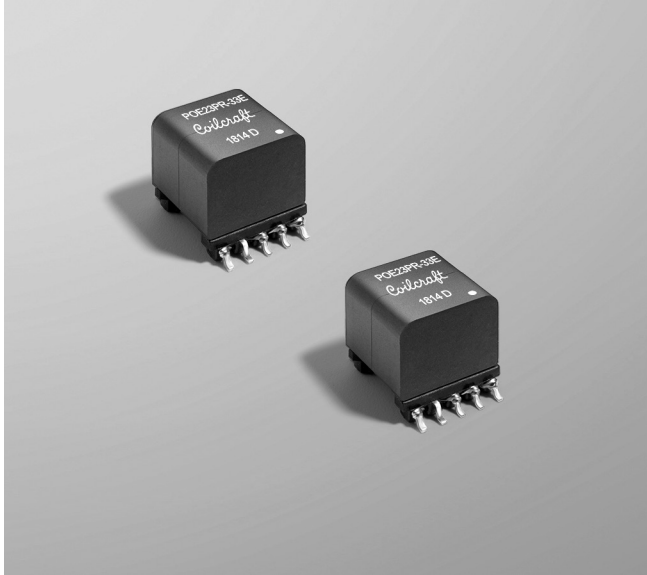




# Flyback & Forward Transformers for PoE



- Flyback and Forward transformers for PoE up to 72 Watts
- Operates with 9 – 57 V input (POE21, 22, 24, 33, 35 and 38)
- Operates with 33 – 57 V input (POE23, 30, 36, 53, 70, and 72)
- One minute isolation (hipot): 1500Vrms, from pri and aux to each sec; 500 Vrms from pri to aux; 500 Vrms between two secondary
- Dual outputs can be configured as one single higher power output
- AEC-Q200 Grade 1 (–40°C to +125°C)

**Core material** Ferrite

**Environment** RoHS compliant, halogen free

**Terminations** Tin-silver-copper over tin over nickel over phos bronze.

**Weight** 7.1 – 7.9 g

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

**Maximum part temperature** +165°C (Ambient + temp rise)

**Storage temperature** Component: –40°C to +165°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)

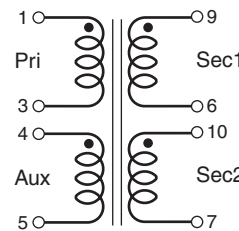
**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

## Flyback Transformers

Part number <sup>1</sup>	Power (W)	L at 0 A <sup>2</sup> ±10% (µH)	Isat <sup>3</sup> (A)	DCR max (mOhms)				Leakage inductance <sup>4</sup> max (µH)	Turns ratio				Output <sup>5</sup>
				pri	sec1	sec2	aux		pri : sec1	sec2 : aux			
POE21PR-33ED	21	21	6.2	31	10	10	80	0.30	1 : 0.231	0.231 : 0.692	3.3 V, 3.2 A		
POE23PR-33ED	23	54	3.2	62	6.5	6.5	58	0.67	1 : 0.125	0.125 : 0.375	3.3 V, 3.5 A		
POE22PR-50ED	22	21	6.2	31	17	17	80	0.16	1 : 0.333	0.333 : 0.750	5.0 V, 2.2 A		
POE30PR-50ED	30	48	3.6	62	10	10	85	0.40	1 : 0.188	0.188 : 0.375	5.0 V, 3.0 A		
POE24PR-12ED	24	21	6.3	31	52	52	72	0.15	1 : 0.750	0.750 : 0.667	12 V, 1.0 A		
POE36PR-12ED	36	41	4.2	62	23	23	85	0.28	1 : 0.375	0.375 : 0.375	12 V, 1.5 A		

- 1. Packaging:** D = 13" machine-ready reel. EIA-481 embossed plastic tape (150 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).
  2. Inductance is for the primary, measured at 200 kHz, 0.1 Vrms, 0 Adc.
  3. DC current at 25°C that causes an inductance drop of < 30% from its value without current.
  4. Leakage inductance measured between pins 1 and 3 with all other pins shorted.
  5. Output is for each secondary. Output of the aux winding is 10 V, 50 mA.
  6. Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



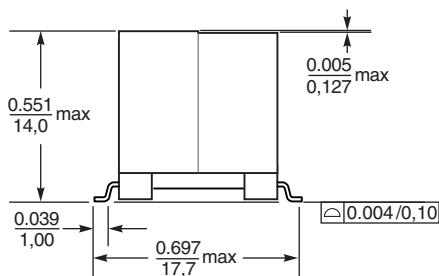
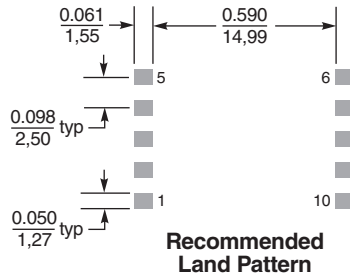
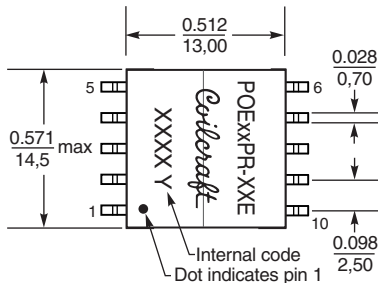
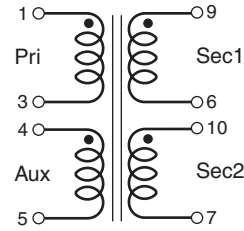


# Transformers for PoE

## Forward Mode Transformers

Part number <sup>1</sup>	Power (W)	L at 0 A <sup>2</sup> (µH)	DCR max (mOhms)				Turns ratio pri : sec1 : sec2 : aux	Leakage inductance <sup>3</sup> max (µH)	Output <sup>4</sup>	Volt-time product <sup>5</sup> (V-µsec)
			pri	sec1	sec2	aux				
POE33PR-33ED	33	128 ±25%	17	12.5	12.5	145	1 : 0.625 : 0.625 : 0.75	0.10	3.3 V, 5.0 A	71
POE53PR-33ED	53	100 ±15%	30	6.5	6.5	120	1 : 0.167 : 0.167 : 0.50	0.40	3.3 V, 8.0 A	107
POE35PR-50ED	35	128 ±15%	17.6	23	23	340	1 : 0.875 : 0.875 : 1.75	0.15	5.0 V, 3.5 A	71
POE70PR-50ED	70	100 ±15%	30	10	10	120	1 : 0.250 : 0.250 : 0.50	0.40	5.0 V, 7.0 A	107
POE38PR-12ED	38	128 ±15%	17.6	122	122	340	1 : 2.125 : 2.125 : 1.75	0.15	12 V, 1.6 A	71
POE72PR-12ED	72	100 ±15%	38	27	27	120	1 : 0.583 : 0.583 : 0.50	0.25	12 V, 3.0 A	107

- Packaging:** D = 13" machine-ready reel. EIA-481 embossed plastic tape (150 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).
  - Inductance is for the primary, measured at 200 kHz, 0.1 Vrms, 0 Adc.
  - Leakage inductance measured between pins 1 and 3 with all other pins shorted.
  - Output is for each secondary. Output of the aux winding is 10 V, 50 mA.
  - Based on 280 mT at 25°C and number of turns on pins 1-3.
  - Electrical specifications at 25°C.
- Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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

**Packaging** 150 per 13" reel Plastic tape: 44 mm wide, 0.5 mm thick, 28 mm pocket spacing, 14.6 mm pocket depth



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