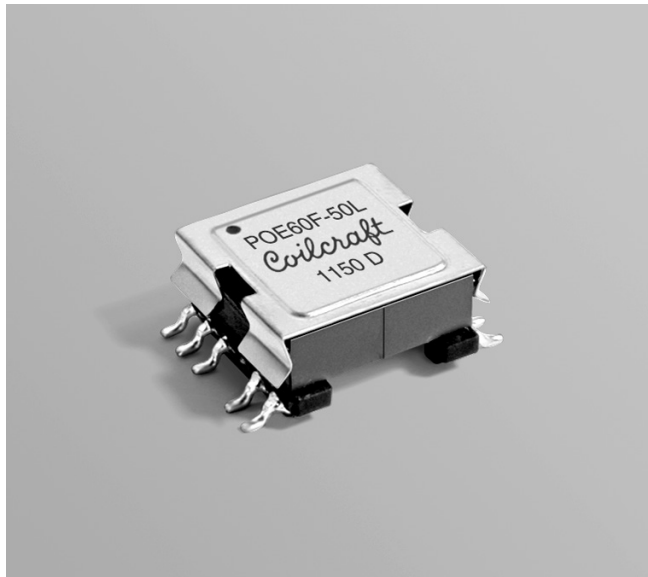




# Flyback Transformers for PoE



- Flyback transformers for 6 W and 13 W PoE applications
- Designed to operate with 36 – 72 V input at 250 kHz
- 1500 Vrms. one minute isolation primary and bias to secondary

**Designer's Kit C372** contains two samples of parts shown in bold

**Core material** Ferrite

**Terminations** RoHS tin-silver over tin over nickel over phos bronze. Other terminations available at additional cost.

**Weight** 5.0 – 5.6 g

**Ambient temperature** –40°C to +125°C

**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** 200 per 13" reel Plastic tape: 44 mm wide, 0.4 mm thick, 28 mm pocket spacing, 9.6 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

| Part number <sup>1</sup> | Power (W) | Inductance at 0 A <sup>2</sup><br>±10% (μH) | Inductance at I <sub>pk</sub> <sup>3</sup><br>min (μH) | DCR max (Ohms) <sup>4</sup> |       |       | Leakage inductance <sup>5</sup><br>max (μH) | Turns ratios <sup>6</sup> |          | I <sub>pk</sub> <sup>3</sup><br>(A) | Output <sup>7</sup> |
|--------------------------|-----------|---------------------------------------------|--------------------------------------------------------|-----------------------------|-------|-------|---------------------------------------------|---------------------------|----------|-------------------------------------|---------------------|
|                          |           |                                             |                                                        | pri                         | sec   | bias  |                                             | pri:sec                   | pri:bias |                                     |                     |
| <b>POE60F-18L</b>        | 6         | 75.0                                        | 67.5                                                   | 0.195                       | 0.005 | 0.195 | 8.0                                         | 1:0.07                    | 1:0.36   | 1.3                                 | 1.8V, 3.3A          |
| <b>POE60F-25L</b>        | 6         | 55.0                                        | 49.5                                                   | 0.095                       | 0.005 | 0.150 | 4.6                                         | 1:0.08                    | 1:0.33   | 1.2                                 | 2.5V, 2.4A          |
| <b>POE60F-33L</b>        | 6         | 65.0                                        | 58.5                                                   | 0.138                       | 0.007 | 0.180 | 3.9                                         | 1:0.11                    | 1:0.36   | 1.2                                 | 3.3V, 1.8A          |
| <b>POE60F-50L</b>        | 6         | 60.0                                        | 54.0                                                   | 0.130                       | 0.009 | 0.165 | 2.3                                         | 1:0.15                    | 1:0.35   | 1.1                                 | 5.0V, 1.2A          |
| <b>POE60F-12L</b>        | 6         | 55.0                                        | 49.5                                                   | 0.095                       | 0.017 | 0.150 | 0.7                                         | 1:0.35                    | 1:0.35   | 1.1                                 | 12V, 0.5A           |
| <b>POE13F-18L</b>        | 13        | 45.0                                        | 40.5                                                   | 0.195                       | 0.005 | 0.195 | 7.9                                         | 1:0.07                    | 1:0.36   | 2.3                                 | 1.8V, 7.2A          |
| <b>POE13F-25L</b>        | 13        | 35.0                                        | 31.5                                                   | 0.095                       | 0.005 | 0.150 | 4.2                                         | 1:0.08                    | 1:0.33   | 2.2                                 | 2.5V, 5.2A          |
| <b>POE13F-33L</b>        | 13        | 40.0                                        | 36.0                                                   | 0.138                       | 0.007 | 0.180 | 3.4                                         | 1:0.11                    | 1:0.36   | 2.2                                 | 3.3V, 3.9A          |
| <b>POE13F-50L</b>        | 13        | 40.0                                        | 36.0                                                   | 0.130                       | 0.009 | 0.165 | 1.9                                         | 1:0.15                    | 1:0.35   | 2.1                                 | 5.0V, 2.6A          |
| <b>POE13F-12L</b>        | 13        | 35.0                                        | 31.5                                                   | 0.095                       | 0.017 | 0.150 | 0.6                                         | 1:0.35                    | 1:0.35   | 2.0                                 | 12V, 1.1A           |
| <b>POE13F-19L</b>        | 13        | 37.0                                        | 33.3                                                   | 0.085                       | 0.025 | 0.150 | 0.4                                         | 1:0.57                    | 1:0.35   | 2.0                                 | 19.5V, 0.67A        |
| <b>POE13F-24L</b>        | 13        | 37.0                                        | 33.3                                                   | 0.086                       | 0.049 | 0.150 | 0.4                                         | 1:0.67                    | 1:0.33   | 2.0                                 | 24V, 0.54A          |

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

**POE13F-12LD**

**Packaging:** **D** = 13" machine-ready reel. EIA-481 embossed plastic tape (200 parts per full reel).

**B** = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter D instead.

2. Inductance is for the primary, measured at 250 kHz, 0.3 Vrms.

3. Peak primary current drawn at minimum input voltage.

4. DCR for the primary and for the secondary are with the windings connected in parallel.

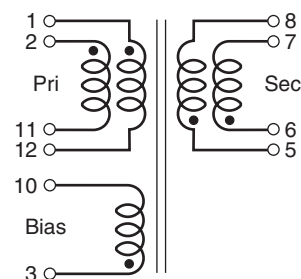
5. Leakage inductance is for the primary windings with the secondary windings shorted.

6. Turns ratios are with the primary 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.



Primary windings and secondary windings to be connected in parallel on PCB board.



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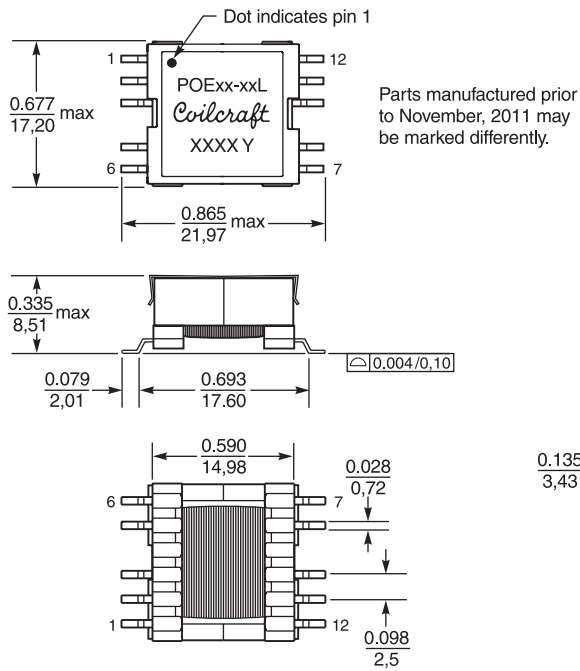
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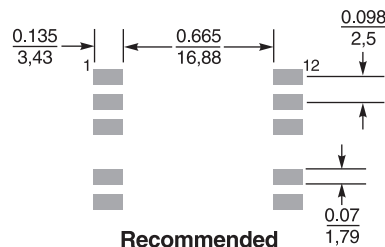
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# Flyback Transformers for PoE



Dimensions are in  $\frac{\text{inches}}{\text{mm}}$



**Recommended  
Land Pattern**



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