

GENERAL DESCRIPTION

The C1002 series product is a poly gate CMOS integrated circuit which is designed to drive an Electroluminescence Lamp (EL) to light. It supplies one pin for trigger input. 3 seconds display delay function is implemented by internal divider. The switching and EL driving frequency is decided by an internal RC oscillator.

C1002 series product can be widely used in the back light of digital watch, analogy watch, calculator etc.

FUNCTIONS

- Single 3V battery operation.
- DC to AC conversion.
- Built-in RC oscillator.
- Built-in delay function.
- One trigger input:
TG (H) makes EL display for 3 second delay.

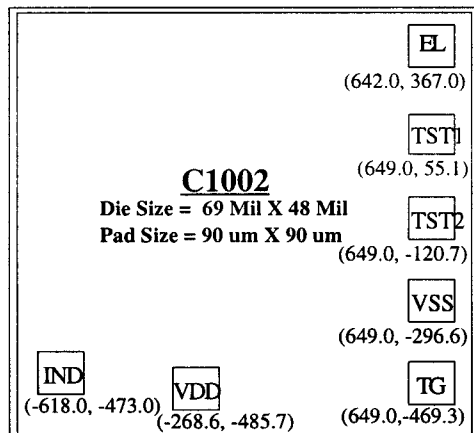
FEATURES

- Economical solution for EL display.
- CMOS process and low power consumption.
- No external component needed for delay function.
- Min. external components application.

COIL OPTION LIST FOR C1002

VDD (V)	Coil		EL Area (cm squ.)	EL Voltage (V)	Colour
	MH	OHM			
3.0	2	14	1.5 X 2.5	130	Blue

PAD DIAGRAM



PIN	DESCRIPTION
IND	DC to AC converter output
VDD	Positive power supply
TG	Trigger input pin active at high
VSS	Negative power supply
TST1, TST2	Test Pins
EL	DC to AC converter output

ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

Parameter	Symbol	Limits
Power supply voltage range	VDD - VSS	- 0.3V to + 5.0V
Input voltage range	Vin	VSS - 0.3 to VDD + 0.3
Operating temperature range	TA	0 to +60°C
Storage temperature range	Tstg	-40 to +70°C

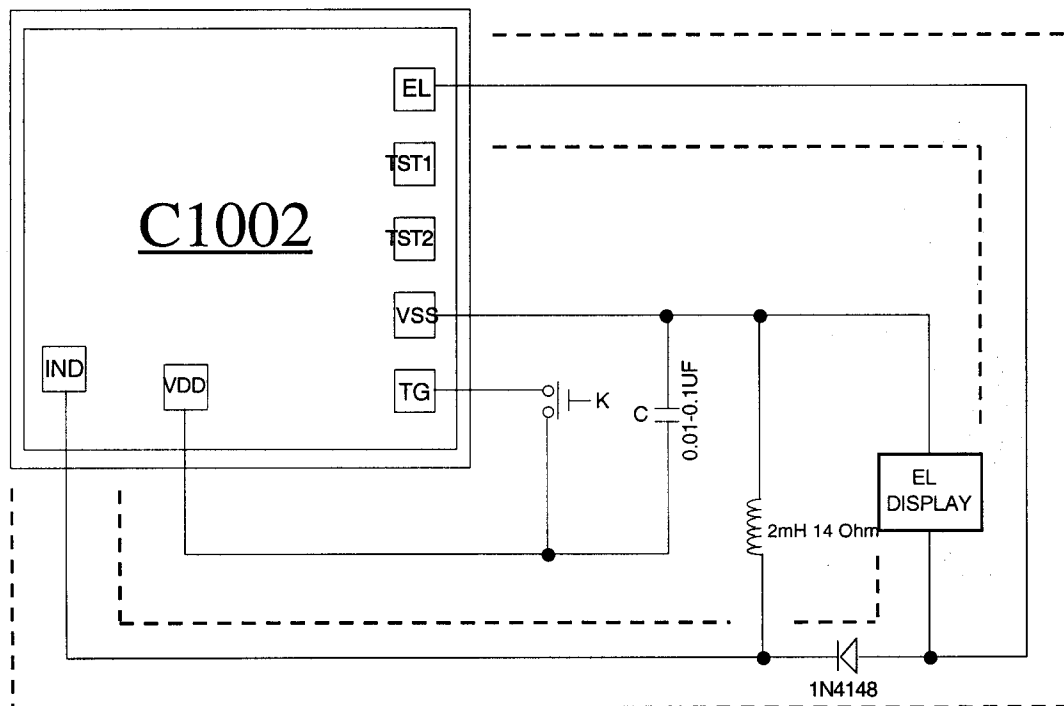
DC ELECTRICAL CHARACTERISTICS

Unless otherwise specified, Ta = 25°C, VDD = 3.0V, Vss = 0V

Characteristics	Symbol	Min.	Typ.	Max.	Unit	Test Conditions	
Operating voltage range	VDD	2.4	3.0	4.5	V	--	
Standard current	IDD	--	0.1	1	µA	*no load	
IND Output Source Current	IOH1	8.4			ma	VO = 2.0V	
IND Output Breakdown voltage	BVosd	170	-	-	V	IND Output in state of high impedance	
EL Ouput Source Current	IOH2	0.5	-	-	ma	VO = 2.0V	
EL Output Breakdown voltage	BVosd	170	-	-	V	EL Output in state of high impedance	
Oscillator Starting Voltage	VSTP	1.3	1.5	--	V	--	
Osc Frequency	C1002A	Fosc	350	475	600	KHZ	VDD = 3.0V
	C1002B		550	625	700		

Note: * refers to EL & IND open, all trigger input open.

TYPICAL APPLICATION CIRCUIT



- NOTE:**
1. Substrate is connector to VDD.
 2. The wires connected to TG cannot across the lines inside the black dot line box. Furthermore, these wires should be separated from the lines inside the black dot line box by Vss or VDD.
 3. The capacitor C can be connected to Vss or VDD.
 4. During the watch application, the two wires connected to crystal are better to be surrounded by Vss or VDD, and they are the farer the better away from the wire connected to EL.
 5. The items 2, 3, 4 are very important for PCB layout.