

# KIT37M. 5 LED MULTI-PATTERN FLASHER

This cmos LSI single chip-on-board - COB - is designed for electronic toy and warning light applications. Five ultra bright LED's flash in seven modes. The modes are cycled through and set by switching the pcb-mounted switch. When the desired mode is found just leave the SPDT switch in position. As long as the switch is not touched and power is kept applied to the unit it will keep flashing in that mode. The working voltage is 2.0V to 3.6V operation.

**Construction.** We recommend you solder the LEDs first. This is because you will probably want all 5 of them to all look exactly the same on the board. Decide how you want them: all high off the board, or flush on the board, or at rightangles. We suggest you use some cardboard & sticky tape to fix all the LED's into the height position you want before you solder their legs. Make sure the flat on each LED body (cathode) corresponds to the flat shown on the overlay. This is also the short leg of the LED. All 5 LED's face the same way. .

Note there is **no** switch needed in the CYCLE position. Just disregard it. Solder the COB PCB into the slot provided at each of the 14 pins. Be very careful you do not short out two adjacent pins with solder.

There is one link to add to the board. Use one of the legs offcut from the resistors. There are two resistors to add. The 220K is the oscillator resistor. And the 100R is to limit current through the LED's.

**Operation.** When power is first applied to the board no LEDs will light up. The kit starts in the no-LEDs-on part of the cycle. Switch the switch to HOLD ON. The first pattern should be all-LEDs-on. Switch it again: all LEDs flashing, and so on through the 7 flashing cycles. In OFF position the unit will turn off.

## PINOUT

The COB (A5420-02) is bonded on a 29mm x 16mm single sided PCB. Not all die pads are brought out. M1 M2 M3 (pins 9 8 & 6 resp.) can be connected high or low to give fewer than 8 flashing patterns. We have connected them all to ground to give the maximum number of patterns. The mother board is 1.5" x 1.2".

PCB Position	Pin Function
1	LED1
2	+3V, VDD
3	Oscillator 1
4	Oscillator 2
5	Not connected
6	M3, ground
7	Ground, VSS
8	M2, ground
9	M1, ground
10	LED5
11	LED4
12	LED3
13	LED2
14	SPDT Switch

COMPONENTS	
3V battery snap	1
220K resistor red red yellow	1
100R resistor brown black brown	1
SPDT Switch	1
5mm ultra bright LED	5
Kit 37 Chip-on-board PCB	2
Kit 37 Mother Board	1

See Kit 52M for another LED COB kit.

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(New documentation, march 1999.)

