



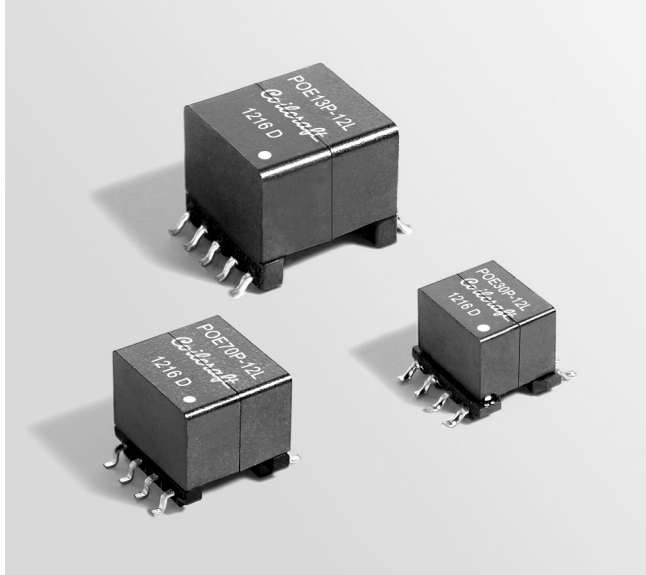
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Flyback Transformers

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](#).

Part number ¹	Power (W)	Inductance at 0 A ² ±10% (μH)	Inductance at Ipk ³ min (μH)	DCR max (Ohms) ⁴			Leakage inductance max (μH) ⁵	Turns ratio ⁶		Ipk ³ (A)	Output ⁷
				pri	bias	sec		pri : sec	pri : bias		
POE30P-33L	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
POE30P-50L	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
POE30P-12L	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
POE70P-33L	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
POE70P-50L	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
POE70P-12L	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
POE13P-33L	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
POE13P-50L	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
POE13P-12L	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. 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.

2. Inductance is for the primary, measured at 250 kHz, 0.1 Vrms, 0 Adc.

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.

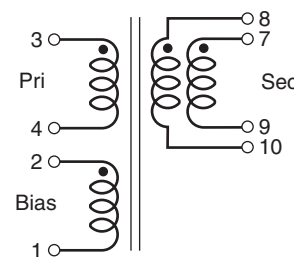
7. Output of the secondary is with the windings connected in parallel. Bias winding output is 12 V, 20 mA.

8. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

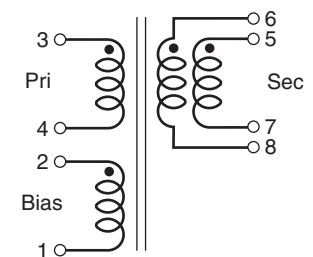
Schematics

POE13P



Secondary windings to be connected in parallel on PC board

POE70P, POE30P



Secondary windings to be connected in parallel on PC board



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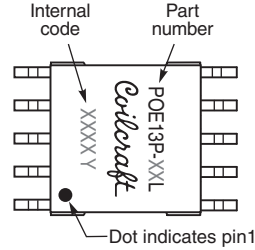
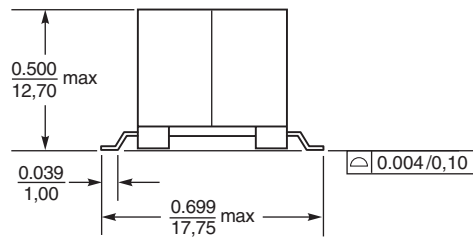
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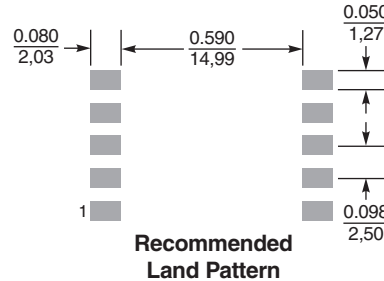
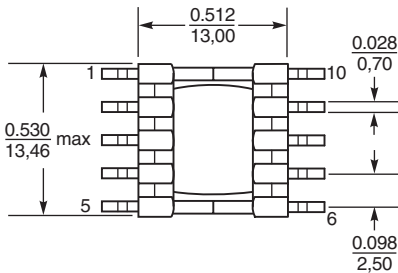
Flyback Transformers for PoE

POE13P

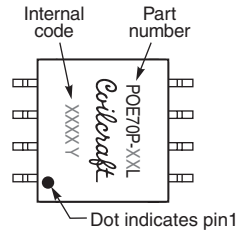
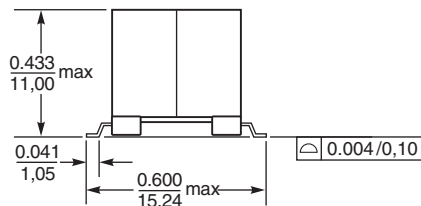


Packaging 175 per 13" reel
Plastic tape: 32 mm wide, 0.5 mm thick,
28 mm pocket spacing, 12.93 mm pocket depth

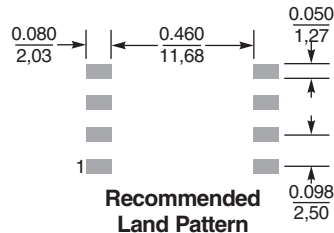
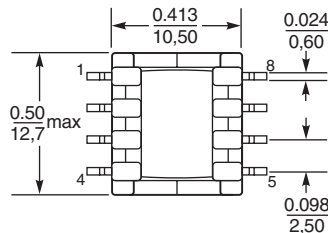
Parts manufactured prior to
April, 2012 may be marked
differently.



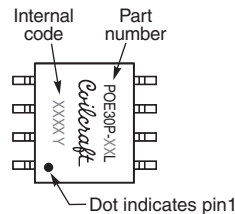
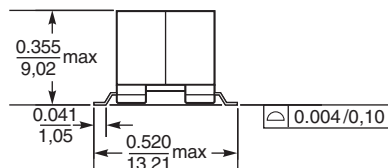
POE70P



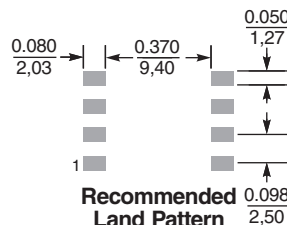
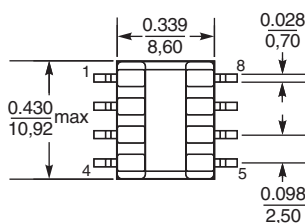
Packaging 200 per 13" reel
Plastic tape: 32 mm wide, 0.5 mm thick,
24 mm pocket spacing, 11.2 mm pocket depth



POE30P



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



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



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