Preliminary Specification

RCL Semiconductors Ltd.

5 LED Drivers IC

C3066

GENERAL DESCRIPTION

C3066 is a five LED drivers CMOS LSI circuit. It can directly drive 5 LED with five different flashing modes. Each pressing TRIG can sequentially change the flash mode from one to another. Different code from OPT0, OPT1, OPT2 controls six selection for flashing mode order, which contains 2~ 5 flashing modes.

C3066 can be widely applied in toy, etc..

FUNCTION

- Power Supply 3.0V (2.4 ~ 3.6V)
- 5 LED drivers with 5 different flashing modes
- 5 Flashing mode sequentially changed from one to another by pulling up TRIG to Vdd once
- Six codes created by pin OPT0, OPT1 and OPT2 controls six selection for orders of flashing mode.
  Each selection contains 2~5 flashing modes
- TRIG firmly pressed for more than 3 seconds will power off the chip

FEATURES

- Built-in RC OSC
- Fosc adjustable by an external resistor
- Directly drive 5 LED (open-drain output)
- Single key TRIG control with debounced and pull-down circuit
- Test mode when TEST connected to Vss
- CMOS structure with low power consumption
- High ESD and Latch up immunity

FUNTION DESCRIPTION

OPT2/OPT 1/OPT0	000	001	010	011	100	101
1st mode	OFF	OFF	OFF	OFF	OFF	OFF
2nd mode	All Flashing at same time	All Flashing at same time	All Flashing at same time	All Flashing at same time	All Flashing at same time	All ON
3rd mode	All ON	All ON	All ON	All ON		
4th mode	One LED sequential flashing (Note 1)	Two LEDs sequential flashing (Note 2)	One LED sequential flashing (Note 1)			
5th mode	One LED random flashing	Two LEDs random flashing				

Note :

1. LED1 -> LED2 -> LED3 -> LED4 -> LED5 -> LED4 -> LED3 -> LED2 -> LED1 -> LED2 ....
2. LED1+LED2 -> LED2+LED3 -> LED3+LED4 -> LED4+LED5 -> LED1+LED2 -> LED2+LED3 ->...

ABSOLUTE MAXIMUM RATINGS(Ta = 25 °C)

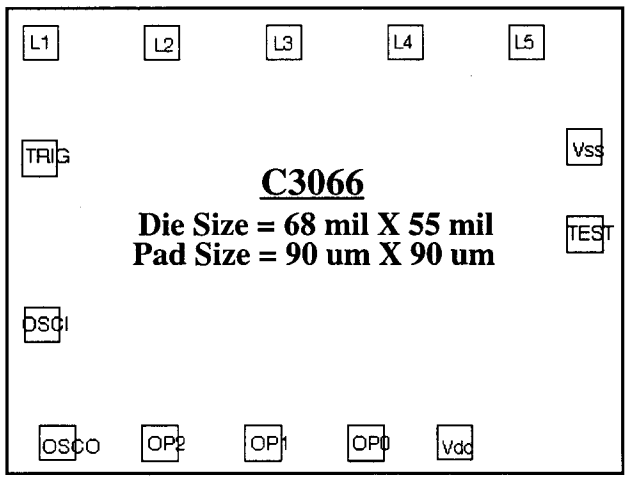
Parameter	Symbol	Limits
Power supply voltage range	Vss - Vdd	-0.3 V to +5.0V
Input voltage range	Vin	Vss -0.3 to Vdd +0.3
Operating temperature range	Ta	0 to +60°C
Storage temperature range	Tstg	-40 to +70°C

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	3.6	V	-
Standby current	Isb	-	-	2.5	μA	No load
Operating current	Iop	-	50	100	μA	LED open Playing
Output current	IoL	30	40	-	mA	VoL=0.8V
Oscillator Frequency	Fosc	35	50	65	KHz	Rosc=800KO

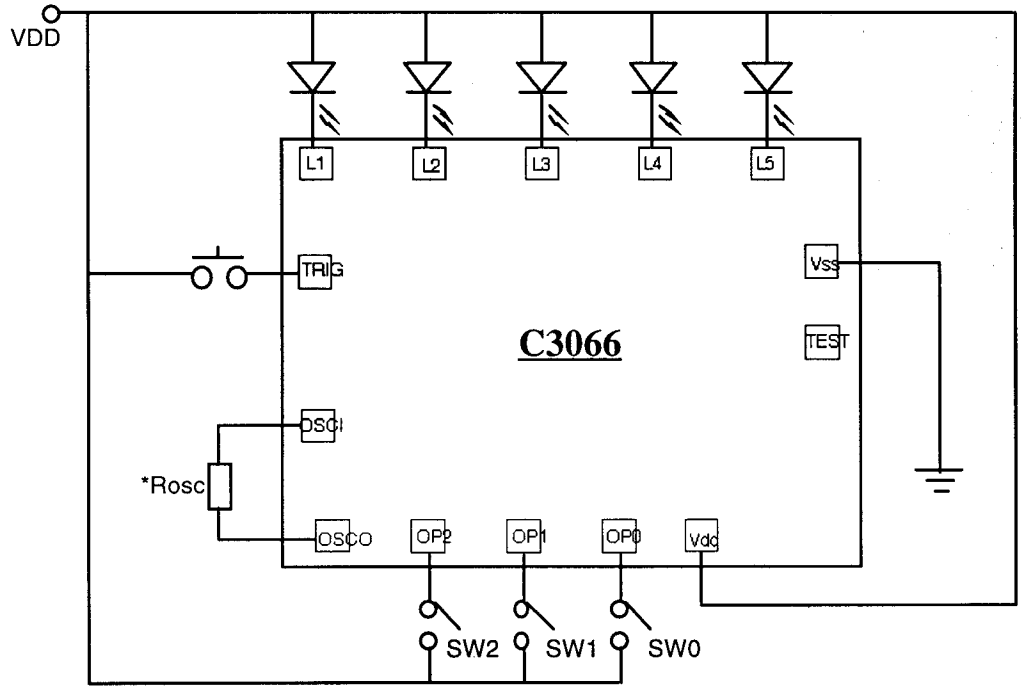
PAD ASSIGNMENT



Co-ordinates for Lower Left Corner of Each Pad

OSCO(	153.5, -563.6)	L5	(1368.4, 483.4)
OP2	(419.3, -563.6)	L4	(1054.4, 483.4)
OP1	(685.2, -563.6)	L3	(740.4, 483.4)
OP0	(951.1, -563.6)	L2	(426.4, 483.4)
Vdd	(1179.1, -563.6)	L1	(112.4, 483.4)
TEST(1520.7,	-16.1)	TRIG(	106.5, 182.6)
Vss	(1516.6, 208.8)	OSCI(	113.6, -253.5)

APPLICATION CIRC



Note: Substrate must be connected to Vss.