

# 18650 mobile power

## Smart mobile power

### MANUAL

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First of all, thank you for choosing our 18650 mobile power supply. This product is a highly integrated mobile power IC with over-current, over-charge, under-voltage, and over-temperature protection. It also has a built-in protection IC for lithium batteries, which greatly improves user convenience! This mobile power product also has the advantages of high current and high conversion rate, which is suitable for most users.

#### Product advantages

1. Protection mechanism:
  - ① Input overvoltage protection
  - ② Output overcurrent / short circuit protection
  - ③ Charge timeout / overvoltage protection
2. Output current up to 3A, efficiency up to 95%
3. With LED recognition power reserve

#### Product parameters

1. This mobile power supply has a built-in lithium battery protection IC, which has overcurrent, overvoltage, undervoltage, etc.
2. The USB port output and mobile power board have expansion ports 3.3V and 5V output ports, which is convenient for customer needs and use. Greatly reduces the problem of fewer ports
3. 4 level LED lights show power, the default boot is always in working state, you need to manually shut down (if necessary, change to non-working state Automatic shutdown mode, just cut off the middle line of the "NC" bit or remove the "ROUT" resistor)
4. 1.8A charge, 3A discharge, highly integrated mobile power IC
5. Motherboard size: 100mm \* 48mm \* 21mm (length \* width \* height)
6. Input port: MICROUSB (Android port) type, wide voltage, up to 6.5V input
7. Input requirements: 5V constant voltage power supply can be used for charging power input, matching charger 5V 1A or more
8. Output port: USB or expansion port
9. Output parameter 5V / 3A or 3.3V / 1A
10. Conversion efficiency up to 95% (high conversion rate)
11. Working temperature: -20 °C ~ 70 °C

#### Instructions

1. Click to boot
2. Press and hold the button to shut down // (non-automatic shutdown mode) If you need to change the non-automatic shutdown mode, please refer to the third point of the product parameters
3. Charge display indication

The LED light shows the power as follows:

Battery voltage (charge mode)	Flashing / Solid	Flashing mode
0-3.0	LED1 / No long light	0.5 second 50% fast flash
3.0-3.5	LED1 / None	25% flash for 1 second
3.5-3.8	LED2 / LED1	25% flash for 1 second
3.8-4.0	LED3/LED2-1	25% flash for 1 second
4.0-4.2	LED4/LED3-1	25% flash for 1 second
4.2	No flash / LED4-1	—

4. Discharge power display description

The LED lights are displayed as follows when boosting:

Battery voltage (discharge mode)	Flashing / steady on for 5 seconds	Flashing mode
0-2.4	Neither light	Shutdown
2.4-3.0	LED4-1 / No long light	Flash 6 times under voltage alarm
3.0-3.5	None / LED1	—
3.5-3.7	None / LED2-1	—
3.7-3.9	None / LED3-1	—
3.9-4.2	None / LED4-1	—
VIC overload	LED4-1 / None	6 flashes
Chip over temperature	LED4-1 / None	6 flashes

5. 4 road LED power status indication, automatically turn off after 3 seconds, the battery is less than 3V alarm 6 protection, less than 2.4 V full shutdown, no action
6. battery current as low as 3uA after standby
7. Intelligent input and output, do not need to worry about long charging time, so that users do not have to worry about it.

#### Precautions

- ① After getting the product, first install the battery to charge and activate it. Be sure to install the positive and negative batteries correctly, otherwise it will directly damage the module.
- ② In the process of use, please do not pull out the battery directly when the module is not turned off, otherwise the module will open the protection function, and the phenomenon that the battery

cannot be turned on when the battery is installed again, at this time, the battery needs to be installed and charged to solve it. When you need to unplug the battery, shut down the module first and then unplug the battery (Press and hold the button to shut down).

③ The module has a power saving function, the indicator light will turn off after turning on for only about three seconds! But it is still in a state of output work. If you need to shut down, please manually press and hold for about two seconds until the LED light is off

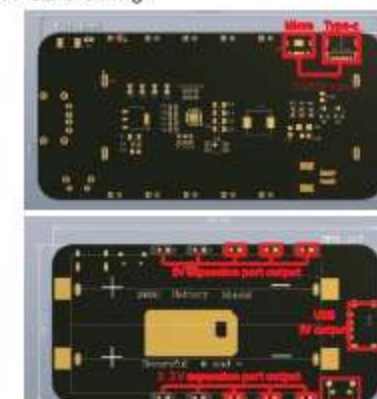
④ The maximum output power of the module is 5V / 3A, and it is also related to the device and battery power. If the instantaneous current of the load device is greater than 3A, it is recommended to start the module before connecting the load, because the excessive current may cause IC error. It is judged that the overload current is too large to protect. 2. The battery voltage works normally from 3.2V to 4.2V. Do not connect the batteries in series. The voltage in series will increase. If the battery capacity needs to be increased in parallel, do not connect in series.

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#### Application area

1. Mobile power
2. Other battery-powered equipment

Product PCB drawing:



1. Click to boot  
2. Press and hold the button to shut down