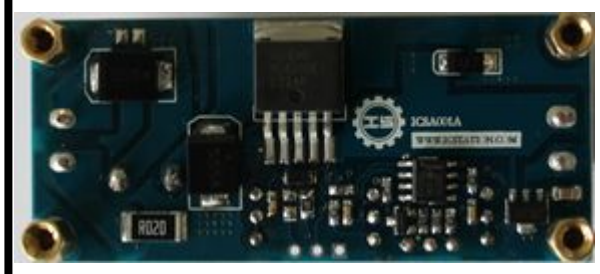
5A Constant current constant voltage step-down module

Ⅰ,Feature==========

1).Large current unfenced constant pressure constant current(maximum current5A),Provide a wide range of application support, the output voltage current adjust at will (continuous), perfect control output current. To meet various application requirements
2).Increase the switch control, pulse width control (100-300 hz), more flexible control power supply.
3).Small volume is more convenient to use (long : 6.45 wide:6.45)
4).Increase the heat sink to strengthen heat capacity.



Ⅱ,Applied range==========

1).DIY a regulated power supply, with the function of constant current
2).Not afraid will short circuit in the course of using, can protect the load.
3),Power supply for your electronic devices.
4),For a variety of battery, according to different voltage and capacity of the battery set charging voltage and charging current, with the function of charging indicator, convenient to observe the charging status.
5),For various battery with solar panel power supply with constant current function, can prevent the battery overcharge, effectively protect the battery.
6),Driving high power LED, can free series parallel combination, with PWM control input, SCM control LED brightness are available (PWM control frequency range 100-300 HZ).
7),as a automotive power supply, power supply for your mobile phone or a variety of digital products.

Physical objects contain heat sink

III,Parameter==========

Module properties: the non- isolation step-down module

Input voltage range:4.5-30V Output current range：0.1-5A

Output voltage range：0.8-30V(continuously adjustable) Output Turn light range：0.1-5A

Working temperature：-40~+85℃ Working Frequence ：300KHz

PWM control Frequence range：100-300Hz

Transition range：The highest 95%（Efficiency and the input and output voltage, current and differential pressure）

Short-circuit protection：Have（Current limitation for constant current value of the set)

Overtemperature protection：Have（Overtemperature after automatically shut off the output）

Input reverse connect protection：Have (Power drive ability is greater than 2 A, reverse connection protection is invalid)

Output the counter-attack filling and protection： Have

Charging indication ： When red light when charging, full of green light. Turn light detection way for current.

way to install：Four 3 mm screw

Module Size ： length: 64.5mm Width:28.1mm High20mm

Interface explanation :

IN+ The Input the anode

IN- The input cathode

OUT+ The Output the anode

- The Output the anode

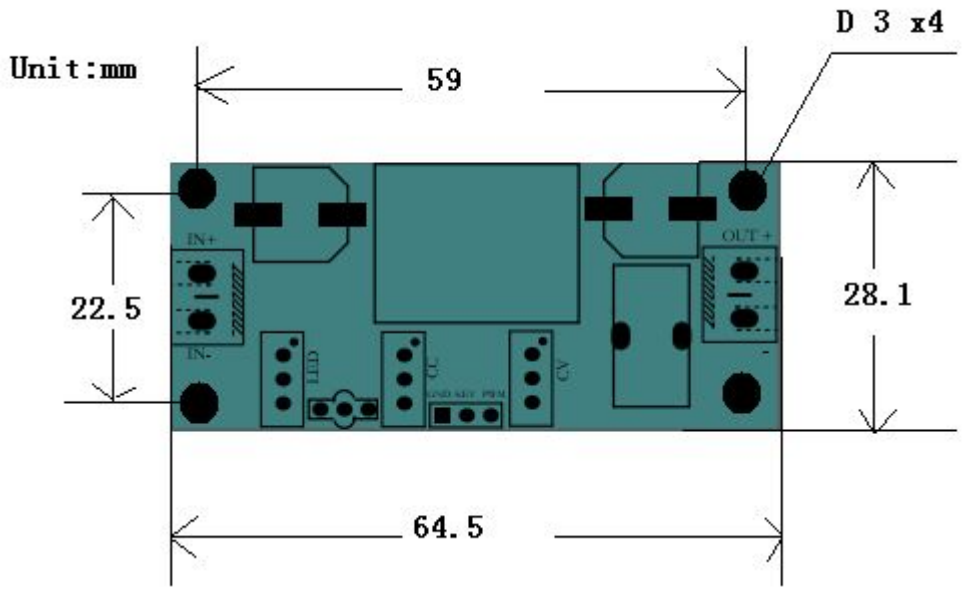
Key: Switch module, to ground short circuit output end

PWM: Pulse width of input and output voltage control

GND: Module ground wire leads

} Interface

Ⅳ,Machine drawing==========



Ⅴ,Functional specification==========

Relative terms:

Turn light: The function modules are common,General charger inside will have this module.Purpose is to test whether the current is less than the set threshold.Turn lamp current adjustment knob is in fact to turn light setting a threshold. When the output current is higher than the current light is red,When the output current is lower than the current indicator light shows green.

Constant current: Constant current is not really a constant current, output is actually a set maximum current (i.e., output short circuit current). This can give some smaller power electronics to provide protection

Constant pressure: set the output open circuit voltage of the output of the maximum voltage.

Ⅵ,Set voltage, current and turn lamp (refer to functional diagram)==========

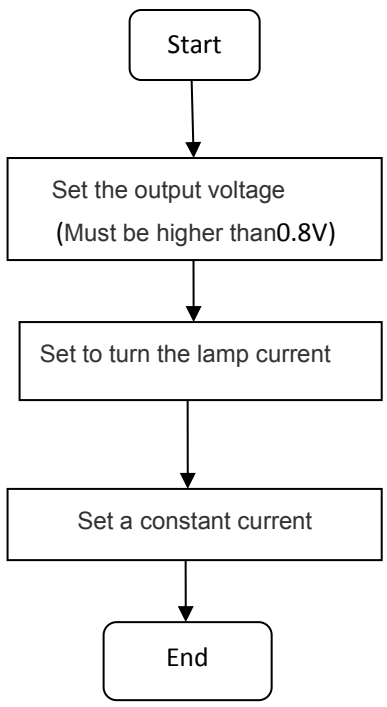
<First,To all of the potentiometer ,counterclockwise circle around 50 ,If you hear" kaka" voice (Not rotating or 50 laps)stop rotating,The purpose is to all the parameters set to the minimum>

1、Set the output voltage：According to you to float charging voltage value of the rechargeable battery，Or after leds in series, in parallel voltage value, regulating constant-pressure potentiometer (CV).Then the output voltage is set to the required voltage.（Don't pick up the load cases）

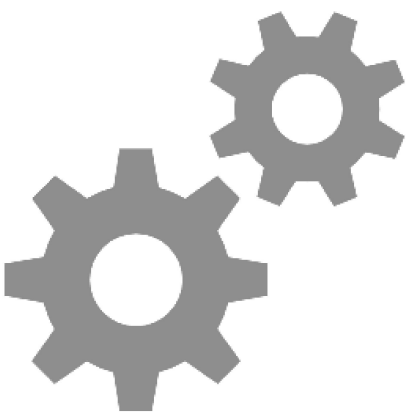
2、Set the indicator lamp current：Set after the output voltage, the CC potentiometer counterclockwise around 50 laps(If you already set, you need not set), multimeter is 20 a current file short circuit output, adjust the CC potentiometer to you need to turn to the lamp current, turn to adjust potentiometer (LED) light electricity, just transferred to the green light.

3、Set a constant current value：Improved after the lamp current, multimeter 20 a current file still short circuit output adjustable CC potentiometer to you need to set the current value.

Note: constant current to set the output voltage is higher than 0.8 V, or constant current function will fail.



Set the flow chart



Ⅶ,Notes ==========

1.The input voltage shall not be greater than 30 v, otherwise may cause damage to circuit.
2.High current when using keep ventilated, strengthen heat dissipation.
3.The setting of the charging current
Is commonly set constant current to 1/3 of the nominal capacity. Such as battery capacity rating of 1000 ma/H should set the charging current of about 300 ma. Excessive charging current is easy to cause damage to battery life, etc.

Ⅷ.Known fault phenomenon==========

1..After electrify found the LED light is not bright

Reasons: The output terminal is in short circuit condition

solution: Immediately unplug the power supply, the output end dangling. Use again, if the output current is too large it could module has been burned

2..Set constant-current found when the LED is not bright, and large current through the module

Reasons: Output voltage below 0.8 V lead to lost over-current protection function module

solution: To appropriate constant pressure value

3..Constant pressure constant current or turn lights cannot adjust.

Reasons: Since these parameters are controlled by potentiometer, counterclockwise parameters increase, clockwise parameter. Can be set parameters value is too large.

Solution: Continue to counterclockwise, observe changes, attention must be set in accordance with the order of the instructions.