锂池书

Lithium Ion Battery Specifications

类型：圆电池

Type: Normal Cylindrical Battery

型号(Model): 26650-5000

客户(Customer): ORION

上能动电有公

PASIFIK ELEKTRONIK ITH.IHR.SAN.ve TIC.LTD.STI.

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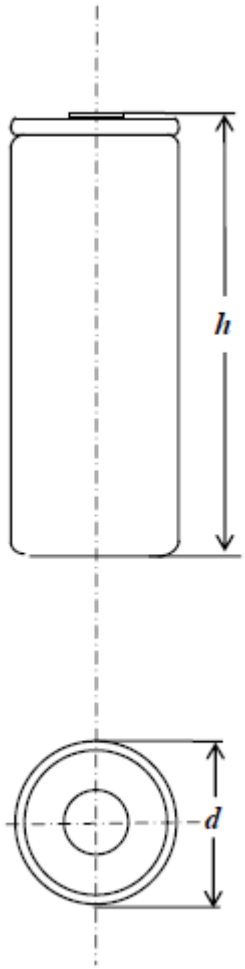
立	文	

2015 年 5 月 15 日

产格 (Product Specifications)



型 柱型

Type ---------- Normal Cylindrical Battery

型号(Model)---------- 26650-5000

尺(包套)

Dimension (Including shrink sleeve/label)

直 (Diameter), d ---------- 26.3±0.2mm

高 (Height), h ---------- 65.2±0.2mm

重 (Mass) ---------- 约 98g (Approx)

标压 (Nominal voltage) ---------- 3.6V

容量(0.2C 放电) Capacity(0.2C discharge)

C: 标称值 (Nominal)---------- 5000mAh

最小值 (Minimum)---------- 4900mAh

最大充电电压 (Maximum charge voltage)-- 4.2V

最大持续充电电流

Maximum continuous charge current---- 2500mA

最大放电电流 Maximum discharge current

连续 Continuous---------- 5000mA

放电电 (Discharge cut-off voltage)--- 2.75V

内阻(Internal impedance) (23±2° C)--------- ≤25±5mΩ

使用温度 (Operation temperature)

放电(Discharge)---------- -20-60° C

充电(Charge)---------- 0-45° C

保存温度(Storage temperature)

(不能结露 non-condensing)

1 个月以内（Within 1month)---------- -20-60° C

1-3 个月（1-3months)---------- -20-40°C

3-12 个月（3-12months)---------- -20-25°C

1. 适范 (Scope)

本规于上海德朗能力电有限公供离电。

This specification shall be applied to Lithium ion rechargeable battery cell supplied by Pasifik electronic ith ihr san ve tic, Ltd.

2. 测环(Testing Environment)

除非要求文件有试均在 23±2°C 环行：

Unless otherwise specified, all tests stated in this document shall be performed at 23±2°C.

3. 性及试件 (Performance and Test Conditions)

标准电：0.2C 恒流电 4.2V；然 4.2V 恒压电至小于 0.02C。

Standard charge: 0.2C constant current (CC) charge to 4.2V, followed by 4.2V constant voltage (CV) charge until current taper to ≤0.02C.

标准电：0.2C 恒流至放电止压 2.75V。

Standard discharge: 0.2C CC discharge to the end of discharge voltage 2.75V.

序号 No.	测试项目 Test item	测试条件 Test conditions	要求 Requirements
3.1	外观 Outside Appearance	目测 Visual check	无污迹、无变形和划伤 No prominent stain and deformation, nor damage.
3.2	尺寸 Outside Dimensions	游标卡尺 Vernier clippers	直径 Diameter 26.3±0.2 mm 高度 Height 65.2±0.2 mm
3.3	出荷时开路电压 Open circuit voltage at delivery	出荷后 1 周以内测定。 Voltage is tested within 1 week after delivery	3.6V 或以上 3.6V or more

3.4	出荷状态内阻 Internal resistance at delivery	出荷后 1 周以内交流四线法（1kHz）测定。 The cell impedance shall be measured by AC method (1kHz) within 1 week after delivery.	25±5mΩ或以下 25±5mΩ or less
3.5	标称容量 Nominal capacity	标准充电后，0.2C 放电 At standard charging (CH) and discharging at 0.2C	5000mAh 或以上 5000mAh or more
3.6	温度特性 Temperature-rate performance	1）常温下标准充电 Standard CH at R.T 将测试电池放入-10°C 恒温箱，搁置 4 小时 Keep batteries in a icebox with ambient temperature of -10°C for 4 hours. -10°C 下 0.2C 放电至终止电压，计算放电容量与标称容量的百分比。 DCH at 0.2C to the end of DCH voltage at -10°C; Calculate the capacity ratio with the nominal capacity. 2）常温下标准充电 Standard CH at R.T 将测试电池放入 25°C 恒温箱，搁置 4 小时 Keep batteries in a icebox with ambient temperature of 25°C for 4 hours. 25°C 下标准放电至终止电压，计算与标称容量的百分比。 Standard DCH to the end of DCH voltage at 25°C; Calculate the capacity ratio with the nominal capacity. 3）常温下标准充电 Standard CH at RT 将测试电池放入 40°C 恒温箱，搁置 4 小时 Keep batteries in a icebox with ambient temperature	容量百分比 ≥50% Capacity ratio ≥50% 容量百分比 ≥100% Capacity ratio≥100% 容量百分比 ≥80% Capacity ratio ≥80%

		of 40°C for 4 hours. 40°C 下标准放电至终止电压，计算与标称容量的百分比。 Standard DCH to the end of DCH voltage at 40°C; Calculate the capacity ratio with the nominal capacity.	
3.7	循环寿命 Cycle Life	标准充电 标准放电 共充放电 300 次循环。 300 cycles of standard CH and standard DCH.	末次放电容量/首次放电容量≥70% The ratio of discharge capacity at the last and the first cycle ≥70%

4. 机能(Mechanical Performances)

序号 No.	测试项目 Test item	测试条件 Test conditions	规格 Specifications
4.1	落下 Drop	标准充电后电池从 75cm 高处下到木上，X、Y、Z 面各落下一次。 The cell shall be standard charged and then dropped onto hard wood from the height of 75 cm in 3 directions X, Y, and Z once at each direction.	不火，不爆。 No fire, nor explosion
4.2	振动 Vibration	标准电，按以下件动 振动波 正弦波 振动频率 16.7Hz 振动时间 1 小时 振动方向 任意 振幅 1mm 振动后，电池进行标准充电，标准放电。 A standard charged cell shall be vibrated as specified hereunder. Vibration waveform: sinusoidal.	无形、破、发火； 可继充放电 No explosion and flame, no deformation. Possible to be charged and discharged.

		Frequency: 16.7Hz. Test time: 1 hours. Vibration direction: arbitrary. Total amplitude: 1mm. After vibration application, the cell shall be standard CH, and then standard DCH.	

5. 安全评估(Safety Evaluation)

序号 No.	测试项目 Test item	测试条件 Test conditions	规格 Specifications
5.1	外部短路 External short circuit	标准充后电正极接 50mΩ以下阻线路 1 小时以上。 The cell shall be standard charged. The plus and minus terminals of the cell shall be short circuited with a wire having 50mΩ or less resistance, and left for 1 hour.	无形、破、发火 No explosion and flame, nor deformation.
5.2	过充电 Over charge	标准充电后，以 2200mA 的电流，10V 连续充电 2.5 小时。 After standard charged, the cell shall be charged for 2.5 hours using 10V, 2200mA power supply.	不起火，不爆炸。 No fire, nor explosion
5.3	过放电 Over discharge	标准充电后，接 50Ω电阻负荷，24 小时连续放电。 The cell shall be standard charged, and discharged with 50Ω resistor load for 24 hours.	无变形、破裂、发火 No explosion and flame, nor deformation.
5.4	热箱试验 Hot Oven Test	将充满电的电池放在重力对流或循环空气的烘箱中进行加热，烘箱的温度以每分 5±2° C 的速率上升到 130±2° C 后保温 30 分钟。 The charged batteries are heated in a gravity convection or circulating air oven. The temperature of the oven is to be raised at a rate of 5±2°C per minute. The oven is to remain for 30 minutes at 130±2°C before the test is discontinued.	不起火，不爆炸。 No fire, nor explosion

5.5	冲击试验 Impact test	将充满电的电池水平放置在一个平面上，将直径 15.8mm 的钢棒交叉放在电池的上面，使用 9.1kg 的重锤从 610mm 自由落下冲击电池。 A test sample battery is to be placed on a flat surface. A 5/8 inch (15.8mm) diameter bar is to be placed across the center of the sample. A 20 pound (9.1kg) weight is to be dropped from a height of 24+1 inch (610mm) onto the sample.	不起火，不爆炸。 No fire, nor explosion
5.6	挤压实验 Crush test	将电池放在两个平面之间，使用直径 32mm 的圆柱体施加压力，压强持续增加到 17.2MPa，压力达到 13kN 后释放压力。 The force for the crushing is to be applied by a hydraulic ram with a 1.25 inch (32mm) diameter piston. The crushing is to be continued until a pressure reading of 17.2MPa is reached on the hydraulic ram, applied force of 13kN.	不起火，不爆炸。 No fire, nor explosion

6. 电焊部位 (Welding Allowable Part on a Cell)

电侧壁不可接。

Welding is not allowed on cell side wall.

7. 绝 (Insulation)

电池罐上（正极盖）及侧面用缘材包覆。

Can top face (positive terminal) and side is covered with insulation tubing.

8. 出货电池电 (Charge State of Battery before Shipment)

约 40%带态

Approximately 40% charged baseline

9. 储存 (Storage)

请将电存放在温（建议于 20°C)、低湿、无尘、无蚀性的环境中。

Store the battery at low temperature (below 20°C is recommended), low humidity, no dust and no corrosive gas atmosphere.

10. 保 (Brand)

电出内 由于公司造 导致不良发生，本公 司将偿修 或更 换新电池。

ORION Brand is pasifik electronic own brand.

锂离子二次池的使用作止注事项

Handling Precaution and Prohibitions of Lithium Ion Rechargeable Cells and Batteries

【危险!】[Danger!]

■ **防止电气误用**

■ **Electrical misusage**

必须使专用充器。

Use dedicated charger.

电池只能用于指定的用途。

Use or charge the battery only in the dedicated application.

不要对电池反向充电。

Don't charge the battery reversely.

■ **防止环境误用**

■ **Environmental misusage**

请勿将电池靠近火源或热源。

Don't leave the battery near the fire or a heated source.

不要将电池投入火中。

Don't throw the battery into the fire.

不要在温度超过 60°C 的地方使用电池或对其充电。

Don't charge or use the battery in a car or similar place where inside of temperature may be over 60°C.

不要将电池沾湿，或将其浸泡或投进水或海水中。

Don't immerse, throw, wet the battery in water / seawater. .

■ **其他**

■ **Others**

不要把电储存 装有钥匙、项链、发夹、硬币、金属体的口中，或与螺在一起。

Don't store the battery in a pocket or a bag together with metallic objects such as keys, necklaces, hairpins, coins, or screws.

不要 金属 导 短池正负极。

Don't short circuit (+) and (-) terminals with metallic object intentionally.

不要铁 等 电池 行 部加热。

Don't heat partial area of the battery with heated objects such as soldering iron.

不要用重物捶打电池。

Don't hit with heavy objects such as a hammer, weight.

不要踩踏电池，或将其扔或掉在硬地板上，以避免机械冲击。

Don't step on the battery and throw or drop the battery on the hard floor to avoid mechanical shock.

不要对电池包括保护电路进行拆卸或改装。

Don't disassemble the battery or modify the battery design including electric circuit.

不要使用严重扭曲或变形的电池。

Don't use seriously scared or deformed battery.

不要把电池放进微波炉、烘干机或高压容器中。

Don't put the battery into a microwave oven, dryer or high-pressure container.

不要与其他制造商生产的电池、不同类型或不同规格的电池(如干电池、镍氢电池或镍镉电池) 一同使用或组合。

Don't use or assemble the battery with other makers' batteries, different types and/or models of batteries such as dry batteries, nickel-metal hydride batteries, or nickel-cadmium batteries.

【警告!】[Warning!]

不要将新旧电池混用或组装。

Don't use or assemble old and new batteries together.

若在规定时间内充电仍未完成，要停止电池充电。

Stop charging the battery if charging isn't completed within the specified time.

在使用、充电或储存过程中，若发现电池发热异常、变色、变形或其他反常情况，请停止使用电池。

Stop using the battery if the battery becomes abnormally hot, discoloration, deformation, or abnormal conditions is detected during use, charge, or storage.

若电池漏液或产生臭味，请将其立刻远离火源。

Keep away from fire immediately when leakage or foul odors are detected.

如果液体粘到皮肤或衣服上，立即用清水冲洗。若液体进入到眼睛，不要揉擦，用清水冲洗并马上就医。

If liquid leaks onto your skin or cloths, wash well with fresh water immediately. If liquid leaking from the battery gets into your eyes, don't rub your eyes and wash them with clean water and go to see a doctor immediately.

若电池端子脏污，请用干布擦拭后再使用电池。

If the terminals of the battery become dirty, wipe with a dry cloth before using the battery.

电池在以下温度范围内使用。不要超出这个范围。

The battery can be used within the following temperature ranges. Don't exceed these ranges.

充电温度范围：0~45°C

Charge temperature ranges: 0~45°C

放电温度范围：-20~60°C

Discharge Temperature ranges: -20~60°C

储存电池温度不得高于 60°C

Store the battery at temperature below 60°C

【注意 !】[Caution!]

■ 防止电气误用

■ Electrical misusage

电池必须以恒流恒压 (CC/CV) 模式充电。

Battery must be charged with constant current-constant voltage (CC/CV).

充电电流必须控制在电池规格书规定值内。

Charge current must be controlled by specified value in Cell specification.

放电电流必须控制在电池规格书指定范围内。放电截止电压不得低于 2.75V/只。

Discharge current must be controlled by specified value in Cell's specification. Cut-off voltage of discharging must be over 2.75V/cell.

请将电池放在远离孩童的地方，避免发生吞食意外。若是年幼者使用电池，其监护人应为其解释适当的处理方法和预防措施。

Keep the battery away from babies and children to avoid any accidents such as swallow. If younger children use the battery, their guardians should explain the proper handling method and precaution before using.

在使用电池前，请务必阅读用户手册和处理防范措施。

Before using the battery, be sure to read the user's manual and precaution of it's handling.

在使用充电器前，请务必阅读充电器用户手册。

Before using charger, be sure to read the user's manual of the charger.

在安装和移除工作态的电池前，请务必阅读用户手册。

Before installing and removing the battery from application, be sure to read user's manual of the application.

若电池使用时间比平常短，请更换。废弃电池前，用绝缘胶带缠住电池终端。

Replace the battery when using time of battery becomes much shorter than usual. Cover terminals with insulating tape before proper disposal.

若电池需要长期保存，电池应退出使用，存储在温度、湿度都较低的地方。

If the battery is needed to be stored for a long period, battery should be removed from the application and stored in a place where humidity and temperature are low.

电池在充电、使用和储存时，请将其远离带有静电的物体材料。

While the battery is charged, used and stored, keep it away from object materials with static electric chargers.

有关电池组在用电器具或充电器中的位置设计

Design of positioning the battery pack in application and charger

为了防止由高温引起的电池性能恶化，电池应放置在远离使用和充电过程中的发热区域。

To prevent the deterioration of the battery performance caused by heat, battery shall be positioned away from the area where heat is generated in the application and the charger.