

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.

Features:

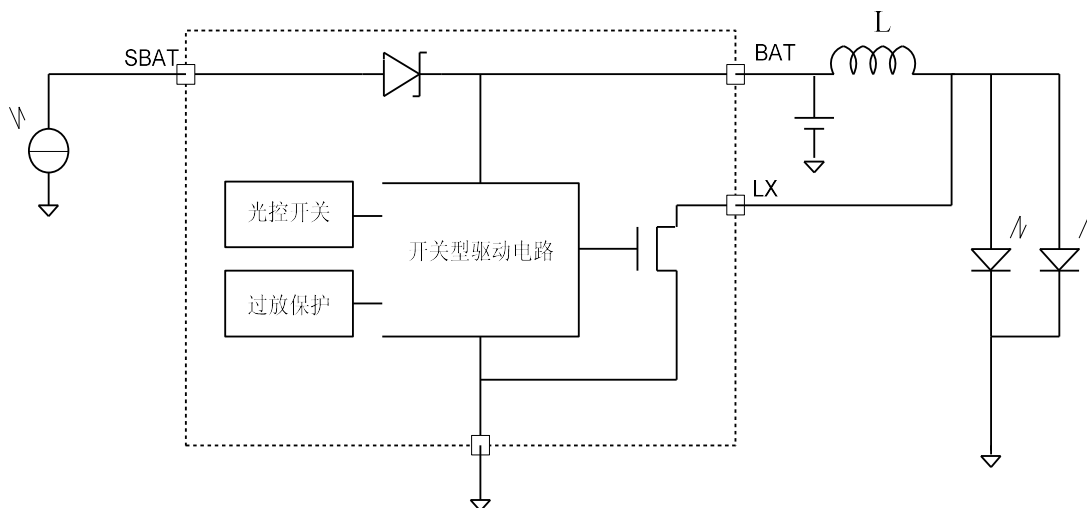
- Operating voltage: 0.9V-1.5V
- Output current: 3mA-300mA
- Patented over-discharge protection: no flash off
- Integrated light control switch
- Integrated Schottky Diode
- Only one inductor external components
- High efficiency
- TO-94, DIP-8 package

Package:

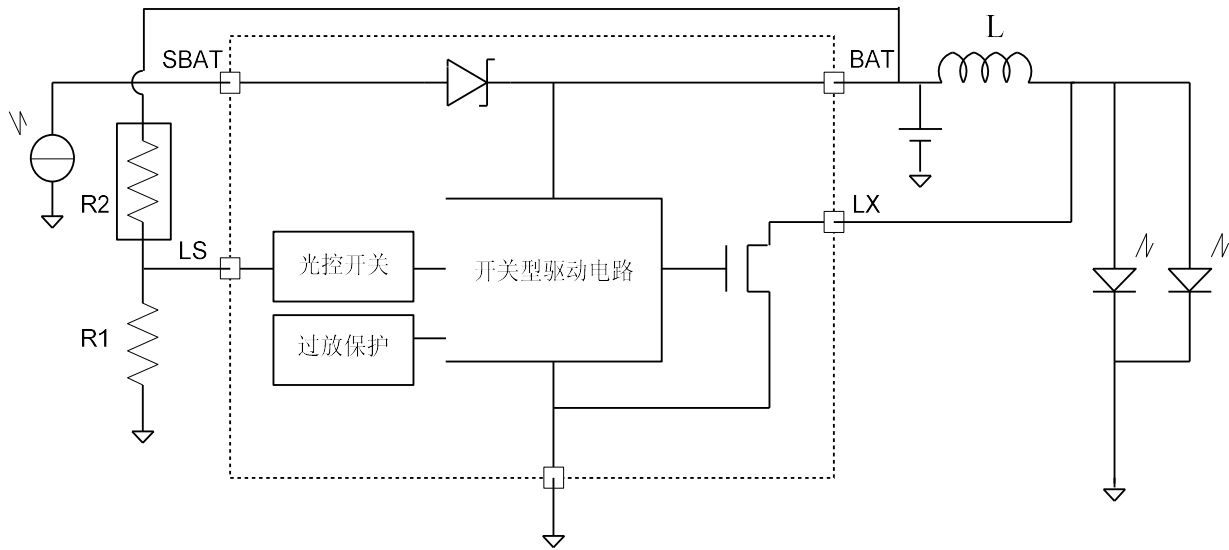
QX5252F: TO-94

QX5252E: DIP-8

A typical application

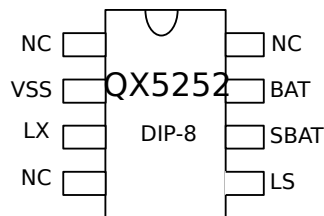
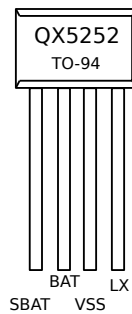


A typical application II



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
V _{max}	Threshold voltage of the terminal IC	5.5V	V
I _{max}	LX-side current limit	0.8A	A
T _{OPR}	Operating temperature range	-40 - +125	°C
T _{STG}	Storage Temperature	-65 - +150	°C
V _{ESD}	ESD voltage (Human Body Model)	2000V	V

LED power settings:

LED power consumption is set by the inductance L: $P_{LED} = \frac{2VIN}{L} \cdot 10^{-6}$

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:

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

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

8-pin plastic DIP (300mil)

