Soshine International (H.K.) CO., Limited

Library Sort	**Product Specifications**	VER	A
Library Name	**Li-ion Rechargeable Battery**	Date	2016/01/05

Li-ion Battery

Specification

Model: 18650P-3.7-3600

Prepared	Auditing	Approved
WUYJUN	LVCHENGXUN	SILING
2015.12.01	2016.01.03	2016.01.05

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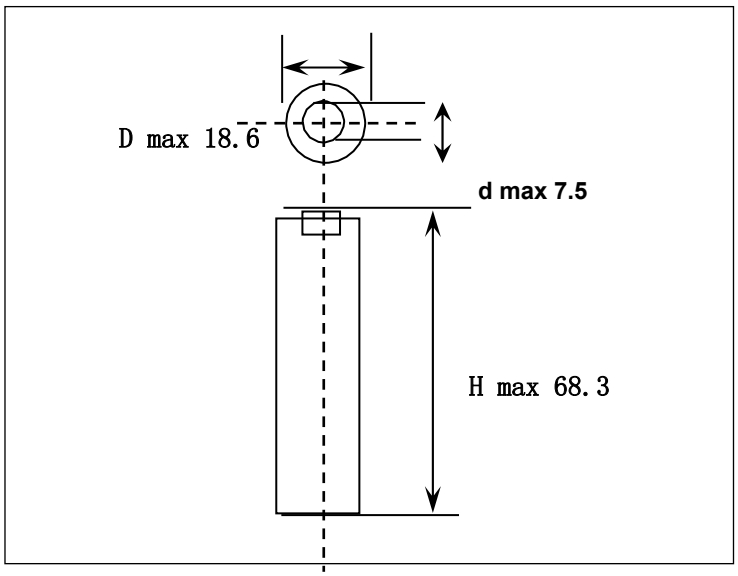
1. Primary technical Parameters

Type	Rechargeable Lithium-ion
Model	18650P-3.7-3600
Dimension	D18.6,H68.3,d7.5
C_5mAh	3550
C_5mA	3550
Nominal Voltage	3.7V
Capacity	Nominal 3550mAh Minimum 3450mAh when discharged at 0.2C_5mA to 2.65V
Charging Conditions	0.2C_5mA charge termination control parameters taper current 0.01C_5mA at4.2V
Service Life	300cycles（≥60% C_5mAh,0.2C discharge）
Weight	＜ 50g
Charging Voltage	4.2±0.03V
Protection Circuit Module	Over Voltage Limit: 4.275 +/- 0.04 V Under Voltage Limit: 2.65 +/- 0.08 V Over Current Protection: 7 A~ 8A Max. Quiescent Drain: 7 μA
Cell protected	PTC (Positive temperature coefficient device) protect against over temperature and indirectly over current and will automatic reset CID (Current interrupt device) pressure valve, will disable the cell permanently if the pressure is to high in the cell (Can be due to over charge).
Ambient Temperature Range	Charging : 0～+45℃ Discharging :-20～+60℃ Storage :-20～+50℃

Subject to change without prior notice

Dimension (mm)



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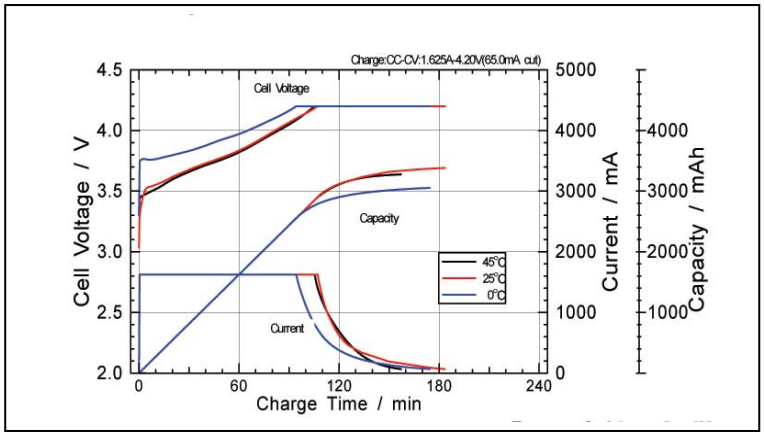
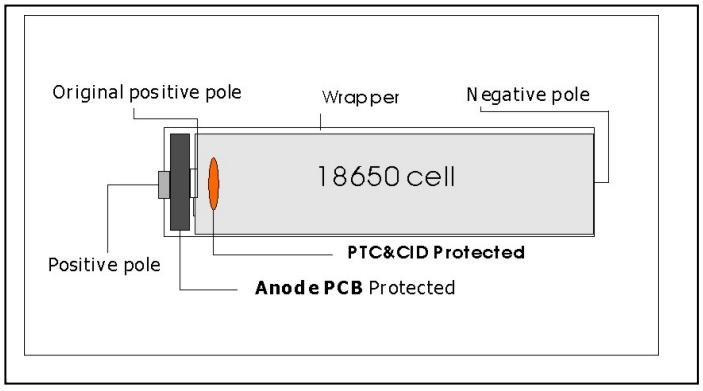
Charge Characteristics



Protection



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2 Polymer Li-ion Battery Pack Characteristics

Test item	Test conditions	Requirements
(1)Outside Appearance	Visual check	No abnormal stain, Deformation nor damage
(2) Standard test conditions	Measurements are carried out at 20±5℃ and relative humidity of 65±20% without other specified condition. Accuracy of voltmeters and ammeters used in test is equal to or better than the grade 0.5.	
(3) Full charge	Cells shall be charged continuously at the constant current 1.62A to 4.2V, then charge at the constant voltage of 4.2V until the end current of 0.01C_5mA	
(4)Standard discharge	Cells shall be discharged continuously at the constant current of 0.65A to 2.75V	
(5) Open-circuit voltage (OCV)		≥3.7V
(6)Rated Capacity	Cells shall be charged in Item (3) and discharged in Item (4) within 10minutes after full charged. If the discharge duration does not reach the specified value, the test may be repeated up to three times in total.	Rated capacity: ≥3450mAh
(7) Cycle Life (20℃)	Cells shall be charged continuously at the constant current of 0.2C_5mA to 4.2V and discharged continuously at the constant current of 0.2C_5mA to 2.75V. A cycles defined as one charge and discharge .carry out cycles until discharge capacity <60% C_5mAh	≥300 cycles

3 Safety Evaluation :

When Li-ion rechargeable batteries are used on above the permit voltage or current, electrolyte may disassemble, this case will affect safety performance of Li-ion rechargeable batteries. So protection circuit module were used in order to prevent overcharge 、over discharge and over current .

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PCM Model：SOSHINE18650-GLZ-0501

Test Item	Test Conditions	Requirements	Requirements
(1) Overcharge	Cells shall be charged in Item 1(3), then charged at 200mA current with a voltage limit of 6.6V.charging is continued for 8 hours.	Protection voltage: 4. 275±0.04V	No fire, Nor explosion
(2)Over discharge	Cells discharged continuously at the constant current of 650mA to 2.75V,then connect cells terminals with 30Ω.Discharging is continued for 24 hours	Protection voltage: 2.65±0.08V	No fire, Nor explosion
(3)Over current	Cells shall be charged in Item 1(3), then charge current is to be raised at a rate of 0.2A per second until the battery pack is protective cut-off.	Protection current: 7-8A	No fire, Nor explosion
(4)Short Circuit Test	Cells shall be charged in Item 1(3), Connect battery terminals with electric wire (electric resistance: 0.2Ω or less),continued for 1 hours		No fire, Nor explosion

4. Duration of Guarantee the Product

We can keep on the quality in six month. In order to keeping on the quality of the batteries, it’s need to charge and discharge once every three months.

5. Cell Condition at the Shipment

To be determined (Recommendation Approx. ≥3.7V about 50% charged state)

6. Storage

Far from the fire and the high temperature.

1.8 Handling Precautions

To assure product safety, describe the following precautions in the instruction manual of the equipment.

! Danger

- Do not heat or throw battery into a fire.
- Do not use, leave battery close to fire or inside of a car where temperature may be above 60℃. Also do not charge / discharge in such conditions.
- Hairpins, coins, or screws. Do not store batteries with such objects.

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- Do not short circuit the (+) and (-) terminals with other metals.
- Do not place battery in a device with the (+) and (-) in the wrong way around.
- Do not hit with a hammer, step on or throw or drop to cause strong shock.
- Do not disassemble or modify the battery.
- Do not solder a battery directly.
- Do not use a battery with serious scar or deformation.

! Warning

- Do not use battery with dry cells and other primary batteries, or batteries of a different package, type, or brand.
- Stop charging the battery if charging is not completed within the specified time.

During use, charge, or storage.

- Keep away from fire immediately when leakage or foul odor is detected.
- If liquid leaks onto your skin or clothes, wash well with fresh water immediately.

If liquid leaking from the battery gets into your eyes, do not rub your eyes. Wash them well with clean water and go to see a doctor immediately.

! Caution

- Store batteries out of reach of children so that they are not accidentally swallowed.
- Batteries have life cycles. If the time that the battery powers equipment becomes much shorter than usual, the battery life is at an end. Replace the battery with a new same one.
- Remove a battery whose life cycle has expired from equipment immediately.
- When the battery is thrown away, be sure it is non-conducting by applying vinyl tape to the (+) and (-) terminals.
- When not using battery for an extended period, remove it from the equipment and store in a place with low humidity and low temperature.
- While the battery pack is charged, used and stored, keep it away from objects or materials with static electric charges.
- The battery can be used within the following temperature ranges. Do not exceed these ranges.

  Charge temperature range : 0℃ to 45℃

  Discharge temperature range : -20℃ to 60℃

  (When using equipment)