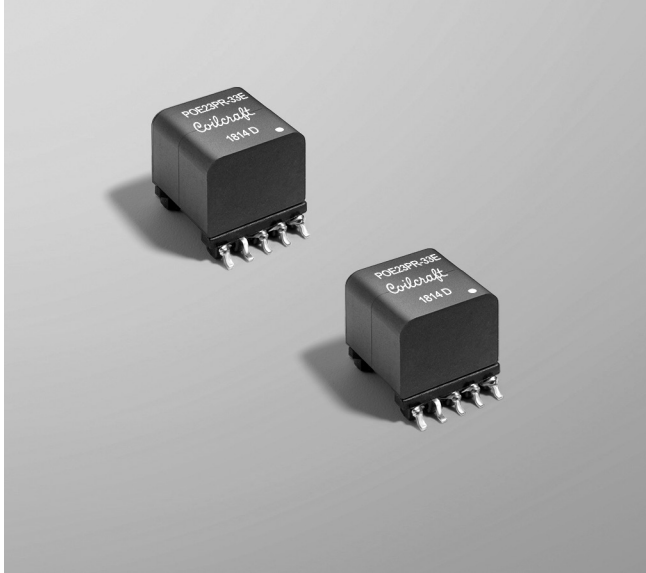




Flyback & Forward Transformers for PoE



- 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 ¹	Power (W)	L at 0 A ² ±10% (µH)	Isat ³ (A)	DCR max (mOhms)				Leakage inductance ⁴ max (µH)	Turns ratio				Output ⁵
				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.

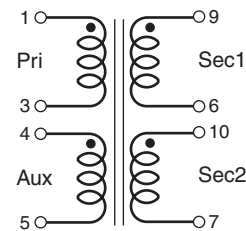
3. DC current at 25°C that causes an inductance drop of < 30% from its value without current.

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.



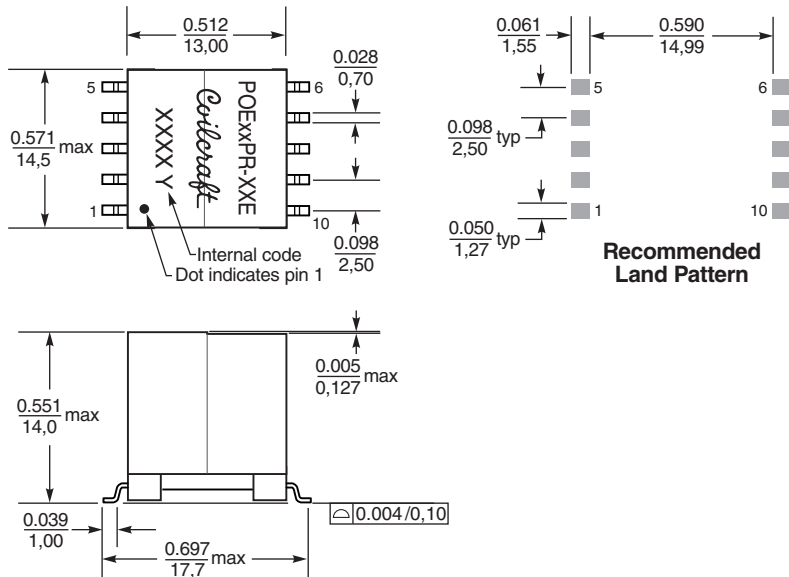
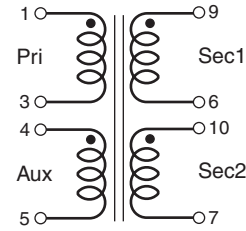


Transformers for PoE

Forward Mode Transformers

Part number ¹	Power (W)	L at 0 A ² (μH)	DCR max (mOhms)				Turns ratio			Leakage inductance ³ max (μH)	Output ⁴	Volt-time product ⁵ (V-μsec)
			pri	sec1	sec2	aux	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.



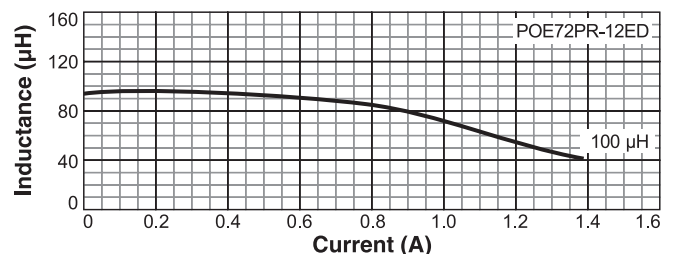
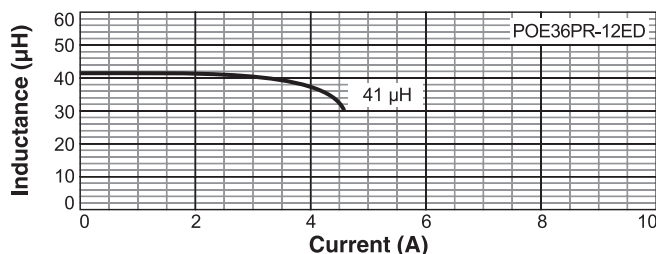
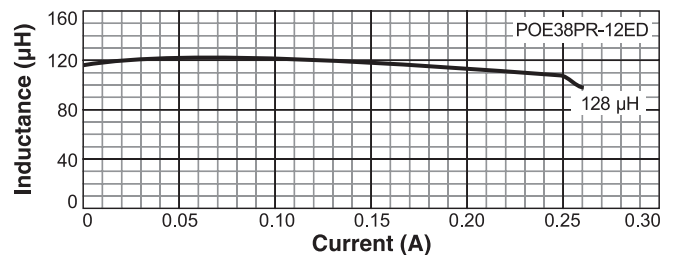
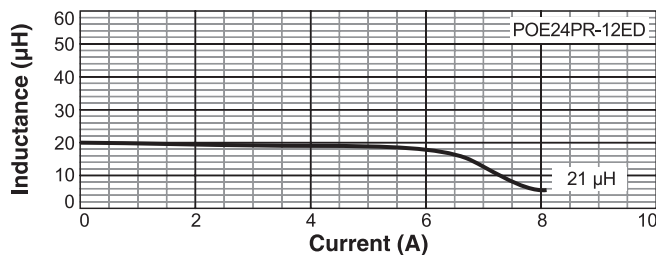
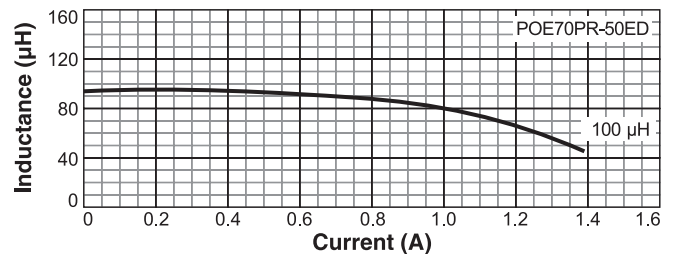
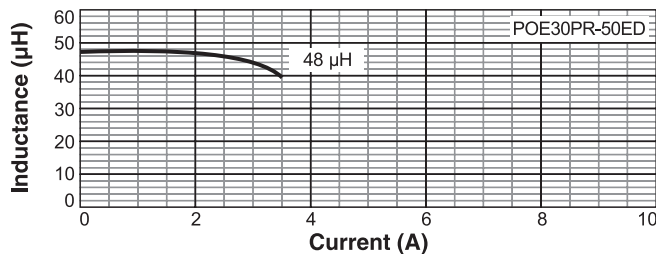
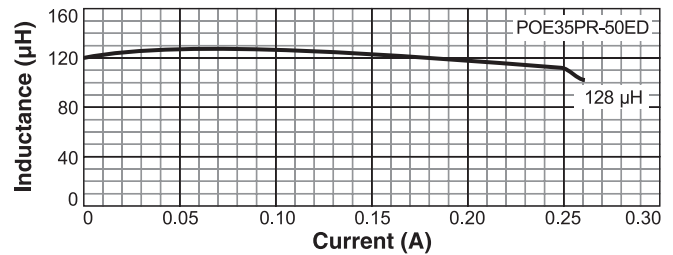
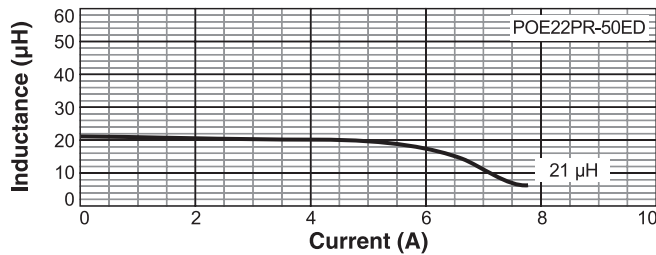
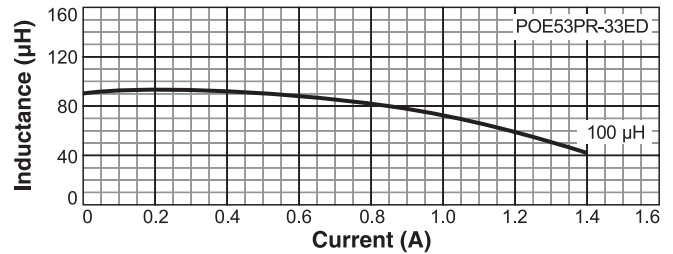
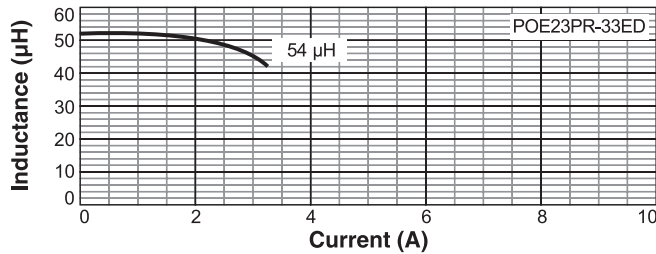
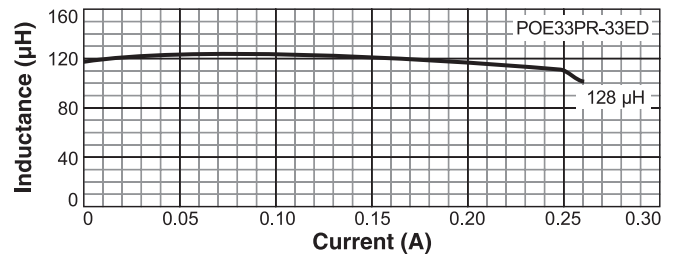
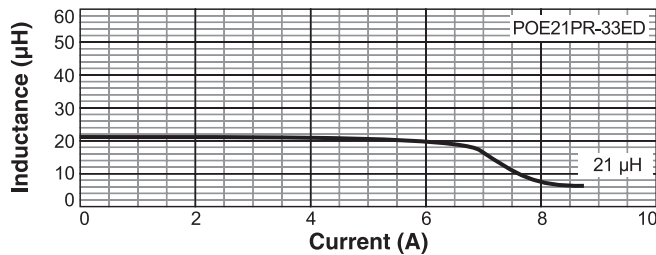
Dimensions are in $\frac{\text{inches}}{\text{mm}}$

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



Transformers for PoE

L vs Current



www.coilcraft.com

US +1-847-639-6400 sales@coilcraft.com
 UK +44-1236-730595 sales@coilcraft-europe.com
 Taiwan +886-2-2264 3646 sales@coilcraft.com.tw
 China +86-21-6218 8074 sales@coilcraft.com.cn
 Singapore + 65-6484 8412 sales@coilcraft.com.sg

Document 1489-3 Revised 03/02/20

© Coilcraft Inc. 2021

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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Coilcraft:

[POE21PR-33ED](#) [POE22PR-50ED](#) [POE23PR-33ED](#) [POE24PR-12ED](#) [POE30PR-50ED](#) [POE33PR-33ED](#)
[POE35PR-50ED](#) [POE36PR-12ED](#) [POE38PR-12ED](#) [POE53PR-33ED](#) [POE70PR-50ED](#) [POE72PR-12ED](#)