IZ1517

FEATURES

- Single 3V battery operation
- Random or sequence flash selection
- Low stand-by current
- Built in oscillator
- Oscillator's resistor internal or external (maskoption)
- Toggle ON/OFF control or one shot mode
- One shot duration is about 8 seconds (metal mask option)
- 1/10 ON/OFF duty cycle output
- Direct drive LEDs (open-drain output)

PLAY MODE

S1	S2	Mode
OPEN	OPEN	RANDOM, TOGGLE, ON/OFF
V_{SS}	OPEN	RANDOM, ONE SHOT
OPEN	V_{DD}	SEQUENCE, TOGGLE; ON/OFF
V_{SS}	V_{DD}	SEQUENCE, ONE SHOT

ABSOLUTE MAXIMUM RATINGS

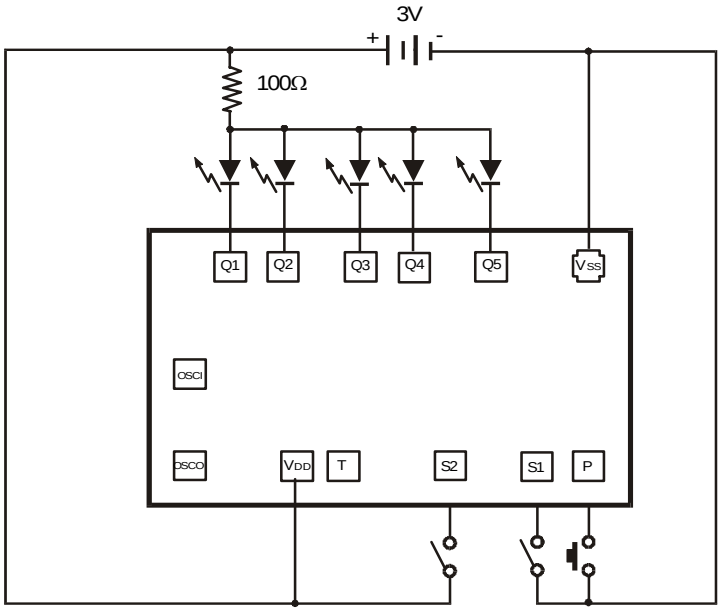
Characteristic	Symbol	Value	Unit
Supply Voltage	V_{DD} - V_{SS}	- 0.3 ~ + 5.0	V
Input Voltage	V_{IN}	V_{SS} - 0.2 ~ V_{DD} + 0.2	V
Operating Temperature	T_a	- 10 ~ + 60	°C
Storage Temperature	T_{stg}	- 55 ~ + 125	°C

ELECTRICAL CHARACTERISTICS

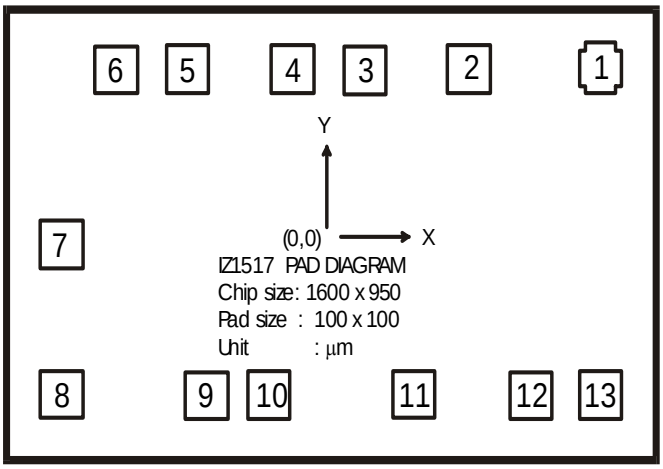
(Ta = 25°C, V_{DD} = 3.0V, V_{SS} = 0V unless otherwise specified)

Characteristic		Symbol	Test Condition	Min	Typ	Max	Unit
Operating Voltage		V_{DD}		2.4	3.0	3.6	V
Standby Current		I_{DD}	No Playing S1, S2, P Open		0.1	2.5	μA
Operating Current			Playing Q1 – Q5 Open		50	100	μA
Input Current	S1	I_{IL}	V_{IL} = 0.5V		10	18	μA
	S2	I_{IH}	V_{IH} = 2.5V		10	18	
	P	I_{IL}	V_{IL} = 0.5V		10	18	
Output Current (Q1 – Q5)		I_{OL}	V_{OL} = 0.5V	5	8		mA
Oscillating Frequency		F_{OSC}		70	100	130	KHz
Oscillating Start Voltage		V_{STR}		2.4			V

TYPICAL APPLICATION CIRCUIT



PAD LAYOUT



PAD LOCATION

(Unit: μm)

No.	Pad Name	X	Y	No.	Pad Name	X	Y
1	V_{SS}	674	349	8	OSCO	-666	-341
2	Q5	347	349	9	V_{DD}	-306	-341
3	Q4	87	349	10	T	-145	-341
4	Q3	-90	349	11	S2	209	-341
5	Q2	-351	349	12	S1	500	-341
6	Q1	-528	349	13	P	674	-341
7	OSCI	-666	-22				

NOTE: The substrate is connected to V_{DD}.