Flyback Transformers

For 3 Watt, 7 Watt and 13 Watt PoE Applications

- Flyback transformers for PoE applications
- Designed to operate in continuous mode at 250 kHz with an input of 36–72 Vdc
- 1500 Vrms, one minute isolation from primary and bias to secondary; 500 Vrms, 1 minute isolation between all other windings

Designer’s Kit C395 contains two of each part shown in bold
Core material Ferrite
Terminations RoHS tin-silver over tin over nickel over phos bronze. Other terminations available at additional cost.
Weight POE13P: 6.15 g; POE70P: 3.85 g; POE30P: 2.05 g
Ambient temperature -40°C to +85°C
Max 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
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>Power (W)</th>
<th>Inductance at 0 A² [µH]</th>
<th>Inductance at Ipk² [µH]</th>
<th>DCR max (Ohms)³</th>
<th>Leakage inductance max [µH] ⁴</th>
<th>Turns ratio⁵</th>
<th>Ipk³ (A)</th>
<th>Output⁶</th>
</tr>
</thead>
<tbody>
<tr>
<td>POE30P-33L</td>
<td>3</td>
<td>310</td>
<td>279.0</td>
<td>1.02</td>
<td>2.01</td>
<td>0.066</td>
<td>4.75</td>
<td>1.019</td>
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<tr>
<td>POE30P-50L</td>
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<td>310</td>
<td>279.0</td>
<td>1.02</td>
<td>2.01</td>
<td>0.118</td>
<td>4.50</td>
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<tr>
<td>POE30P-12L</td>
<td>7</td>
<td>155</td>
<td>139.5</td>
<td>0.414</td>
<td>0.822</td>
<td>0.036</td>
<td>4.00</td>
<td>1.019</td>
</tr>
<tr>
<td>POE70P-33L</td>
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<td>155</td>
<td>139.5</td>
<td>0.414</td>
<td>0.822</td>
<td>0.060</td>
<td>3.60</td>
<td>1.026</td>
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<td>155</td>
<td>139.5</td>
<td>0.414</td>
<td>0.822</td>
<td>0.343</td>
<td>3.25</td>
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<tr>
<td>POE70P-12L</td>
<td>7</td>
<td>155</td>
<td>139.5</td>
<td>0.414</td>
<td>0.822</td>
<td>0.262</td>
<td>1.95</td>
<td>1.067</td>
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<td>POE13P-33L</td>
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<td>114.3</td>
<td>0.255</td>
<td>0.310</td>
<td>0.024</td>
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<td>1.016</td>
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<td>127</td>
<td>114.3</td>
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<td>0.650</td>
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<td>0.600</td>
<td>1.067</td>
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</table>

1. When ordering, please specify **packaging** code:
   - **POE30P-12LD**

2. **Packaging:** D = 13” machine-ready reel. EIA-481 embossed plastic tape. Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).
   - B = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to D.

3. Ipk 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.

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

Schematics

POE13P

POE70P, POE30P

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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.
Flyback Transformers for PoE

POE13P

- Dimensions are in inches

POE70P

- Dimensions are in inches

POE30P

- Dimensions are in inches

Packaging 175 per 13” reel
- Plastic tape: 32 mm wide, 0.5 mm thick,
- 28 mm pocket spacing, 12.93 mm pocket depth

Packaging 200 per 13” reel
- Plastic tape: 32 mm wide, 0.5 mm thick,
- 24 mm pocket spacing, 11.2 mm pocket depth

Packaging 350 per 13” reel
- Plastic tape: 32 mm wide, 0.45 mm thick,
- 20 mm pocket spacing, 9.35 mm pocket depth

Parts manufactured prior to April, 2012 may be marked differently.