

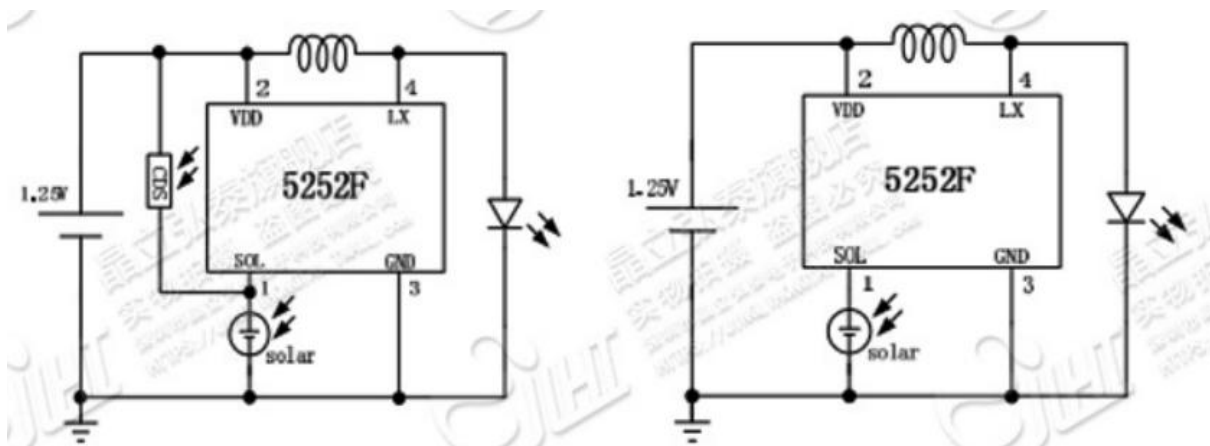
Solar lawn lamp/House lamp driver chip 5252F TO-94

5252f is a high-performance solar lawn lamp boost control chip, suitable for a 1.2V rechargeable battery powered solar lawn lamp. The main functions are charge control, boost drive, light control, etc.

The 5252f uses the green TO-94 package and at least one peripheral device, which can effectively reduce the PCB board space.

Application principle diagram

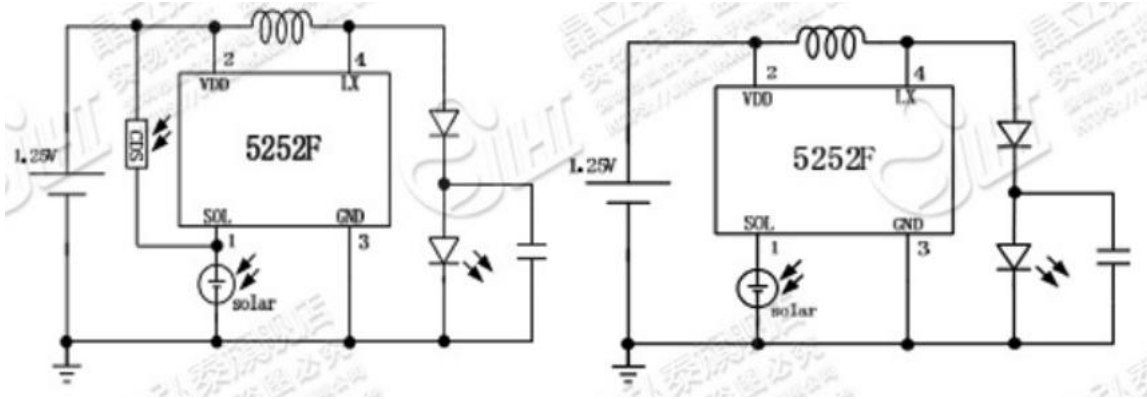
1, single color LED



Photoresistor control

Solar cell control

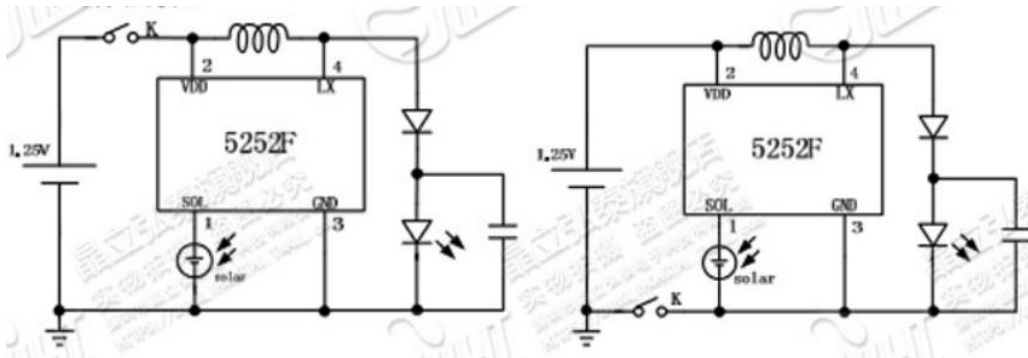
2, colorful LED



Photoresistor control

Solar cell control

3, switch



Specification list

($V_{in}=1.2V$, $T_A=25^{\circ}C$)

spec	symbol	test	min	normal	max	unit
input						
input voltage	V_{in}	$I_{in}=40mA$	0.9		1.8	V
input current	I_{in}	$V_{in}=1.2V$, $L=10\mu H$	3		40	mA
close current	I_{SD}	$V_{in}=1.2V$, $V_{CE}=0.4V$		30		μA
power switch						
switch resistance	R_{DS}	$V_{in}=1.2V$, $I_{in}=40mA$, $L=10\mu H$		1.85		ohm
electric leakage	I_{LEAKAG}	$V_{SOL}=2.4V$		6		μA
solar control						
power threshold	$V_{on/off}$	$V_{in}=1.2V$		0.37		V
	$V_{off/on}$			0.29		V
charge voltage	V_{CHmin}	$V_{in}=1.2V$, $I_{sol}=1mA$		87.8		mV
charge electric	I_{CH}	$V_{in}=1.2V$, $V_{SOL}-V_{DO}=300mV$		86.5		mA
resistance	$R_{SOL-GND}$			33		Kohm
work frequency						
work frequency	f_{lx}	$V_{in}=1.2V$, $L=82\mu H$		295		KHz
work efficiency						
work efficiency	η			83		%
Overdischarge voltage						
Overdischarge volta	V_{OD}	$L=82\mu H$		0.9		V

Current regulation reference

5252f changes the input current by changing the peripheral inductance value. The following shows the relationship between inductance and input current when driving LED.

single color LED

inductance	spec	LED	input current(mA)
220 μ H	0307	1 LED	5.3
150 μ H			7.9
82 μ H			13.9
68 μ H			18.2
47 μ H			25.4
22 μ H			46.8

colorful LED

inductance	spec	LED	input current(mA)	output current(mA)
220 μ H	0307	1 LED	5.3	1.8
150 μ H			7.7	2.7
82 μ H			13.5	4.2
68 μ H			18.3	4.8
47 μ H			25.7	7.9
22 μ H			49.3	14.8