

聚合物电池规格书

polyMer lithium-ion battery specification

cell Model : 8575175NSH5 (22Ah&3.7v)

content

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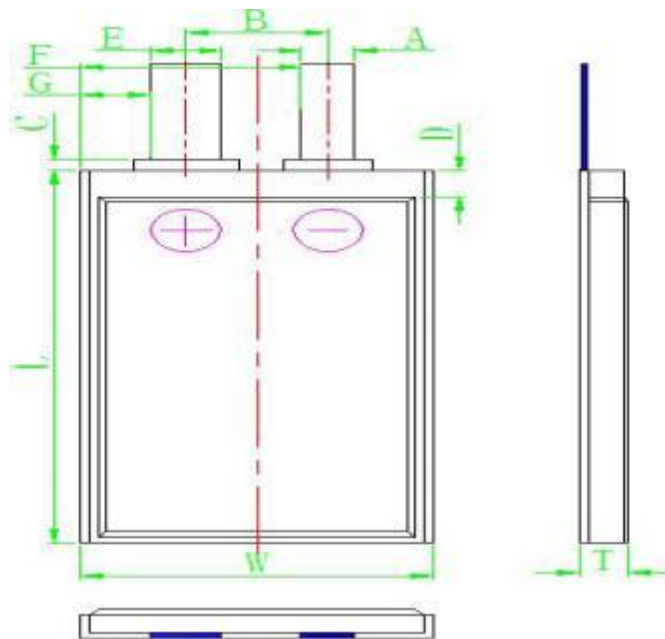
1. scope 范围

This specification describes the performance, testing Method, warning and caution of the lithium-ion polymer rechargeable battery.

本标准描述了聚合物锂离子电池的性能、测试方法及注意事项。

2. The finished product parameters 成品参数

2.1 schematic diagram of finished product 产品示意图



2.2 standard size 尺寸标准

| Item 项目 | Descriptio" 性能 | DiMension 尺寸(MM) | 备注 |
|---------|-------------------------------|------------------|----|
| T | Thickness 厚度 | ≤8.5 | |
| w | width 宽度 | ≤75 | |
| L | Length长度 | ≤176 | |
| E | cell tab width 正极耳宽度 | 25±0.1 | |
| A | cell tab width 负极耳宽度 | 25±0.1 | |
| B | cell tab pitch 极耳中心距 | 35.5±1.0 | |
| C | cell tab glue 极耳胶外露尺寸 | 0.2~2.5 | |
| D | cell top sealant length 顶封边宽度 | 5±1.0 | |

3. Basic performance 基本性能

| No. | Item 项目 | specification 性能 |
|-----|--|---|
| 1 | Typical/Minum capacity 典型/最小容量Ah | 22 (21.5) 【4.4A(0.2C) discharging to 2.5V (25±2°C)】 |
| 2 | Nominal voltage 标称电压V | 3.7V |
| 3 | charge Ending voltage 充电截止电压 V | 4.25V |
| 4 | Discharge Ending voltage 放电截止电压 V | 2.5V |
| 5 | standard charging currnet 标准充电电流 | 4.4A (0.2C) 【Ambient Temperature 环境温度: 25±2°C】 |
| 6 | Maximum charging current 最大充电电流 A | 4.4A (0.2c) 【Ambient Temperature 环境温度: 0~20°C】 |
| | | 11A (0.5c) 【Ambient Temperature 环境温度: 20`45°C】 |
| 7 | std. charging TiMe 最大/标准电流充电时间 Hr | 2.~3.0hours /7.0~8.0hours |
| 8 | std. Discharging currnet 标准放电电流 A | 4.4A (0.2C) |
| 9 | Burst Discharge current 最大放电电流 A | 66A |
| 10 | voltage as of shipMent 运输电压V | 3.7~3.9V |
| 11 | operating environment 工作环境 | 0°C~45°C charge 充电 -20°C~55°C Discharge 放电 |
| 12 | Impedance 内阻 m Ω | < 2m S (AC Impedance 【1KHz】) |
| 13 | weight 重量 g | Approx. 237g |

4. Electrical characteristics 电性能

4.1 Normal Test conditions 标准测试条件

Temperature: $25 \pm 2^\circ\text{C}$; Relative Humidity: 15-80%RH; 除非另有规定, 本规格书中的各项测试应在标准大气条件下进行: 温度: $25 \pm 2^\circ\text{C}$; 相对湿度: 15-80%RH;

4.2 Electrochemical characteristics 电化学特性

| NO. 序号 | Item 项目 | criterion 性能标准 | Test Method 测试方法 |
|-----------|--|---|--|
| 1 | Impedance Resistance 内阻 | $\leq 2 \text{ m}\Omega$ | The Impedance shall be measured in an alternating current method after standard charge. 标准充电后, 采用交流法测量电池内阻。 |
| 2 | Initial capacity (Ah) 初始容量 | $\geq 21.5 \text{ Ah}$ | standard charge, and standard discharge 标准充电后, 标准放电测试电池容量。 |
| 3 | Temperature characteristics 放电温度特性 | $55^\circ\text{C} : \geq 90\%$ $20^\circ\text{C} : \geq 95\%$ $-20^\circ\text{C} : \geq 60\%$ | charge: standard charge. Rest 2 hours at required temperature. Discharge: CC, 4.4A(0.2C). 标准充电后, 在要求的温度下搁置 2 小时, 然后以 4.4A(0.2C) 放电。 |
| 4 | cycle Life 循环寿命 | ≥ 200 | Temperature: $25 \pm 3^\circ\text{C}$ charge: Cc-Cv, 4.4A(0.2c), 4.25v, 0.03mA Cutoff; Discharge: Cc, 4.4A(0.2c), 3.0V cutoff; Discharge capacity should be no less than 80% of initial capacity. 测试温度: $25 \pm 3^\circ\text{C}$ 4.4A (0.2C) 充电至 4.25V, 0.03CMA 截止, 4.4A(0.2C) 放电至 3.0V 截止; 放电容量不少于初始容量的 80% |
| 5 | shelf Life 荷电保持能力 | keep the capacity 保持容量 $\geq 90\%$ Recovery capacity 恢复容量 $\geq 95\%$ | standard charge and then storage at $25 \pm 3^\circ\text{C}$ for 28 days, standard discharge. 标准充电后, 电池在 $25 \pm 3^\circ\text{C}$ 环境下储存 28 天, 然后标准放电。 Then standard charge and standard discharge. 测试完保持容量后, 标准充电, 然后标准放电 |
| | | keep the capacity 保持容量 $\geq 75\%$ Recovery capacity 恢复容量 $\geq 80\%$ | standard charge and then storage at $55 \pm 2^\circ\text{C}$ for 7 days, standard discharge. 标准充电后, 电池在 $55 \pm 2^\circ\text{C}$ 环境下储存 7 天, 然后标准放电。 Then standard charge and standard discharge. 测试完保持容量后, 标准充电, 然后标准放电 |

4.3 safety and Environmental performance 安全及环境性能

| NO 序号 | Item 项目 | criterion 性能标准 | Test Method 测试方法 |
|----------|-------------------------|---|--|
| 1 | vibration Test 振动 | No leakage, no explosion, no fire 不漏 液、不爆炸、 不起火。 | After standard charge, cells are to be tested as following conditions : Amplitude : 0.8mm, Frequency : 1055Hz (sweep : 1Hz/min) , Direction: X/y/z axis for 90`100min. The battery is to be tested in three mutually perpendicular to each axis. 标准充电后, 按下列条件进行试验: 振幅: 0.8MM; 频率: 10`55Hz (扫描速度: 1Hz/min); 方向: X/y/z 轴振动 90`100min. 电池在 X、Y、Z 三个垂直方向进行实验. |
| 2 | Drop Test 跌落 | No explosion, no fire. 不爆炸、不起 火。 | Drop cells in the shipment condition (50% charge) from 1.0m height onto 5cm or thicker concrete with p-tile on it 3 times each of X, Y, and Z directions at 25±3°C. 将电池在运输条件(50%充电)下从 1.0m 的高度自由跌落到 5cm 或更厚的水泥地面上, 从 X, Y, Z 三个方向上每个方向跌落一次, 环境温度 25±3°C。 |

Note: Above testing of safe characteristics must be with protective equipment.

备注: 以上安全性能实验应在有保护措施的条件下进行。

5. storage Requirement 存储要求

| Item 项目 | | Requirement 要求 |
|---|--|----------------------------|
| storage environment 储存环境 | short period less than 3 Month 短期少于 3 个月 | -20° C ~ +45° C, 65±20%RH |
| | Long period more than 5 month 长期超过 6 个月 | -20° C ~ + 35° C, 65±20%RH |
| | Recommend storage 1 year 一年 | -20° C ~ +25° C, 65±20%RH |
| <p>● please activate the battery once every 3 months according to the following method: charge at 0.2c to 4.25v, rest 10 min, then discharge with 0.2c to 2.5v, rest 10 min, then charge at 0.2c to 3.85v.</p> <p>请每隔 3 个月按下面方法激活电池一次：0.2C 充电至 4.25V，休息 10 分钟，然后用 0.2C 放电至 2.5V，休息 10 分钟，0.2C 充电 3.85V。</p> | | |

6. period of warranty 保质期

The period of warranty is 6 months from the date of shipment. Nuoxin guarantees to give a replacement in case of cells with defects proven due to manufacturing process instead of the customer' s abuse and misuse.

电池保质期为出厂后 6 个月。我司承诺如果在保质期内由于电池本身的质量问题，本公司将负责进行调换，如果是由于用户误用或进行破坏性测试而产生的问题，恕不负责。

7. warning and cautions 警告及注意事项

warning

Danger warning (it should be described in manual or instruction for users, indicated especially) to prevent the possibility of the battery from leaking, heating, explosion. please observe the following precautions :

危险警告：（应在使用说明手册或说明书中，特别注明）为防止电池可能发生泄漏，发热，爆炸，请注意以下预防措施：

- ◆ Don' t immerse the battery in water and seawater. please put it in cool and dry environment if no using.
严禁将电池浸入海水或水中，保存不用时，应放置在阴凉干燥的环境中。
- ◆ Do not discard or leave the battery near a heat source as fire or heater
禁止将电池在热高温源（如火、加热器）旁等使用、留置或丢入。
- ◆ Being charged, using the battery charger specifically for that purpose

充电时请选用锂离子电池专用充电器。

- ◆ Don' t reverse the positive and negative terminals
严禁颠倒正负极使用电池。
- ◆ Don' t connect the battery to an electrical outlet directly.
严禁将电池直接接入电源插座。
- ◆ Don' t connect the positive and negative terminal directly with metal objects such as wire. short terminals of battery is strictly prohibited, it may damage battery.
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，它会导致电芯严重损坏。
- ◆ Do not transport and store the battery together with metal objects such as necklaces , hairpins.
禁止将电池与金属，如发夹，项链等一起运输或贮存。Do not strike , throw or trample the battery.
禁止敲击或抛掷，踩踏电池等。
- ◆ Do not directly solder the battery and pierce the battery with a nail or other sharp object
禁止直接焊接电池和用钉子或其它利器刺穿电池。
- ◆ Do not use lithium ion battery and others different lithium polymer battery model in mixture
禁止与液态锂离子或不同型号的聚合物锂电池混合使用
- ◆ prohibition of use of damaged cells
禁止使用已损坏的电芯
- ◆ Don' t bend or fold sealing edge. Don' t open or deform folding edge Don' t fillet the end of the folding edge
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
- ◆ Don' t fall , hit , bend battery body.
禁止坠落、冲击、弯折电芯。
- ◆ Battery pack designing and packing prohibition injury batteries.
电池外壳设计和包装禁止损伤电池。
- ◆ Never disassemble the cells
在任何情况下不得拆卸电芯
- ◆ The battery replacement shall be done only by either cells supplier or device supplier and never be done by the user.
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。
- ◆ keep the battery away from babies.
电池应远离小孩。

- ◆ Any components contacting these two edges, they must be insulated.
导电元件与电池两侧封边接触必须绝缘。
- ◆ 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.
禁止在高温下（直射的阳光下或很热的汽车中）使用或放置电池，否则可能会引起电池过热，起火或功能失效，寿命减短。
- ◆ 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.
禁止在强静电和强磁场的地方使用，否则易破坏电池安全保护装置，带来不安全的隐患。
- ◆ If the battery leaks, and the electrolyte get into the eyes. Do not wipe eyes, instead, rinse the eyes with clean running water, and immediately seek medical attention. otherwise, eyes injury can result. 如果电池发生泄漏，电解液进入眼睛，请不要揉擦，应用清水冲洗眼睛，并立即送医治疗，否则会伤害眼睛。
- ◆ 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.
如果电池发出异味，发热，变色，变形或使用，贮存，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离并停用。
- ◆ 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.
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。
- ◆ Be aware discharged batteries may cause fire; tape the terminals to insulate them.
废弃之电池应用绝缘纸包住电极，以防起火，爆炸。