



# Miniature Flyback Transformers for PoE



- Space efficient size: 16.5 mm square less than 7.5 mm tall
- Operates at 250 kHz with 36–72 Volts input
- 1500 Vrms, one minute isolation between primary and secondary

**Designer's Kit C382** contains two samples of each part.

**Core material** Ferrite

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

**Weight** 2.6 – 2.9 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** 400 per 13" reel Plastic tape: 32 mm wide, 0.4 mm thick, 20 mm pocket spacing, 7.69 mm pocket depth

**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 0A <sup>2</sup> ±10% (µH)	Inductance at I <sub>pk</sub> <sup>3</sup> min (µH)	DCR max (Ohms) <sup>4</sup>			Leakage inductance <sup>5</sup> max (µH)	Turns ratio <sup>6</sup>		I <sub>pk</sub> <sup>3</sup> (A)	Output <sup>7</sup>
				pri	sec	bias		pri/sec	pri/bias		
<b>Continuous mode<sup>8</sup></b>											
POE60C-18L_	6	167.0	150.3	0.303	0.017	0.570	7.8	1 : 0.063	1 : 0.344	0.62	1.8 V, 3.3 A
POE60C-25L_	6	177.0	159.3	0.353	0.027	0.660	7.0	1 : 0.083	1 : 0.333	0.60	2.5 V, 2.4 A
POE60C-33L_	6	184.0	165.6	0.286	0.026	0.515	4.0	1 : 0.100	1 : 0.333	0.57	3.3 V, 1.8 A
POE60C-50L_	6	193.0	173.7	0.344	0.043	0.660	8.0	1 : 0.143	1 : 0.343	0.55	5.0 V, 1.2 A
POE60C-12L_	6	204.0	183.6	0.293	0.083	0.545	5.8	1 : 0.333	1 : 0.333	0.52	12.0 V, 0.5 A
<b>Discontinuous mode</b>											
POE60D-18L_	6	75.0	67.5	0.311	0.018	0.575	6.7	1 : 0.063	1 : 0.344	1.0	1.8 V, 3.3 A
POE60D-25L_	6	80.0	72.0	0.219	0.018	0.388	5.0	1 : 0.083	1 : 0.333	0.95	2.5 V, 2.4 A
POE60D-33L_	6	85.0	76.5	0.285	0.026	0.530	4.0	1 : 0.100	1 : 0.333	0.90	3.3 V, 1.8 A
POE60D-50L_	6	90.0	81.0	0.271	0.033	0.529	3.1	1 : 0.143	1 : 0.357	0.85	5.0 V, 1.2 A
POE60D-12L_	6	95.0	85.5	0.265	0.074	0.484	2.4	1 : 0.333	1 : 0.333	0.80	12.0 V, 0.5 A

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

**POE60D-12LD**

**Packaging:** **D** = 13" machine-ready reel. EIA-481 embossed plastic tape (400 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.

- Inductance is for the primary, measured at 250 kHz, 0.5 Vrms.
- Peak primary current drawn at minimum input voltage.
- DCR for the primary and for the secondary are with the windings connected in parallel.
- Leakage inductance is for the primary winding with the secondary winding shorted.
- Turns ratios are with the primary and secondary windings connected in parallel.
- Output of the secondary is with the windings connected in parallel. Bias winding output is 12 V, 20 mA.
- Designed to remain in continuous mode operation at power levels of 3 Watts and above.
- 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 PC board.



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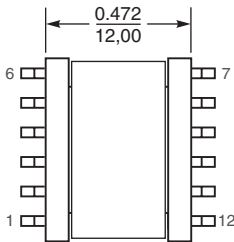
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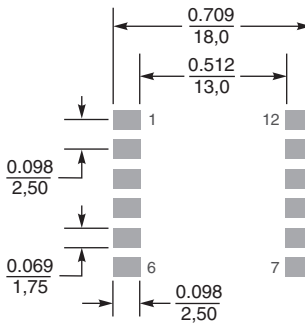


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Dot indicates pin 1



## Recommended Land Pattern



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



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