QXMD QX5252

### LED Driver QX5252

#### Overview:

QX5252 is a solar LED lighting fixtures for ASIC design. It is driven by a switching circuit, Optical switch circuit, over discharge protection circuit, the internal integration of Short Based diodes and other circuit. Can be only one external inductor Composition of solar lighting devices. QX5252 QX5252 using patented technology, LED Undervoltage shutdown makes no blinking LED lights.

Package:

QX5252F: TO-94 QX5252E: DIP-8

#### Features:

Operating voltage: 0.9V-1.5V Output current: 3mA-300mA

Patented over-discharge protection: no flash off

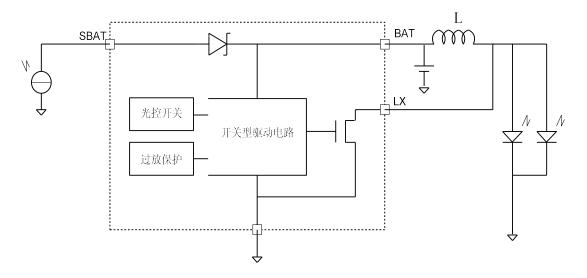
Integrated light control switch
Integrated Schottky Diode
Only one inductor external con

Only one inductor external components

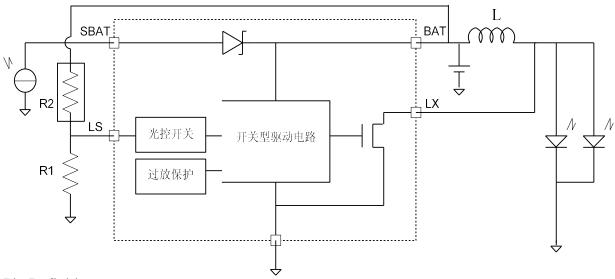
High efficiency

TO-94, DIP-8 package

### A typical application

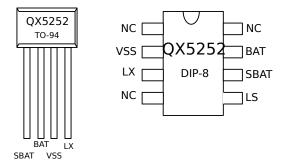


# A typical application II



# Pin Definition

Pin name	Package and pin number	Functional Description		
	TO-94	DIP-8		
SBAT	1	6	Positive terminal connected solar cells	
BAT	2	7	Rechargeable battery positive terminal connection	
VSS	3	2	Ground	
LX	4	3	Power switch drain	
LS	-	5	Optical detection input	
NC	-	1, 4, 8	Not connected (empty)	



#### Limit Parameter

Symbol	Parameter	Value	Units
Vmax	Threshold voltage of the terminal IC	5.5V	V
Imax	LX-side current limit	0.8A	A
$T_{ m OPR}$	Operating temperature range	-40 - +125	°C
$T_{STG}$	Storage Temperature	-65 - +150	°C
$V_{ m ESD}$	ESD voltage (Human Body Model)	2000V	V

### LED power settings:

LED power consumption is set by the inductance L:

$$P_{LED} = \frac{2VIN}{L} \quad 10^{-6}$$

One VIN is charging the battery voltage.

## Light control switch set:

QX5252F: directly controlled by the solar panels.

QX5252E: LS side need to add a photosensitive resistor and a normal resistance.

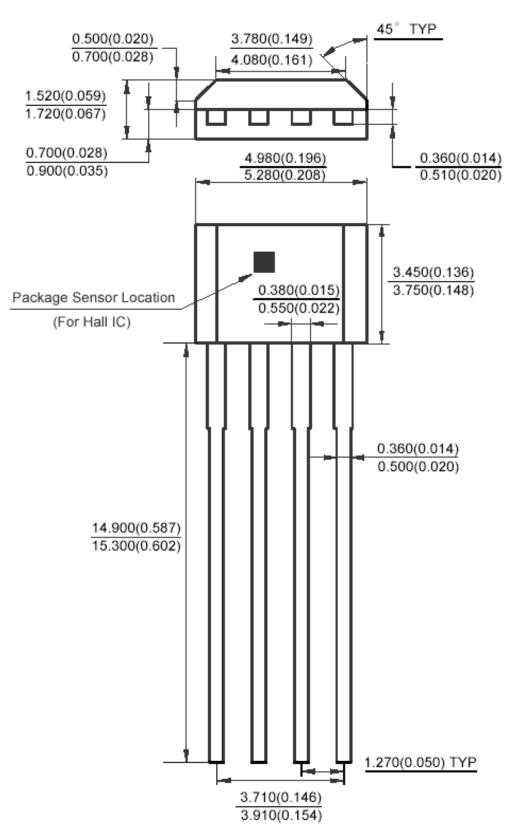
LS voltage is set by the following formula:

$$VLS = \frac{R1}{RI + R2} VIN$$

When VLS is higher than 0.3 \* VIN, the light control switch shuts the LED off, when VLS is lower than 0.22 \* VIN, the light control switches LED lights on.

Voltage	1.3V	1.3V	1.3V	1.3V	1.3V	1.3V	1.3V	1.3V	1.3V
L	330uH	270uH	220uH	150uH	100uH	82uH	56uH	47uH	33uH
	11mA	14.5mA	15.5mA	25mA	34.5mA	38mA	50mA	75mA	110mA

TO-94 Unit: mm(inch)



# 8-pin plastic DIP (300mil)

