深圳市佰佳科技有限公司
Shenzhen Baijiaying Technology Co.,Ltd

锂离子聚合物电池规格书

Sepecification of Lithium-ion Polymer Rechargeable Cell

公司名称 Company Name	深圳市佰佳科技有限公司 Shenzhen Baijiaying Technology Co.,Ltd
规格型号 Model Spec	802530PL
标称容量 Nominal Capasity	600mAh
文件编号 Document Number	
编制 Registered	
审核 Checked	
批准 Approved	
客户确认 Customer Approved	
公司名称 Company Name	
部门 Dept	
签名 Signature	
日期 Date	
公司印章 Company Stamp	
备注 Remark	

订履历

MENDMENT RECORDS

版本Revision	日期Date	变更内容Modified co	批准Approval

深圳市佰佳科技有限公司
Shenzhen Baijiaying Technology Co.,Ltd

A0		2022-8

目录 Contents

深圳市佰佳科技有限公司
Shenzhen Baijiaying Technology Co.,Ltd

3.1	标称电压 Normal Voltage	
3.2	标称容量 Nominal Capacity	
3.3	最小容量 Minimum Capacity	
3.4	标准充电方式 Standard charging method	
3.5	标准放电电流 Standard Charge Current	
3.6	充电截止电压 Charge out off voltage	
3.7	放电截止电压 Discharge out off voltage	
3.8	最大充电电流 Max. Charging Current	
3.9	标准放电电流 Standard discharging Current	
3.10	最大放电电流 Max. Discharging Current	
3.11	内阻 Internal Impedance	
3.12	尺寸 Dimensions	
3.13	电池重量 Cell Weight	
3.14	能量密度 Energy density	
3.15	工作环境 Operating Temperature	
3.16	储存温度 Storage Temperature	
3.17	储存湿度 Storage Relative Humidity	
3.18	运输电压 Voltage of shipment	
3.19	储存电压 Voltage of storage	
3.20	环境要求 Environmental request	
4	电池性能检查及测试 Testing of Battery Performance	
4.1	外观 Appearance	
4.20	测试设备要求 Measurement Apparatus	
4.3	标准的测试条件 Standard Test Condition	
5	电芯尺寸图 Drawing of cell	
6	常规性能 General Performance	
6.1	0.2C 容量 0.2Ccapacity	
6.2	IC 容量 IC Capacity	
6.3	循环寿命 Cycle Life	
7	荷电保持能力 Shelf Life.	
7.1	常温贮存 Room temperature Storage Characteristics	
7.2	高温贮存 High temperature Storage Characteristics	
8	环境性能 Environment Performance	
8.1	恒定湿热 Constant temperature and constant humidity test	
9	机械性能 Mechanical Performance	
9.1	振动测试 Vibration test	
9.2	跌落测试 Drop Test	
9.3	重物冲击Heavy impact	
10	安全性能 Safe Characteristic	
10.1	过充电性能 Overcharge test	
10.2	短路 Short-circuit test	

1.适用范围 Scope

本标准描述了聚合物锂离子电池的基本性能、技术要求、测试方法及注意事项。 本标准只适用于深圳亿欧新能源有限公司所生产的锂聚合电池。参照中华人民共和国国家标准 GB/T 18287-2013.

This specification describes the basic performance, technical requirement, testing method, warning and caution of the Li-ion polymer rechargeable battery. The specification only applies to of Shenzhen Yiou New Energy Co. , Ltd

2.产品 Product

2.1 名 称：可充电聚合物锂离子电池

Name ： Lithium-ion polymer rechargeable cell

2.2 型 号：802530PL

Model ： 802530PL

3.主要技术参数 Specification

深圳市佰佳科技有限公司
Shenzhen Baijiaying Technology Co.,Ltd

NO.	项目 Item	规格要求
3.1	Nominal Voltage 标称电压	3.7V
3.2	Nominal Capacity 标称容量	600mAh
3.3	Minimum Capacity 最小容量	580mAh
3.4	Standard charging method 标准充电方式	23±2℃ constant current charge to 4.2V, then constant voltage 4.2V charge till charged current declines to ≤0.01C
3.5	Standard Charge Current 标准充电电流	0.2C
3.6	Charge Cut-off Voltage 充电截止电压	4.2V
3.7	Discharge Cut-off Voltage 放电截止电压	3.00V
3.8	Max Charge Current 最大充电电流	0.5C
3.9	Standard discharge Current 标准放电电流	0.2C
3.10	Max Discharge Current 最大放电电流	0.5C
3.11	Internal Resistance 内阻	≤100mΩ
3.12	Dimension 尺寸	Thickness 厚度: ≤8.05mm Width 宽度: ≤25.2mm Height 高度: ≤30.5mm
3.15	Operating Temperature 工作环境	Charging Temperature 充电温度: 10~45℃ Discharging Temperature 放电温度: -20~60℃
3.16	Storage Temperature 储存温度	10℃-35℃（suggested 23±2℃）
3.17	Storage Relative Humidity 湿度	≤75%
3.18	Voltage of shipment 出货电压	3.85-4.05V
3.19	Voltage of storage 储存电压	3.85-4.05V
3.20	Environmental request 环境要求	If the materials of the product and packaging accord with RoHS standard, there will be a RoHS ID on the box. 假如生产和包装的材料符合 ROHS 标准,箱子上将贴有 ROHS 标签.

4. 电池性能检查及测试 Battery Performance Criteria

4.1 外观 Appearance

电池外表面清洁，无电解液泄漏，无明显的划痕及机械损伤，无变形，无影响电池价值的其它外观缺陷。
There shall be no such defect as scratch, flaw, crack, rust, leakage, which ,may adversely affect commercial value of battery.

4.20 测试设备要求 Measurement Apparatus

(1)尺寸测量设备 Dimension Measuring Instrument

测量尺寸的仪器的精度就不小于 0.01mm

The dimension measurement shall be implemented by instruments with equal or more precision scale of 0.01mm.

(2)电压表 Voltmeter

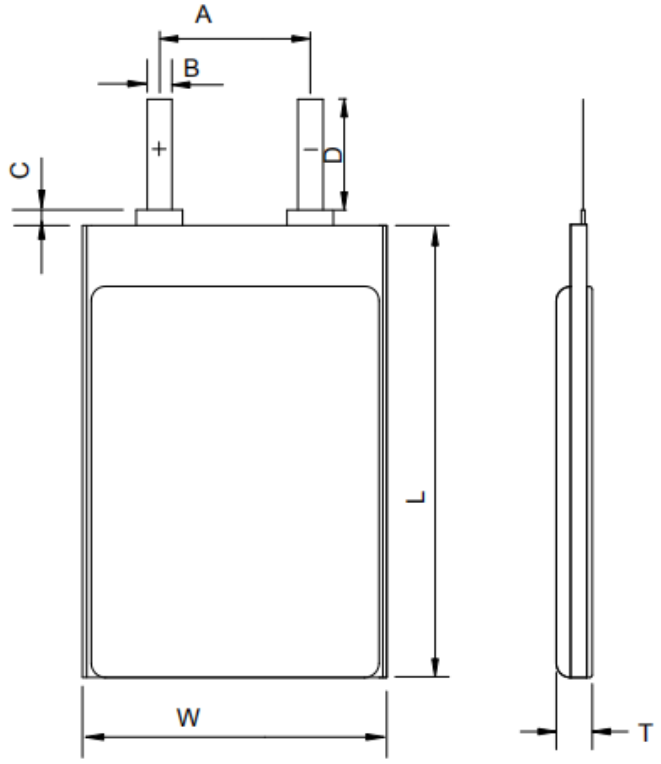
国家标准或更灵敏等级，内阻不小于 10 KΩ/V.

Standard class specified in the national standard or more sensitive class having inner impedance not less than 10KΩ/V.

4..3 标准的测试条件 Standard Test Condition

测试电池必须是本公司出厂时间不超过一个月的新电池，且电池未进行过五次以上充电循环，除非其它特殊要求，本产品规格书规定的测试环境条件为：温度 23±2℃，相对温度 45%～75%，大气压: 86～106Kpa。
Test should be conducted with new batteries within one month after shipment from our factory and the cells shall not be cycled more than five times before the test. Unless otherwise defined, test and measurement shall be done under temperature of 23±2℃ and relative humidity of 45%～75%, Atmospheric pressure：86～106Kpa

5.电芯尺寸图 Drawing of cell



项目 Item	尺寸 Dimension
T（电池厚度） Cell Thickness max	≤8.0mm
W（电池宽度 mm）Cell Width max	≤25.2mm
L (电池高度 mm) Cell Height max	≤30.5mm
C(极耳胶长度)Cell Top sealant length	0.2mm≤L2≤2.0mm
D(极耳长度) Cell Tab length	6.0±1.0mm
B（极耳宽度） Cell Tab width	3.0±0.1mm
A (极耳中心距) Cell Tab pitch	10.0±1.5mm
电池折边方式	双折边

6. 常规性能 General Performance

NO.	Item 项目	Test methods and condition 测试方法和条件	Standard 标准
6.1	Capacity 容量	After standard charging, rest for 30min, then discharging at 0.5C to voltage 3.0V, recording the discharging time. 标准充饱电后，搁置 30 分钟，然后用 0.5C 电流放电至 3.0V，记录放电时间。	≥120min
6.2	循环寿命 Cycle life	Constant current 0.5C charge to 4.2V, then constant voltage charge to current declines to 0.02C, rest for 10min, constant current 0.5C discharge to 3.0V, rest for 10min. Repeat the above steps, 先用 0.5C 恒流充电至 4.2V，再恒压 4.2V 充电直至充电电流≤0.02C，搁置 10 分钟，再用 0.5C 电流放电至 3.0V；再搁置 10 分钟，重复以上步骤。	≥300times（次） Remaining Capacity≥80% 容量保持率≥80%

7. 荷电保持能力 Shelf Life

NO.	Item 项目	Test methods and condition 测试方法和条件	Standard 标准
7.1	Storage Characteristics 1 常温贮存	The capacity on 0.2C discharge shall be Measured after standard charge and then storage at 23±2℃ for 28 days. 标准充电后电池在 23±2℃的环境中贮存 28 天，测试 0.2C 放电容量（保持容量）	Remaining Capacity≥85% 容量保持≥85%
		0.2C cycle three times, test recovery capacity (3 weeks of the maximum discharge capacity). 0.2C 循环 3 次，测试恢复容量（3 周循环的最大放电容量）	Remaining Capacity≥90% 容量恢复≥90%
7.2	Storage Characteristics 2 高温贮存	The capacity on 0.2C discharge shall be measured after standard charge and then storage at 60±2℃ for 7 days. 标准充电后电池在 60±2℃的环境中贮存 7 天，测试 0.2C 放电容量（保持容量）	Remaining Capacity≥ 70%容量保持≥70%
		0.2C cycle three times, test recovery capacity (3 weeks of the maximum discharge capacity). 0.2C 循环 3 次，测试恢复容量（3 周循环的最大放电容量）	Recovery capacity≥ 80% 容量恢复≥ 80%

8.环境性能 Environment Performance

NO.	Item 项目	Test methods and condition 测试方法和条件	Standard 标准
8.1	Constant temperature and constant humidity test 恒定湿热	After Standard Charging, test condition: Temperature: 40 ± 2 ℃ Relative Humidity:90～95%RH Storage Time:48 hours Then return to room temperature for 2 hours, Then 0.2C discharged to ending voltage. 标准充电后，测试条件如下： 温度：40±2℃ 相对湿度：90～95%RH 放置时间：48小时 电芯取出在室温下放置 2 小时，然后以0.2C电流放电至终止电压。	不起火、不爆炸、不泄露。放电容量不低于初始容量的70%，放电时间≥210min. No explosion, no fire, no leakage. Discharging capacity is not less than 70% initial capacity , discharge time≥210min

9.机械性能 Mechanical Performance

NO.	Item 项目	Test methods and condition 测试方法和条件	Standard 标准
9.1	Vibration test 振动测试	After Standard Charging, fixed the cell to vibration table, then subjected to vibration test for 30 minutes per axis of XYZ axes. Frequency rate: 1oct/min Vibration frequency: 10Hz-30Hz Excursion(single amplitude): 0.38mm Vibration frequency:30Hz-55Hz Excursion(single amplitude):0.19mm 电芯按标准充电后，固定在振动台上，然后 沿 XYZ 每个坐标方向振动 30 分钟. 扫频速率：1oct/min 振动频率：10Hz～30Hz 位移幅值（单振幅）：0.38mm 振动频率：30Hz～55Hz 位移幅值（单振幅）：0.19mm	No fire, No explosion, no smoking is obtained. 不起火， 不爆炸， 不冒烟
9.2	Drop Test 跌落测试	Drop the battery in the shipment condition from 1m height onto 5cm it 3times each of X, Y, and Z directions at 23±2℃ 在出货条件下将由高1M 的位置自由跌落置于 5cm,X, Y, Z 方向上各三次。	No fire, No explosion, no smoking is obtained. 不起火， 不爆炸， 不冒烟
9.3	Heavy impact 重物冲击	After the battery is charged according to the standard, place the battery on the surface of the platform, use a metal plate with a diameter of 15.8 ± 0.2mm to horizontally place the geometric center surface of the battery, use a 9.1kg ± 0.1kg weight to move from a 610mm ± 25mm height to the battery surface of the metal rod, and observe 6h 电芯按标准充电后，将电池放在平台表面，用直径为15.8±0.2mm的金属板横置电池几何中心表面，采用9.1KG±0.1KG重物从610mm±25mm的高处自由落体运动到放金属棒的电池表面，并观察6H	No fire, no explosion 不起火, 不爆炸

10. 安全性能 Safe Characteristic

NO.	Item 项目	Test methods and condition 测试方法和条件	Standard 标准
10.1	过充电性能 Overcharge test	Discharge:1C to 3.0V Charge:3C （capacity≤5000mAh） to 4.6V，1C（capacity≥5000mAh）to 4.6V.	不起火、不爆炸 No explosion， no fire。

		When the temperature falls 10℃ lower than the peak testing 放电：1C 放电至3.0V 充电：3C（容量≤5000mAh）充电至4.6V，1C（容量≥5000mAh）充电至4.6V。 当温度下降到比峰值低约 10℃时，结束试验。	
10.2	高温短路 HT short-circuit test	After Standard Charging, In 55 ± 2 ℃ under the environment of using total internal resistance to 80±20 m Ω wire short circuit is negative ,When the temperature falls 10℃ lower than the peak, Stop testing. 标准充电后，在 55±2℃的环境下使用总内阻 80±20mΩ的导线短路正负极，当电池温度下降到比峰值低约 10℃时，结束试验	不起火、不爆炸 No explosion，no fire。
10.3	热冲击 Thermal test	Put cell into an hot box, test condition: Temperature Rate: 5±2℃/min Ending temperature: 130℃±2℃ Keep temperature for 30 minutes, Then stop testing. 将电芯放置于热箱中，测试条件如下： 升温速率：5±2℃/min 终止温度：130℃±2℃ 保持此温度 30min，然后停止此试验。	不起火、不爆炸 No explosion，no fire。

11.存储及运输要求 Storage and Shipment Requirement

储存环境 Storage environment

温度 Temperature：10℃～35℃，

湿度 Humidity：75%RH Max

长时间储存：如果电芯长时间储存，电芯电压应在3.80-3.95V 以及储存在上述条件下，建议每6 个月对电芯进行充电一次。

Long time storage: If the cell is stored for a long time, the cell is storage voltage should be 3.80-3.95V and the cell is to be stored in a condition. It is recommended to charge the cell every six months.

12.产品质保期 Warranty

质保时间12个月，参照时间以电芯喷码日期为准；

13. 警告及注意事项

为防止电池可能发生的泄露、发热、起火，请注意以下预防措施：

① 电池外包装膜容易被镍片、尖针等尖锐部件损伤，禁止用尖锐部件损伤电池。

② 严禁将电池浸入海水或水中。
③ 禁止将电池在热高温源旁，如火、加热器等使用设备
④ 禁止颠倒正负极使用电池
⑤ 严禁将电池直接接入电源插座
⑥ 禁止用金属直接连接电池正负极短路，任何时候禁止短路电芯，它会使电芯受到严重损坏。
⑦ 禁止将电池与金属，如发夹、项链等一起运输或储存。
⑧ 严禁敲击或抛掷，踩踏电池等。
⑨ 禁止直接焊接电池或用钉子或其它利器刺穿电池
⑩ 禁止与液态锂离子或不同型号的聚合物锂电池混合使用
⑪ 禁止弯折顶封边，禁止打开或破坏折边，禁止弯折电芯折边底部。
⑫ 禁止坠落、冲击、弯折电池
⑬ 电池外壳设计和包装禁止损伤电池
⑭ 任何情况不得拆卸电池
⑮ 更换电芯应由电芯供应商或设备供应商完成，用户不得自行更换。
⑯ 禁止在强静电和强磁场的地方使用，否则易损坏电池安全保护装置，带来不安全的隐患。
⑰ 如果电池发生异味、发热、变色、变形或使用、储存、充电过程中出现任何异常现象，立即将电池从装置或充电器中移除并停用。
⑱ 如果电池弄脏，使用前应用干布抹净，否则可能会导致接触不良功能失效。
⑲ 禁止在高温下（直热的阳光下或很热的汽车中）使用或装置电池，否则可能会引起电池过热，起火或功能失效，寿命减短。
⑳废弃之电池应用绝缘纸包住电极，以防起火、爆炸。

Warning and cautions
To prevent the possibility of the battery from leaking, heating, fire, please observe the following precautions:
① The soft aluminum packing foil is very easily damaged by sharp edge parts such as MI-tabs and needs, do not strike battery with any sharp edge parts.
② Do not immerse the battery in water and seawater
③ Do not use and leave the battery near a heat source such as fire and heater.
④ Do not reverse the position and negative terminals.
⑤ Do not connect the battery to an electrical outlet directly.
⑥ Do not connect the positive and negative terminal directly with metal objects such as wire. Short terminals of battery is strictly prohibited, it may damage battery.
⑦ Do not transport and store the battery together with metal objects such as necklaces, hairpins.
⑧ Do not strike, throw or trample the battery.
⑨ Do not directly solder the battery and pierce the battery with a nail or other sharp object.
⑩ Do not use lithium ion battery and others different lithium polymer battery model in mixture.
⑪ Do not bend or fold sealing edge. Do not open or deform folding edge Do not fillet the end of the folding edge.
⑫ Do not fall, hit, bend battery body.
⑬ Battery pack designing and packing Prohibition injury batteries.
⑭ Never disassemble the cells。
⑮ The battery replacement shall be done only by either cells supplier or device supplier never be

done by the user。

⑯ Do not use it in a location where is electrostatic and magnetic greatly, otherwise, the safety devices may be damaged, causing hidden trouble of safety.

⑰ If the battery gives off an odor, generates heat, becomes discolored or deformed, or in any way appear abnormal during use, recharging or storage, immediately remove it from the device or battery charge and stop using it.

⑱ In case the battery terminals are dirt, clean the terminals with a dry cloth before use. Otherwise power failure or charge failure may occur due to the poor connection with the instrument.

⑲ Do not use or leave the battery at very high temperature conditions (for example, strong direct sunlight or a vehicle in extremely hot conditions). Otherwise, it can overheat or fire or its performance will be degenerate and its service life will be decreased.

⑳ Be aware discharged batteries may cause fire; tape the terminals to insulate them.

14. 电池外壳设计注意事项 Notice for Designing Battery Pack

14.1 Pack design

●Battery pack should have sufficient strength and battery should be protected from mechanical shock

●No cell movement in the battery pack should be allowed.

●No Sharp edge components should be inside the pack containing the battery.

●电池外壳应有足够的机械强度以保证其内部电芯免受机械撞击。

●电芯不得在壳内活动

●外壳内安装电芯的部位不应有锋利的边角。

14.20 Avoid some components to contact the edge of packing foil of batteries

避免导电元件与电芯包装铝箔的边缘接触

13.3 Tab connection

●Ultrasonic welding or spot welding is recommended to connect battery with PCM or other parts.

●If apply manual solder method to connect tab with PCM, below notice is very important to ensure battery performance.

a. The solder iron should be temperature controlled and ESD safe

b. Soldering temperature should between 325-380°C

c. Soldering time should not be longer than 3s

d. Soldering times should not exceed 5 times

e. Directly heat cell body is strictly prohibited,

电芯的连接

●建议使用超声波焊接或点焊技术来连接电芯与保护电路模块或其它部分。

●如使用手工锡焊，须注意以下事项，以保证电芯的功能：

a.烙铁的温度可控且防静电；

b.烙铁温度应该在 325-380°C；

c.锡焊时间不能超过 3 秒：

d.锡焊次数不能超过 5 次，必须在极耳冷却后再进行二次焊接；

e.禁止直接加热电芯，高于 100°C会导致电芯损坏。

15.其他事项 Other

a)对于在超出文件规定以外的条件下使用电池而造成电池的任何意外事故，亿欧新能源概不负责。

Shen zhen Yo will take no responsibility for any accident when the battery is used under other

conditions than those described in this Document.

b)如有必要，亿欧新能源会以书面形式告知客户有关正确操作使用电池的改进措施。

Shen zhen Yo inform, in a written form, the customer of improvement regarding proper use and handing

of the battery, if is deemed necessary.

c)任何本说明书中未提及的事项，须经双方协商确定。

Any matters that this specification does not cover should be conferred between the customer and Shen zhen Yo。

---------END---------