Watt**

- Flyback transformers for 13 W PoE applications
- Designed to operate in continuous mode at 250 kHz with an input of 36–72 Vdc
- 1500 Vrms isolation from primary and bias to secondary

**Core material** Ferrite

**Terminations** RoHS tin-silver (96.5/3.5) over tin over nickel over phosphor bronze. Other terminations available at additional cost.

**Weight** 6.15 g

**Ambient temperature** –40°C to +85°C

**Storage temperature** Component: –40°C to +85°C. Tape and reel packaging: –40°C to +80°C

**Resistance to soldering heat** Max three 40 second refloows 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: 32 mm wide, 0.5 mm thick, 28 mm pocket spacing, 12.93 mm pocket depth

**PCB washing** Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf

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**Table: Specifications**

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance at 0 A&lt;sup&gt;2&lt;/sup&gt; ±10% (µH)</th>
<th>Inductance at I&lt;sub&gt;pk&lt;/sub&gt;&lt;sup&gt;3&lt;/sup&gt; min (µH)</th>
<th>DCR max (Ohms)&lt;sup&gt;4&lt;/sup&gt;</th>
<th>Leakage inductance max (µH)&lt;sup&gt;5&lt;/sup&gt;</th>
<th>Turns ratio&lt;sup&gt;6&lt;/sup&gt;</th>
<th>I&lt;sub&gt;pk&lt;/sub&gt;&lt;sup&gt;3&lt;/sup&gt; (A)</th>
<th>Output&lt;sup&gt;7&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1495-AL__</td>
<td>127</td>
<td>114.3</td>
<td>0.255</td>
<td>0.024</td>
<td>1.25</td>
<td>1:0.50</td>
<td>3.3 V, 4.0 A</td>
</tr>
<tr>
<td>C1585-AL__</td>
<td>127</td>
<td>114.3</td>
<td>0.222</td>
<td>0.039</td>
<td>0.650</td>
<td>1:0.50</td>
<td>5.0 V, 2.6 A</td>
</tr>
<tr>
<td>C1586-AL__</td>
<td>127</td>
<td>114.3</td>
<td>0.199</td>
<td>0.012</td>
<td>0.950</td>
<td>1:0.50</td>
<td>12 V, 1.08 A</td>
</tr>
</tbody>
</table>

1. When ordering, please specify **packaging** code:

**C1586-ALD**

**Packaging:**

- **D** = 13” machine-ready reel. EIA-481 embossed plastic tape (175 parts per full reel).
- **B** = Less than full reel. In tape, but not machine ready.

2. Inductance is for the primary, measured at 250 kHz, 0.2 Vrms, 0 Adc.

3. I<sub>pk</sub> is peak primary current drawn at minimum input voltage.

4. DCR for the secondary is per winding.

5. Leakage inductance measured between pins 3 and 4 with all other pins shorted.

6. Turns ratio is with the secondary windings connected in parallel.

7. Output of the secondary is with the windings connected in parallel. Bias winding output is 12 V, 20 mA.

8. Electrical specifications at 25°C.

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**Figure: Recommended Land Pattern**

Secondary windings to be connected in parallel on the PC board.

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**Dimensions:**

- 0.500 max
- 0.699 max
- 0.039
- 1.00
- 17.75
- 12.70

Dimensions are in inches

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**Contact Information:**

- **US** +1-847-639-6400 sales@coilcraft.com
- **UK** +44-1236-730595 sales@coilcraft-europe.com
- **Taiwan** +886-2-2264 3646 sales@coilcraft.com.tw
- **China** +86-21-6218 8074 sales@coilcraft.com.cn
- **Singapore** +65-6484 8412 sales@coilcraft.com.sg

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**Document 445**  Revised 10/29/08

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