



Shenzhen LC Technology Co.,Ltd.

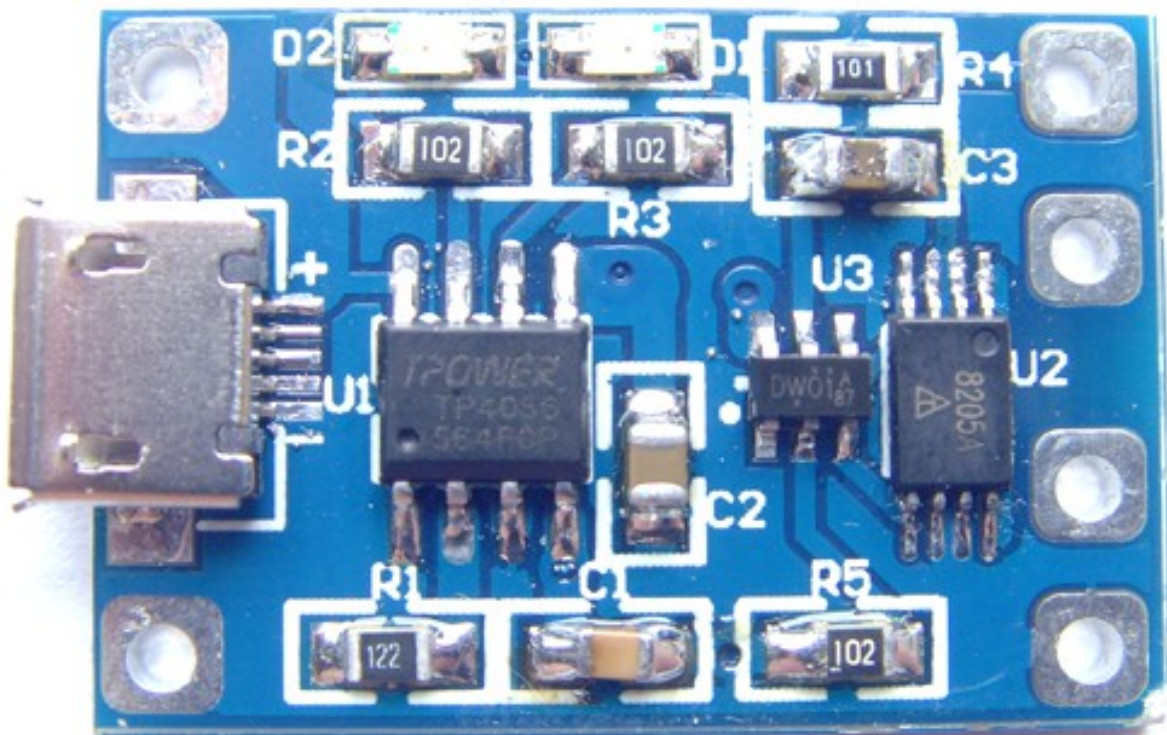
Shenzhen LC Technology Co., Ltd.

Address: Room 509,Building 213,Tairan Industry and Trade Park,

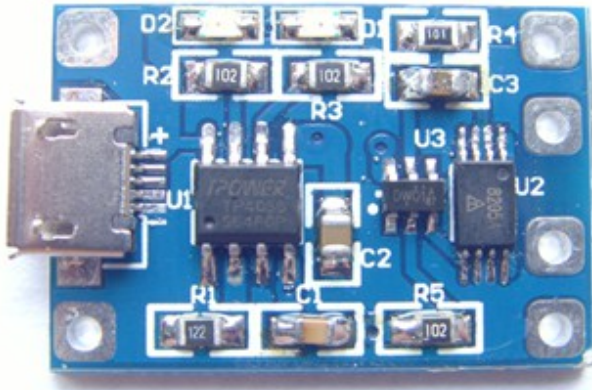
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## TP4056 lithium battery charging board over-current protection 18650 micro USB



## Function Description



LC TP4056 Lithium battery charge and discharge protection module equipped with TP4056 chip,a maximum charge current up to 1.2A,and this module is equipped with a charge-discharge protection device for the voltage of 3.6V,3.7V, such as 18650,polymer etc., single or multiple parallel can also be used.

## Product Features

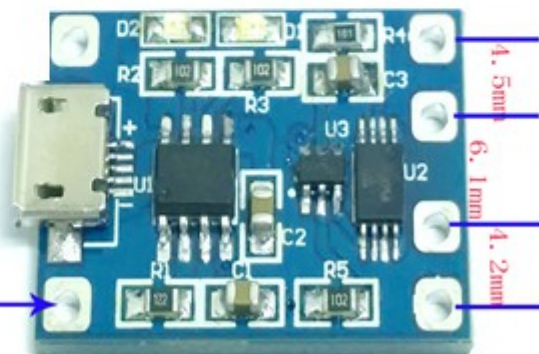
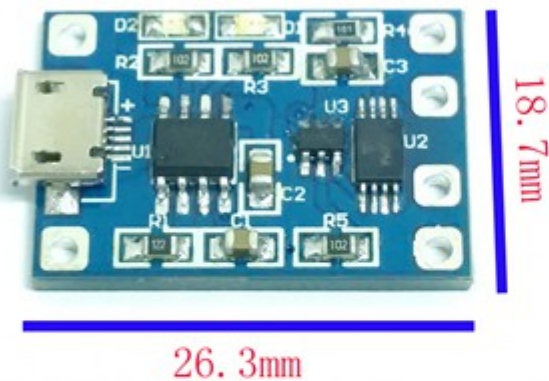
1. onboard TP4056 lithium battery charging management chip;
2. on-board micro USB,can connect with most smartphone charger directly as an input to the lithium battery;
3. reserved IN + and IN- input port, convenient to user's DIY;
4. on-board charging status indicator;
5. support the charge and discharge current protection;
6. the chip with constant current, full automatic stop;
7. supports simultaneous charging and discharging;

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## Performance Parameters

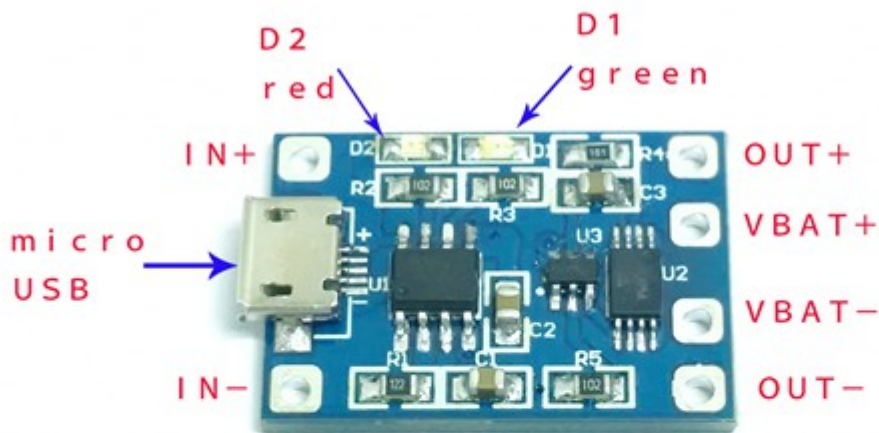
Input Voltage	DC 5V
Charging cut-off voltage	DC 4.2V $\pm$ 1%
maximum output current	1.2A
Charging method	Linear Charge
Working temperature	-20°C -85°C

## The hardware size



Note: 6 pads are the same size, the hole diameter is 1.54 mm  $\Phi 1.54\text{mm}$

## Basic Features



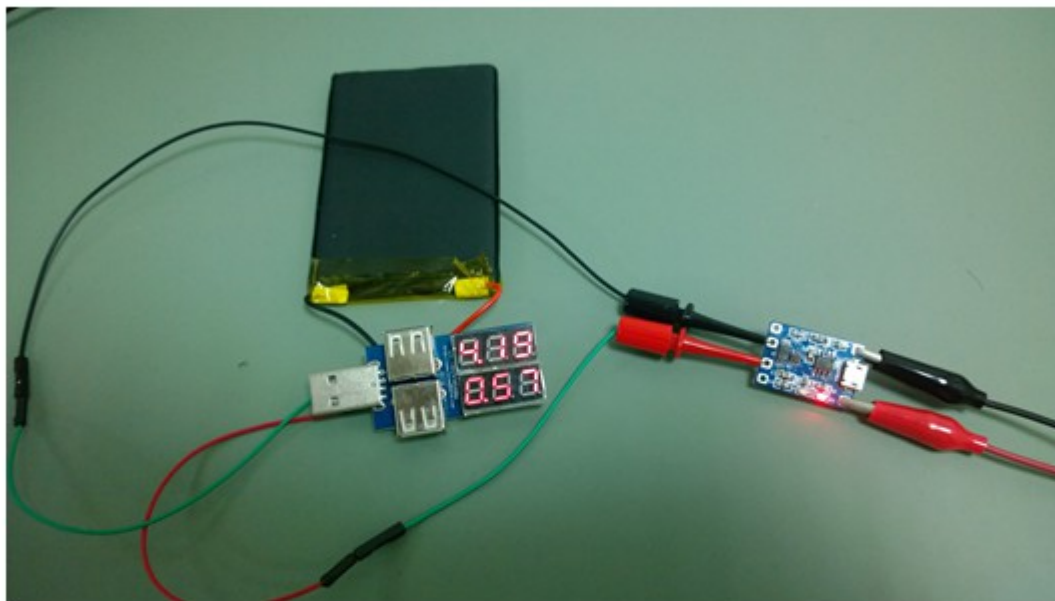
- Inputs can via USB or IN +, IN- to input; IN + connected positive input voltage, IN- connected to the negative;
- D1 is full indication Green LED, that only take input, output without any connection or the lithium battery is fully charged, then D1 light;
- OUT +, OUT- connected load, the output interface does not support the charge and discharge over-current protection, the remaining functions and VBAT +, VBAT- consistent interface functions;
- VBAT +, VBAT- take lithium positive and negative charge, VBAT + connected lithium battery positive, VBAT- then negative, charging red LED D1 light, green LED D2 lights off, the lithium battery positive and negative poles can not be reversed!

## Directions for use

input through micro USB or IN +, IN- access 5V, the output without any wiring, the green always light.

### 1.Charge for lithium battery

Lithium battery positive and negative, respectively access VBAT + and VBAT-, not reversed; as follow picture:  
access 4.8V to 20000MAH polymer lithium battery for charging, upcoming full status, voltage display 4.19V and 570mA charging current



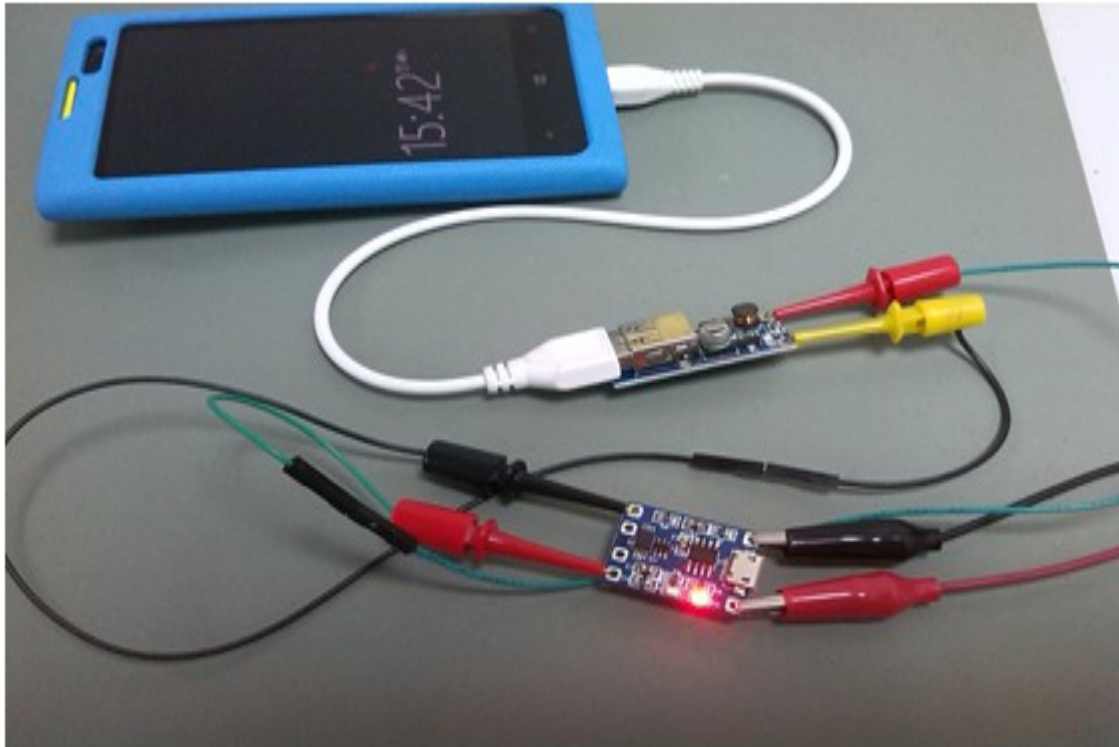
Noted that the charging current is preferably a battery capacity 0.37C, 0.37 times of the capacity ,such as 1000mAH capacity,400 is ok. Via USB power supply, input voltage 5V, 660mA charging current and 4.19Vcharging voltage



## 2.OUT connect to load

OUT port can be directly connected to the load, when the load is connected, via VBAT charging port is invalid.

For convenience, the OUT terminal through a small boost module (0.9V-5V input, 5V output) 5V boost to charge the phone. As shown, the OUT + connect to positive of small boost module, OUT- then negative, phone connect with USB female.



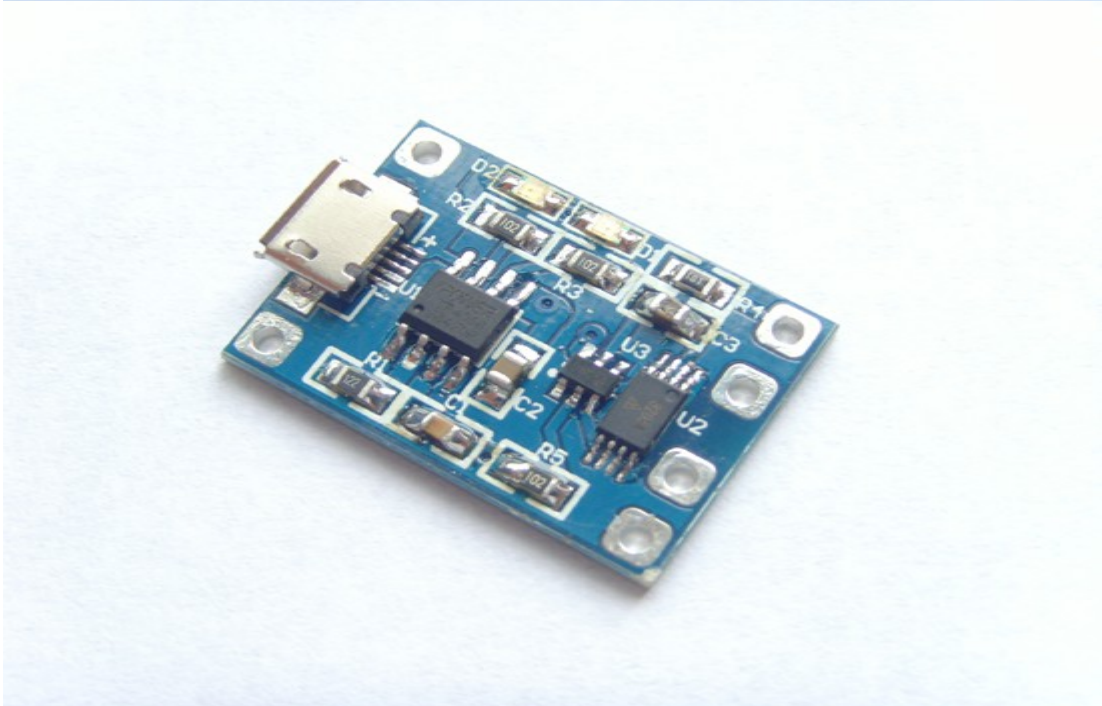
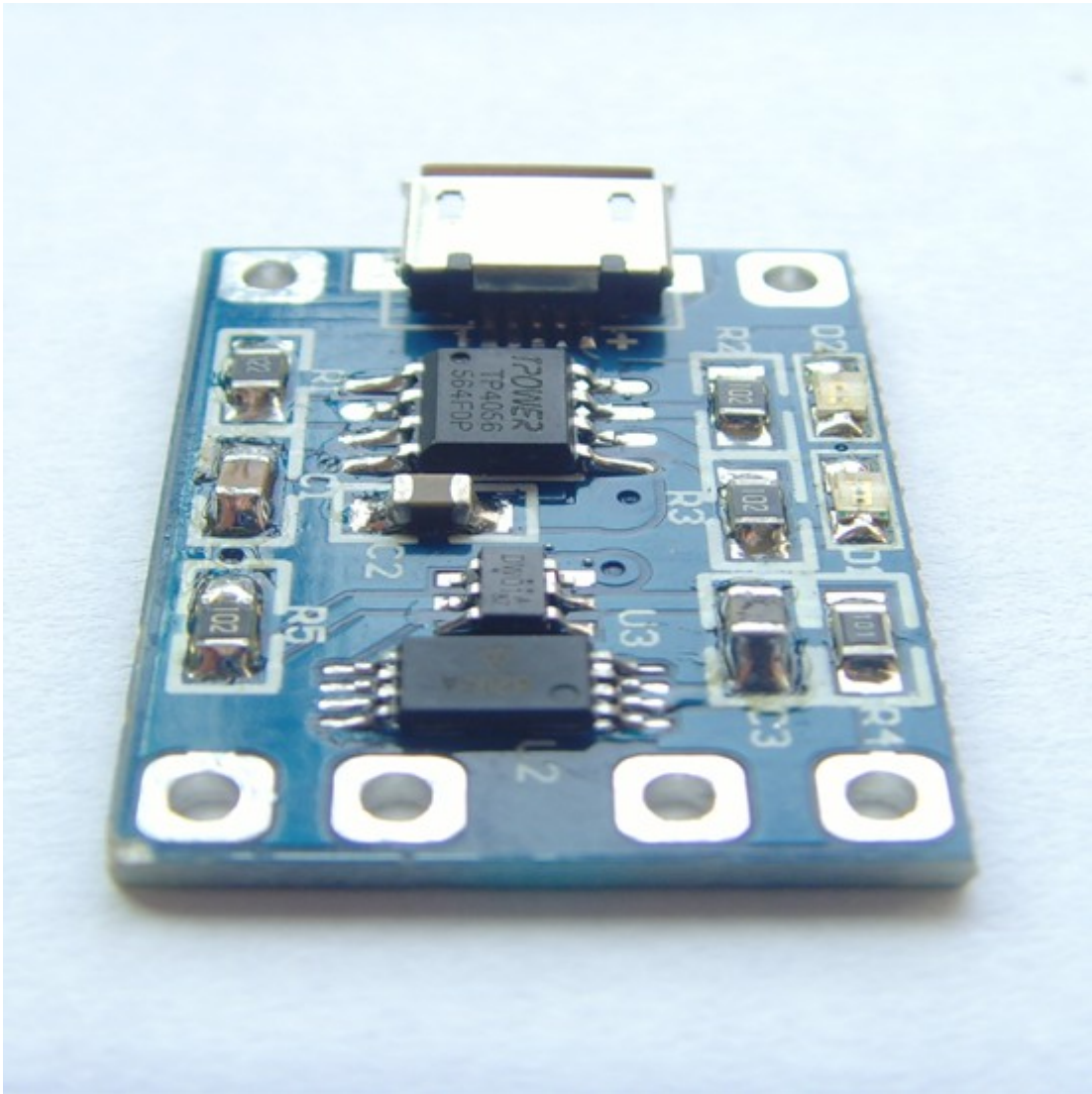


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