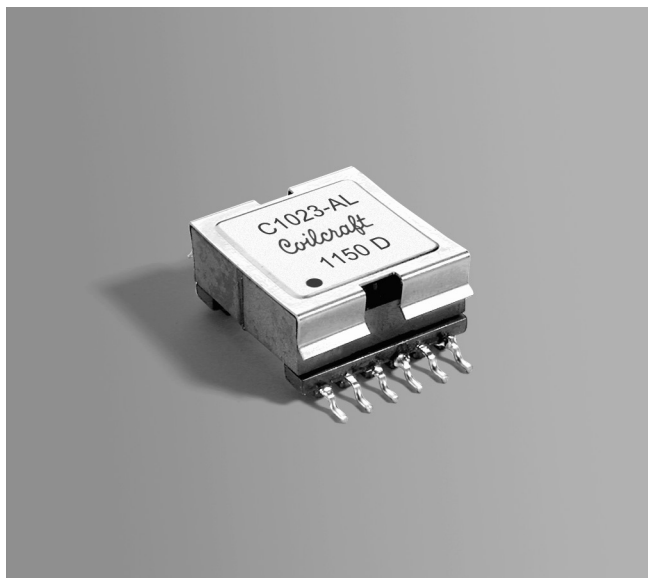




# PoE Transformer

For National Semiconductor  
LM5070 PoE Interface



- Developed for the NSC LM5070 PD Interface in 13W applications.
- Operates at frequencies up to 1 MHz
- Input: 36–72 V; Output: 3.3V, 4.5A, with secondary windings connected in parallel
- Isolation: 1500 Vrms from the primary and auxiliary windings to the secondary.

**Core material** Ferrite

**Terminations** RoHS tin-silver (96.5/3.5) over tin over nickel over phos bronze. Other terminations available at additional cost.

**Weight** 12.4 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)

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

26,315,789 hours / 38 per billion hours, Calculated per Telcordia SR-322

**Packaging** 175 per 13" reel Plastic tape: 44 mm wide, 0.4 mm thick, 32 mm pocket spacing, 11.9 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

Part number <sup>1</sup>	L at 0 A <sup>2</sup> ±10% (µH)	L at I <sub>pk</sub> <sup>3</sup> ±10% (µH)	DCR max (Ohms) <sup>4</sup>			Leakage L (µH) <sup>5</sup>	Turns ratio <sup>6</sup>		Capacitance <sup>7</sup> (pF)	I <sub>pk</sub> <sup>3</sup> (A)	Isolation <sup>8</sup> (Vrms)
			pri	aux	sec		pri : sec	pri : aux			
C1023-AL_	110	99.0	0.139	0.656	0.016	1.40	1 : 0.19	1 : 0.69	70	1.5	1500

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

**C1023-ALD**

**Packaging:** D = 13" machine ready reel. EIA-481 embossed plastic tape (175 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.

2. Inductance is for the primary, measured at 10 kHz, 0.1 Vrms, 0 Adc.

3. I<sub>pk</sub> is the peak current drawn at minimum input voltage.

4. DCR for the secondary is per winding.

5. Leakage inductance is for the primary winding with all other pins shorted.

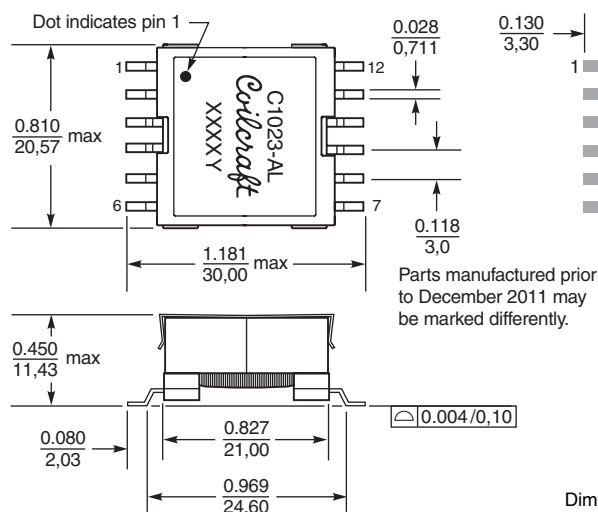
6. Turns ratio is with the secondary windings connected in parallel.

7. Capacitance measured between pins 3 and 4 with other pins shorted.

8. Isolation is measured from the primary and aux to the secondary.

9. Electrical specifications at 25°C.

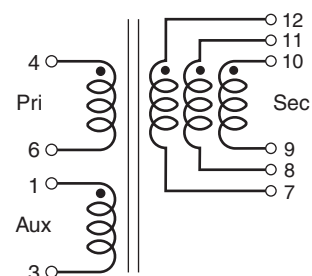
Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



Parts manufactured prior to December 2011 may be marked differently.

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

**Recommended Land Pattern**



Secondary windings to be connected in parallel on PC board.



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