



# CCFL Transformers

The FL Series of transformers is designed for use in cold cathode fluorescent lamp (CCFL) power supplies at operating frequencies up to 100 kHz. With output power from 3.5 to 6.0 Watts, these transformers are ideal for LCD backlight applications. They are available in two

different gull wing, surface mount packages and one in-board configuration for height restricted designs.

Free evaluation samples are available by contacting Coilcraft or ordering them on-line at [www.coilcraft.com](http://www.coilcraft.com).

Part number <sup>1</sup>	Schematic	Package	Turns ratio		Output (Watts)	Inductance <sup>2</sup> nom (μH)	Imax sec (mA)	Vrms <sup>3</sup>		Vinst max <sup>4</sup>		DCR max (Ohms)		
			pri:sec	pri:fb				pri	sec	pri	sec	pri	sec	fb
FL2015-1L_	B	1	1:67	1:0.19	6.0	43	5.0	22	1600	25.0	2000	0.220	285	0.10
FL2015-2L_	A	1	1:67	1:0.19	6.0	43	5.0	23	1600	29.0	2000	0.220	285	0.10
FL2015-3L_	A	1	1:100	1:0.25	6.0	19	5.0	16	1600	20.0	2000	0.190	285	0.10
FL2015-4L_	A	1	1:50	1:0.14	6.0	44	7.0	32	1600	40.0	2000	0.220	165	0.10
FL2015-5L_	A	1	1:125	1:0.38	6.0	20	7.0	12	1600	16.0	2000	0.160	330	0.10
FL2015-6L_	B	1	1:67	1:0.19	6.0	48	11.0	23	1600	29.0	2000	0.160	176	0.10
FL2015-7L_	A	1	1:67	1:0.19	6.0	50	11.0	23	1600	29.0	2000	0.160	176	0.10
FL2015-8L_	A	1	1:86	1:0.21	6.0	31	11.0	18	1600	23.0	2000	0.132	176	0.10
FL2015-9L_	A	1	1:100	1:0.25	6.0	22	11.0	16	1600	20.0	2000	0.132	176	0.10
FL2015-10L_	A	1	1:93	1:0.25	4.5	40	11.0	17	1600	21.0	2000	0.175	675	0.05

FL3209-1L, FL3209-3L Not recommended for new designs. Order FL3209-5L, which is electrically equivalent.

FL3209-2L, FL3209-4L Not recommended for new designs. Order FL3209-6L, which is electrically equivalent.

FL3209-5L_	C	5	1:100	—	3.5	48	5.0	16	1600	20.0	2000	0.350	362	—
FL3209-6L_	D	5	1:93	1:0.17	3.5	40	5.0	17	1600	21.0	2000	0.400	800	0.08
FL2810-1L_	C	4	1:100	—	4.5	35	7.0	15	1500	16.5	1650	0.220	500	—

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

FL2810-1LD

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

Package 1: 400 parts per full reel.

Package 4: 750 parts per full reel.

Package 5: 1000 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.

2. Inductance is measured across both halves of the primary.

3. Vrms = continuous voltage.

4. Vinst = instantaneous voltage at startup.

5. Ambient temperature range: -40°C to +85°C.

Storage temperature range: Component: -40°C to +85°C

Tape and reel packaging: -40°C to +80°C

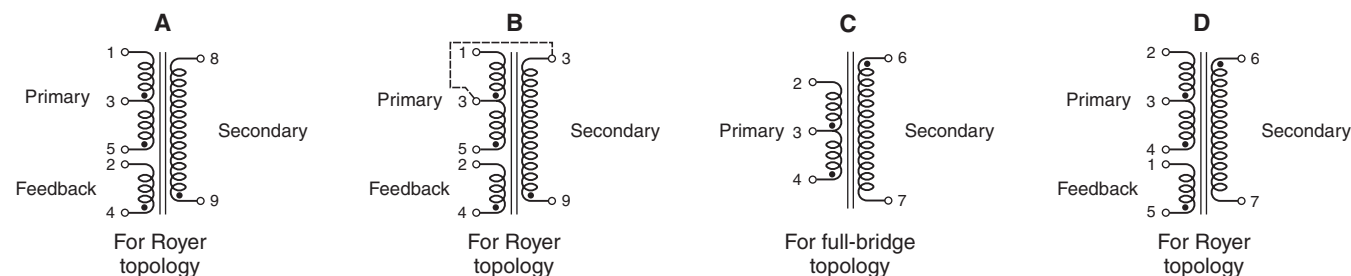
6. Electrical specifications at 25°C.

**Isolation** (tested for one minute)

Part number	Primary to secondary	Primary to feedback	All windings to core
FL2015	1500 Vrms	500 Vrms	1500 Vrms
FL3209	500 Vrms	500 Vrms	1500 Vrms
FL2810	1500 Vrms	—	1500 Vrms

Note: For Schematic B, primary is connected to secondary at pin 3. The primary is not isolated from the secondary.

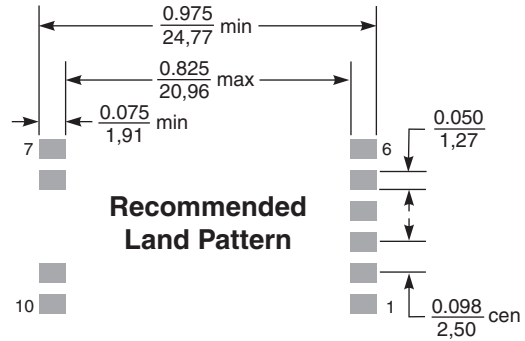
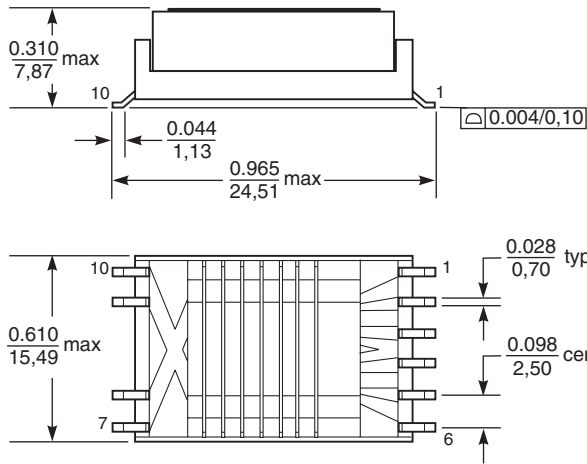
## Schematics





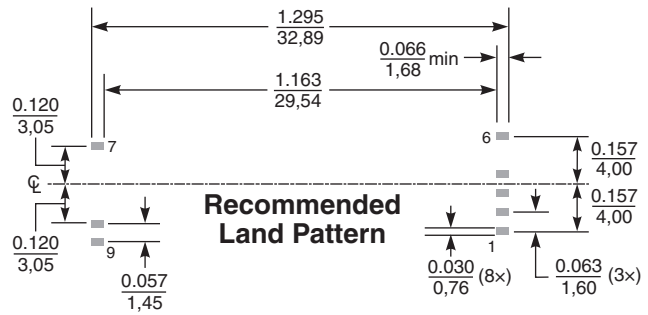
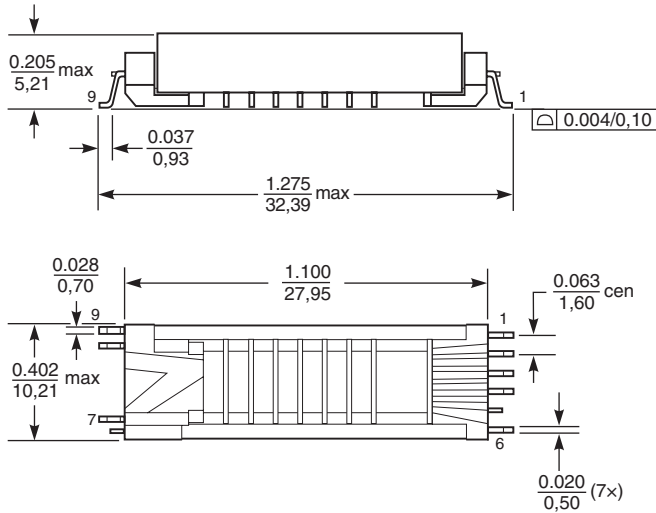
# CCFL Transformers

## Package 1



**Weight:** 5.5 – 6.1 g  
**Terminations:** Tin-silver over tin over nickel over phos-bronze  
**Tape and reel:** 400/13" reel 44 mm tape width  
 For packaging data see Tape and Reel Specifications section.

## Package 4



**Weight:** 3.6 g  
**Terminations:** Tin-silver over tin over nickel over phos-bronze  
**Tape and reel:** 750/13" reel 44 mm tape width  
 For packaging data see Tape and Reel Specifications section.



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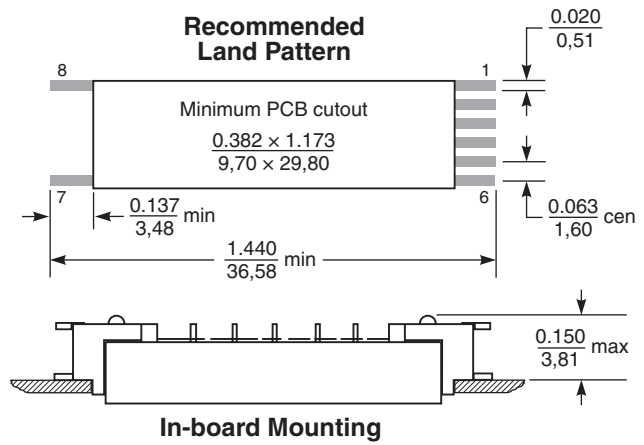
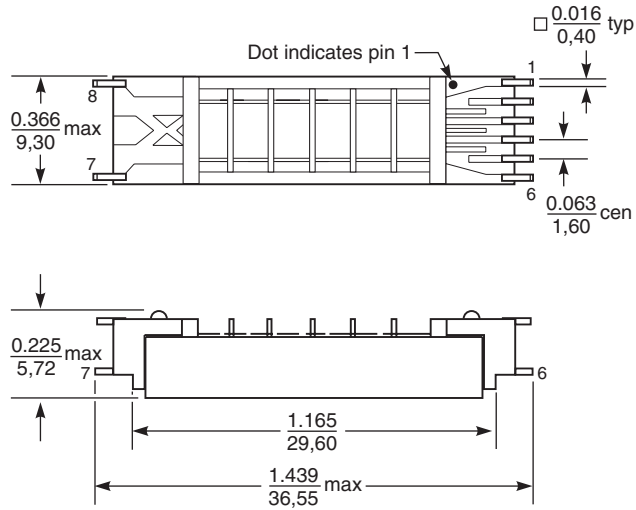
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# CCFL Transformers

## Package 5 – In-board mounting



**Weight:** 3.8 – 4.0 g

**Terminations:** Tin-silver over tin over copper over copper-steel

**Tape and reel:** 1000/13" reel 56 mm tape width

For packaging data see Tape and Reel Specifications section.



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