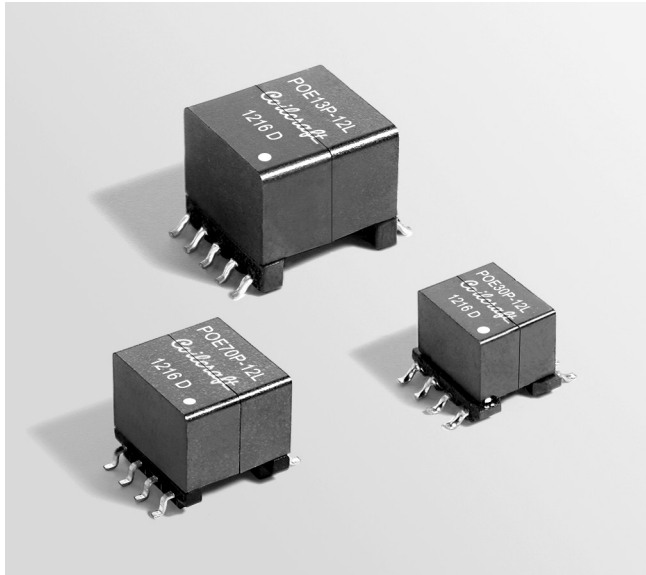


# Flyback Transformers

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

**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

**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 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 with pure water or alcohol only. For other solvents, see Doc787\_PCB\_Washing.pdf.

Part number <sup>1</sup>	Power (W)	Inductance at 0 A <sup>2</sup> ±10% (µH)	Inductance at I <sub>pk</sub> <sup>3</sup> min (µH)	DCR max (Ohms) <sup>4</sup>			Leakage inductance max (µH) <sup>5</sup>	Turns ratio <sup>6</sup>		I <sub>pk</sub> <sup>3</sup> (A)	Output <sup>7</sup>
				pri	bias	sec		pri : sec	pri : bias		
<b>POE30P-33L</b>	3	310	279.0	1.02	2.01	0.066	4.75	1 : 0.19	1 : 0.70	0.3	3.3 V, 0.91 A
<b>POE30P-50L</b>	3	310	279.0	1.02	2.01	0.118	4.50	1 : 0.28	1 : 0.70	0.3	5.0 V, 0.6 A
<b>POE30P-12L</b>	3	310	279.0	1.04	2.01	0.700	4.25	1 : 0.70	1 : 0.70	0.3	12 V, 0.25 A
<b>POE70P-33L</b>	7	155	139.5	0.414	0.822	0.036	4.00	1 : 0.19	1 : 0.667	0.65	3.3 V, 2.12 A
<b>POE70P-50L</b>	7	155	139.5	0.414	0.822	0.060	3.60	1 : 0.262	1 : 0.667	0.65	5.0 V, 1.4 A
<b>POE70P-12L</b>	7	155	139.5	0.414	0.822	0.343	3.25	1 : 0.667	1 : 0.667	0.65	12 V, 0.6 A
<b>POE13P-33L</b>	13	127	114.3	0.255	0.310	0.024	1.25	1 : 0.166	1 : 0.50	1.0	3.3 V, 4.0 A
<b>POE13P-50L</b>	13	127	114.3	0.222	0.348	0.039	0.950	1 : 0.25	1 : 0.50	1.0	5.0 V, 2.6 A
<b>POE13P-12L</b>	13	127	114.3	0.199	0.308	0.065	0.650	1 : 0.50	1 : 0.50	1.0	12 V, 1.08 A
POE13P-19L	13	127	114.3	0.290	0.355	0.066	0.800	1 : 0.567	1 : 0.50	1.0	19.5 V, 0.67 A
POE13P-24L	13	127	114.3	0.255	0.315	0.067	0.600	1 : 0.667	1 : 0.50	1.0	24 V, 0.54 A

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

**POE30P-12LD**

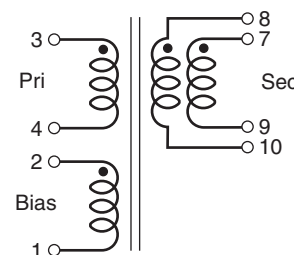
**Packaging:** D = 13" machine-ready reel. EIA-481 embossed plastic tape.

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.

- Inductance is for the primary, measured at 250 kHz, 0.1 Vrms, 0 Adc.
  - I<sub>pk</sub> is peak primary current drawn at minimum input voltage.
  - DCR for the secondary is per winding.
  - Leakage inductance measured between pins 3 and 4 with all other pins shorted.
  - Turns ratio is with the secondary windings connected in parallel.
  - Output of the secondary is with the windings connected in parallel. Bias winding output is 12 V, 20 mA.
  - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

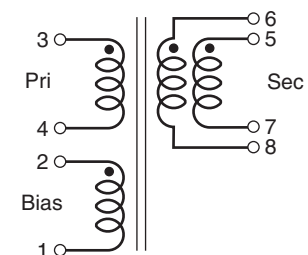
## Schematics

### POE13P



Secondary windings to be connected in parallel on PC board

### POE70P, POE30P

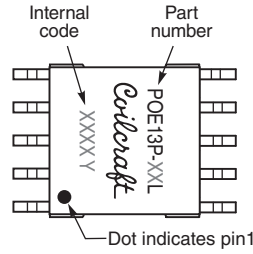
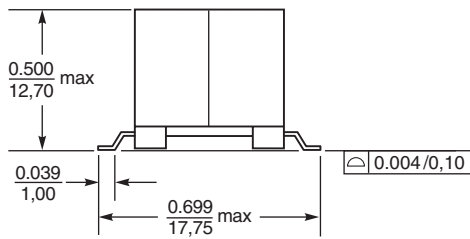


Secondary windings to be connected in parallel on PC board



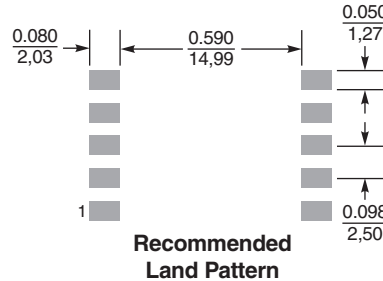
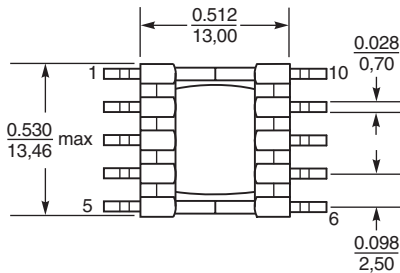
# Flyback Transformers for PoE

## POE13P

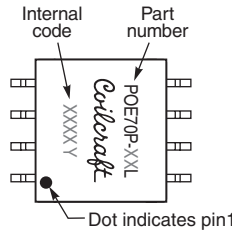
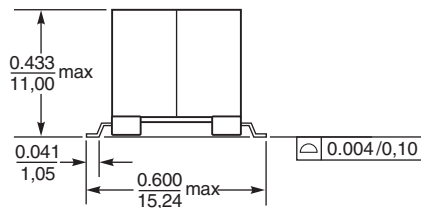


**Packaging** 175 per 13" reel  
 Plastic tape: 32 mm wide, 0.5 mm thick,  
 28 mm pocket spacing, 12.93 mm pocket depth

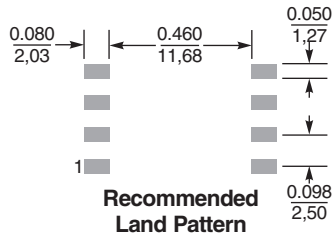
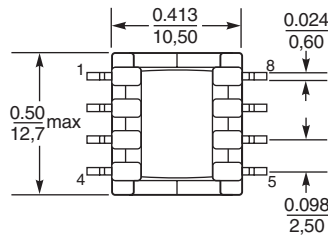
Parts manufactured prior to April, 2012 may be marked differently.



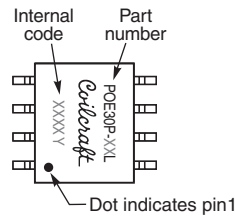
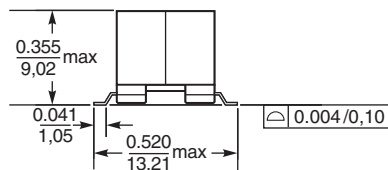
## POE70P



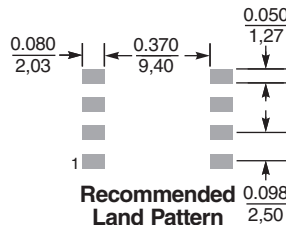
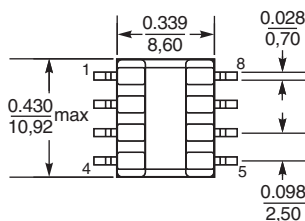
**Packaging** 200 per 13" reel  
 Plastic tape: 32 mm wide, 0.5 mm thick,  
 24 mm pocket spacing, 11.2 mm pocket depth



## POE30P



**Packaging** 350 per 13" reel  
 Plastic tape: 32 mm wide, 0.42 mm thick, 20 mm pocket spacing, 9.16 mm pocket depth



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



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