

锂锰扣式电池产品规格书

Lithium manganese button battery  
product specihication

|                            |                                                                 |
|----------------------------|-----------------------------------------------------------------|
| 客户名称<br>Customer Name      |                                                                 |
| 规格书编号<br>Specification No. | LY/YF                                                           |
| 品 牌<br>Brand               | LIYUAN                                                          |
| 产 品<br>Product             | 3.0V扣式锂-二氧化锰电池<br>3.0V button lithium-manganese dioxide battery |
| 型 号<br>Model               | CR2450                                                          |
| 制 作<br>Registered          | 向文冰 XIANG WNE BING                                              |
| 审 批<br>Approvr             | 马旭军Ma Xu jun                                                    |
| 日 期<br>Date                | 2024. 12. 30                                                    |

## 修订记录revision record

[illegible]

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|-------------------------------------------|------------|-------------------------|---------------------------------------------------------------------------|
| 电池外形尺寸<br>Battery dimensions              | mm         | 直径Diameter:24.5 (-0.20) | 用精度不小于0.02mm的游标卡尺测量                                                       |
|                                           |            | 高度Height:5.0 (-0.20)    | Measure with a vernier caliper with an accuracy of not less than 0.02mm   |
| 标称电压<br>Nominal voltage                   | V          | 3.0                     |                                                                           |
| 开路电压<br>Open-circuit voltage              | V          | ≥3.20                   | 无负载no-load                                                                |
| 标称容量<br>Nominal capacity                  | mAh        | 600                     | 23℃时标准电阻7.5kΩ放电至2V<br>The standard resistor 7.5kΩ discharges to 2V at 23℃ |
| 标准放电电流<br>Standard discharge current      | mA         | 0.2                     |                                                                           |
| *标准工作温度<br>Standard operating temperature | ℃          | 22~28℃                  |                                                                           |

1【适用范围】Scope

本产品规格书适用于力源电池科技(宜春)有限公司生产，并对应用于电子标签行业 的一次锂-二氧化锰电池CR2450 产品规格和测试方法进行规范。避免因产品规格、测试条件、测试方法不同引起偏差。

This product specification is suitable for the production of Liyuan Battery Technology (Yichun) Co.,Ltd.,and the product specifications and test methods of primary lithium-manganese dioxide battery CR2450 used in the electronic label industry are standardized.Avoid deviations caused by different product specifications,test conditions,and test methods.

2.【技术参数】Technical parameters

表 一Table 1:

|                                       |                                                                                                                                   |                                                                                           |                                                   |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------------------|
| 工作温度范围<br>operating temperature       | ℃                                                                                                                                 | -20~60℃                                                                                   |                                                   |
| 建议存储条件<br>Suggested storage condition | ℃                                                                                                                                 | 0~35                                                                                      | 环境湿度45%~75%RH<br>Ambient humidity 45%to 75%RH     |
| 标准重量Standard weight                   | g                                                                                                                                 | 6.7                                                                                       | 每只电池Per battery                                   |
| 产品寿命 Product life                     | 年                                                                                                                                 | 10                                                                                        | 0~30℃湿度45%~75%RH<br>0 to 30℃ Humidity 45%to 75%RH |
| 可靠性reliability                        | /                                                                                                                                 | 电池满足UN38.3,MSDS,IEC60086-4及堆码测试<br>Battery meets UN38.3,MSDS,IEC60086-4 and stacking test |                                                   |
| 结构成分Structural composition            | 二氧化锰正极、锂负极、有机电解液、隔膜及不锈钢外壳等<br>Manganese dioxide cathode,lithium anode,organic electrolyte,diaphragm and stainless steel shell,etc |                                                                                           |                                                   |

说明Description:

①. 本产品尺寸，安全可靠性等要求执行下列标准：

①.This product size,safety and reliability requirements to implement the following standards:

1. .GB/T8897.1-2013,《原电池第1部分：总则》

GB/T8897.1-2013,"Primary Cells Part 1:General Principles"

1. GB/T8897. 2-2013,《原电池第2部分：外形尺寸与电性能要求》。

GB/T8897.1-2013,"Primary Cells Part 1:General Principles"

1. GB/T8897. 4-2013,《 原电池第4部分：锂电池的安全要求》。

GB/T8897.2-2013,"Primary Batteries Part 2:Dimensions and electrical performance requirements

1.IEC60086-2:2015 Primary batteries Part2:physical and electrical specifications

②. 电池外观应无变形、无污渍、无污点、无漏液、密封部件无凸显或毛边，电池接线端应

无异物粘附或者遮盖，以免影响实际使用或电池性能.

The appearance of the battery should be free of deformation,no stain,no leakage,sealing parts without protrusion or burr,and the battery terminal should be free of foreign objects adhering or covering,so as not to affect the actual use or battery performance.

③电池在极端温度如低温( $\leq 0^{\circ}\text{C}$ )或高温( $\geq 60^{\circ}\text{C}$ )等环境长时间使用时, 请先联系力源电池科技(宜春)有限公司

When the battery is used for a long time in extreme temperatures such as low temperature( $\leq 0^{\circ}\text{C}$ )or high temperature( $\geq 60^{\circ}\text{C}$ ),please contact Liyuan Battery Technology(Yichun) Co.,Ltd.first

#### 1. 标准测试条件Standard test conditions

除另有规定外, 一般在温度 $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$ , 相对湿度 $60\% \pm 15\%$ 的环境下进行测试。测试电池为新电池, 即出厂不超过三个月的电池。

Unless otherwise specified,it is generally tested in an environment with a temperature of  $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$  and a relative humidity of  $60\% \pm 15\%$ .The test battery is new,i.e.not more than three months old from the factory

#### 1. 检测仪器和检测方法Testing instruments and testing methods

2. 外形尺寸: 测量采用量程0~150mm, 精度为0.02mm 或更加精密的卡尺

Dimensions:Measuring with a range of 0~150mm,accuracy of 0.02mm or more precision calipers

1. 电池外观: 用40瓦日光灯距离1米, 电池距离眼镜30厘米观察电池表面标志清晰正确、表面光亮、无污渍、无锈蚀、无污点。

|

Battery appearance:with a 40-watt fluorescent lamp distance of 1 meter,the battery is 30 cm away from the glasses to observe the battery surface mark is clear and correct,the surface is bright,no stains,no rust,no stains

1. 电压测量：采用直流电压表的精度为±3%阻抗超过10MQ， 量程为0~20V的万用表测试。  
Voltage measurement:The accuracy of DC voltmeter is±3%impedance is more than 10 MQ,and the measuring range is 0~20V multimeter test.  
内阻：采用HK3561 电池内阻仪交流信号源1kHz±0.2 AC 测试电流：<100mA， 电压分辨率0.1mV,内阻分辨率0.1Ω

Internal resistance:HK3561 battery internal resistance meter AC signal source 1kHz±0.2 AC Test current:<100mA,voltage resolution 0.1mV,internal resistance resolution 0.10

1. 电池性能测试(单颗2450裸电或者CR2450-1P)

Battery performance test (single 2450 bare battery or CR2450-1P)

| 项目item                                  | 技术指标<br>Technical index | 单位 unit | 测试要求(方法/条件)Test requirements<br>(Method/condition)                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------|-------------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 标准放电电流<br>Standard discharge current    | 0.2                     | mA      | 新电New electricity                                                                                                                                                                                                                                                                                                                                                                                                    |
| 负载电压<br>Load voltage                    | >2.95                   | V       | 负载1500, 时间<20ms Load 1500,time <20ms                                                                                                                                                                                                                                                                                                                                                                                 |
| 短路电流<br>Short circuit current<br>≥350mA | ≥350                    | mA      |                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 适配容量<br>Adaptive capacity               | ≥420                    | mAh     | 1)在25℃下，工作放电状态2mA持续时间 4H；2)工作放电状态0.1mA持续时间1H；3)脉冲释放5mA 10个循环、持续时间 100ms停止10s；4)刷新释放38mA 5个循环、持续时间100ms停止10s；5)以上步骤循环截止电压低于2.3V停止。<br>1)At 25℃,Working discharge state 2mA duration 4 H;2)Working discharge state 0.1mA duration 1 H;3)Pulse release 5mA 10 cycles,duration 100ms stop 10s;4) Refresh and release 38mA5 cycles,and stop 10s for 100ms;5)5 Stop the cycle when the cut-off voltage is lower than 2.3V. |

6.安全性能测试(电性) Safety performance test (electrical)

| 序号<br>Serial number | 项目名称<br>Project name           | 测试方法<br>Test method                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 要求<br><u>require</u>                                                  |
|---------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| 1                   | 外部短路<br>External short circuit | 电池在55±2℃的环境下达到温度平衡后，在相同温度下 经受外部电路总阻值小于0.1Ω的短路，短路持续至外壳 温度回落至55±2℃后，再继续1h以上。电池还需要继续 被观察受6h后，测试结束。<br>After the battery reaches temperature equilibrium at 55 ±2℃,it is subjected to a short circuit with the total resistance of the external circuit less than 0.10 at the same temperature,and the short circuit continues until the shell temperature drops to 55±2℃,and then continues for more than 1 hour.The battery needs to continue to be observed for 6h after the test is over. | 不过热、不破裂、不爆炸、不着火<br>No overheating, no cracking, no explosion, no fire |
| 2                   | 强制放电<br>Forced discharge       | 在环境温度下，将已放电电池连接在12v直流电源上。调解电阻，以规定的最大持续放电电流做为初始电流。强制放电结束后，观察受检电池7d。<br>At ambient temperature,connect the discharged battery to a 12V DC power source.The resistance is mediated,with the specified maximum continuous discharge current as the initial current.After the end of the forced discharge,observe the tested battery for 7d.                                                                                                                                                   | 不爆炸、不着火、<br>No explosion, no fire                                     |
|                     |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                       |
| 3*                  | 非正常充电<br>Abnormal charge       | 每个电池反向接于-直流电源上，以规定的放电电流Ic的 三倍做为非正常充电电流。<br>Each battery is reversely connected to the-DC power supply,with three times the specified discharge current I c as the abnormal charging current.                                                                                                                                                                                                                                                                                              | 不爆炸、不着火、<br>No explosion, no fire                                     |

注：对于CR2450电池最大充电电流为15mA.建议非正常充电依此为准。Note:the maximum charging current for CR2450 battery is 15MA.It is recommended that abnormal charging shall prevail.

7. 环境安全性能测试Environment security performance testing

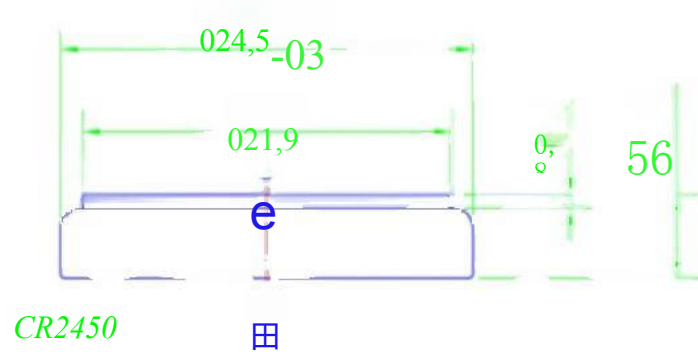
| 编号<br>No | 项目名称<br>Project name     | 测试方法<br>Test method                                                                                                                                                                                                                                   | 要求<br>Request                                     |
|----------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| 1        | 耐漏液Resistance to leakage | 被检测电池在60±2℃&75%RH条件下储存60天，取出后放在20±2℃&60±15%RH环境下至少24h, 然后外观检查<br>The detected cells were stored for 60 days under 60±2℃&&AMP. 75%RH conditions,removed and placed for at least 24 h under 20±2° C&. 60±15%Rh conditions before appearance examination | 无漏液、无绿霉、无生锈<br>No leakage, no green mold, no rust |

|   |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                               |
|---|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 2 | 热冲击Thermal shock | 被检测电池在温度为75℃的环境下至少放置6h, 然后在-40℃的环境下至少放置6h, 不同温度的转换时间应不超过30min, 每个电池进行10个循环后, 在环境温度下至少放置24h, 检测电池前后重量损失及漏液安全情况。<br>At least 6h at a temperature of 75° C and then at a temperature of -40° C for at least 6h, the conversion time at different temperatures should not exceed 30 min, after 10 cycles per battery, at least 24 hours at ambient temperature, test the weight loss and leakage safety of the battery before and after. | 无质量损失、不着火、不爆炸、不漏液、不泄放、不短路、不破裂<br>No quality loss, no fire, no explosion, no leakage, no leakage, no short circuit, no rupture |
|---|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|

|   |                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                        |
|---|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 3 | 高空模拟<br>High altitude simulation | <p>测试电池在压力为11.6KPa或更低， 温度为20℃±2℃的环境下至少放置6h。</p> <p>iThe test cells were placed at a pressure of 11.6 kpa or lower and at a temperature of 20° C±2° C for at least 6 H.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>无质量损失、不泄 漏、不泄放、不短路、不破裂、不爆炸、不着火</p> <p>No quality loss,no leakage, no leakage,no short circuit,no rupture,no explosion,no fire</p>   |
| 4 | 振动<br>Vibration                  | <p>以能如实传递振动但不致电池变形的方式将被检电 池牢牢的固定在振动设备的振动平台上，对被检电 池进行正弦波振动。在三个相互垂直固定的方位上 每个方位各进行12次循 环，每个方位循环时间共 计3h。其中的一个方位应垂直于电池的极端面。用 做过热冲击检验的电池做该项检验。</p> <p>The tested battery is fixed firmly on the vibration pla tform of the vibration equipment in a way that can t ransmit the vibration truthfully but does not cause t he battery deformation,and carries on the sine wav e vibration to the tested battery.In three mutually,v ertically fixed azimuth,each azimuth carried out 12 cycles,each azimuth cycle time total of 3 hours.For one of them,the azimuth should be perpendicular to the extreme face of the battery.Used for overheat s hock test,battery for this test.</p> | <p>无质量损失、不泄 漏、不泄放、不短路、不破裂、不爆炸、不着火</p> <p>No quality loss,no leakage, no leakage,no short circuit,no rupture,no explosion, no fire</p>  |
| 5 | 冲击<br>Impact                     | <p>用能支撑被检电池所有固定面的刚性支座将被测电 池固定在检测设备上。每只被检电池在三个相互垂 直固定的方位上每个方位各经受3次冲击，共计18次。冲击参数由电池制造商提供。A rigid support su pporting all fixed surfaces of the tested battery with energy shall fix the tested battery on the testing equ pment.Each battery was subjected to 3 shocks in e ach of the three mutually perpendicular fixed azimuth hs,for a total of 18 shocks.The shock parameters a re supplied by the battery manufacturer.</p>                                                                                                                                                                                                                                                 | <p>无质量损失、不泄漏、不泄放、不短路、不破裂、不爆炸、不着火</p> <p>No quality loss,no leakage, i no leakage,no short circuit,no rupture,no explosion, no fire</p> |
| 6 | 挤压<br>Squeeze                    | <p>通过台钳或具有圆形活塞的液压油缸施加压力，使 受检的单体电池或电池单元在两个平面之间被挤压，从最初的接触点开始，以约1.5cm/s的速度 持续进行挤压， 直至挤压力达到大约13kN立即释</p> <p>乐。Bv applvina pressure throuah bench tonas or hv draulic cylinders with round pistons,the inspected c ell or cell is squeezed between two planes,starting a t the initial contact point,continuous extrusion at a speed of about 1.5 cm/s until the extrusion pressure reaches about 13 kn and the pressure is released im mediately.</p>                                                                                                                                                                                                                               | <p>不过热、不爆炸、不着火n</p> <p>ot hot,not explosive,not o n fire</p>                                                                           |

|   |                   |                                                                                                                                                             |                                              |
|---|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| 7 | 热滥用<br>Heat abuse | 将检验电池置于烘箱内，以5℃/min的速度升温至130℃并在此温度下保持10min。Place the test battery in the oven at a speed of 5° C/min,raise the temperature to 130° C and hold it for 10 min. | 不过热、不爆炸、不着火not hot,not explosive,not on fire |
| 8 | 跌落<br>Fall        | 将检验电池置于1.2m高的位置，从3个面分别跌落2次，落于水泥/混凝土地面Place the test battery at 1.2m height,and drop 2 times from 3 surfaces on the cement/concrete floor                    | 不爆炸、不着火<br>No explosion,no fire              |

1. 电池外形图：



## 9. 电池喷码规则Battery inkjet code rules

客户有要求按客户要求，客户没有要求，按照年的最后一个字码+月份，10月、11月、12月用 X、Y、Z 代替，比如2022年10月生产的电池，喷码为2X, 2022 年11月为2 Y. 依次类推。

The customer has the request according to the customer request,the customer does not have the request,according to the year last word code+month,October,November,December replaces with X,y,z,for example in October 2022 production battery,2x,2Y in November 2022.And so on.

## 10. 运输和存储Transport and storage

### 10.1 电池运输规范Specification for battery transportation

1) 采用合适的包装(包装方式见附录II)，避免电池在运输、装卸和堆放过程受到强烈的冲击和震动。

Use suitable packing(see Appendix II)to avoid strong shock and vibration during transportation,loading and unloading and stacking of batteries.

1. 采取合适的堆放高度(一般纸质包装不超过1.5m，木箱不超过3m)。

The appropriate stacking height (general paper packaging does not exceed 1.5m,wooden box does not exceed 3M).

1. 运输过程中电池摆放位置不可离车船发动机太近。

The position of the battery can not be too close to the vehicle or ship engine during transportation.

1. 高温季节不可将电池长时间滞留在金属棚车或密闭容器中。

High temperature season can not leave the battery in a metal box car or closed container for a long time

### 10.2 电池存储规范Specification for battery storage

1) 电池应存储在通风良好、阴凉干燥处。存放环境在 $20^{\circ}\text{C}\pm 5^{\circ}\text{C}$ ,  $60\%\pm 15\%\text{RH}$  之间为宜。

Batteries should be stored in a well-ventilated,cool and dry place.The suitable storage conditions were  $20^{\circ}\text{C}\pm 5^{\circ}\text{C}$ and  $60\%\pm 15\%\text{Rh}$ .

1. 避免电池存储在阳光直射、附近有热源(如散热器、发动机、锅炉等)的环境中。

Avoid battery storage in direct sunlight,near a heat source(such as radiator,engine,boiler,etc.)environment.

1. 将不用的电池放在原包装内，远离易引起短路的金属物体。如果包装已经拆掉，不要把电池堆放在一起，以免电池短路。

Keep unused batteries in their original packaging away from metal objects that may cause short circuits.If the package has been removed,do not stack the batteries together in case they short-circuit.

## 11. 修订Amendment

产品升级所带来的改动将体现在新版规格书里，改版另行通知。力源承诺，该电池的主要原材料规格和供应商一般不会变更。如有变更会提前通知，在客户同意并经双方验证合格后执行。主要原材料包括正、负极、电解液等一般不会变更。

The changes brought about by the product upgrade will be reflected in the new version of the specification book, until further notice. Powersource promises that the battery's main raw material specifications and suppliers generally will not change. Any changes will be notified in advance, after the customer agrees and verifies by both parties after the implementation. The main raw materials including positive, negative electrode, electrolyte and so on will not change generally.

## 12. 重要提示 Important tips

从电芯制造日期起6个月内(发货的电池为3个月内的新电池), 电池保证符合本规格书所涵盖的内容, 在此保证期内, 如果电池被证明是有缺陷的, 力源将会及时更换, 逾期不予承认。

Within 6 months from the date of manufacture of the cell(new batteries within 3 months of shipment),the battery is guaranteed to comply with the contents covered by this specification,and within this warranty period,if the battery is found to be defective,the power source will be replaced in time.

在实际应用中, 客户有责任确认和保证电池与装置的匹配性和可靠性, 遵守本规格书所述安全使用规则, 否则不应由力源承担责任。

In practical applications,it is the responsibility of the customer to confirm and ensure the compatibility and reliability of the battery and the device,and to comply with the safe use rules as stated in this specification,otherwise the power source shall not be held responsible.

## 13. 其他 Other

### 13.1 电池中的六种限用物质 Six restricted substances in battery

铅、汞、镉、六价铬, 多溴联苯(PBB), 多溴二苯醚(PBDE) 的含量符合当前最新版本 RoHS 电池指令要求。

Lead,mercury,cadmium,hexavalent chromium,polybrominated biphenyls (PBB),poly brominated diphenyl ethers(PBDE)content in accordance with the current version of the RoHS battery instruction requirements.

### 13.2 质量标准 Quality standards

与《产品技术规格书》一致, 规格书未描述内容, 不低于国家标准。

Consistent with the product technical specification,the specification does not describe the content,not lower than the national standard.

13 . 3检查单位Check the unit

一颗裸电或者PACK 电池单体将被视为一个检查单位。

A bare battery or PACK cell will be treated as a check unit.

13.4 抽样计划Sampling plan

| 检查项目<br>Check items          | 参照标准<br>Reference standards | 抽样标准<br>Sampling standards | 检查水平<br>Check the level | AQL       |
|------------------------------|-----------------------------|----------------------------|-------------------------|-----------|
| 外形尺寸<br>External dimensions  | GB/T8897. 2-2013            | GB/T2828. 1-2012           | S-2                     | AQL=1. 0  |
| 开路电压<br>Open-circuit voltage |                             |                            | I II                    | AQL=0. 15 |
| 负载电压<br>On-Load voltage      |                             |                            | I II                    | AQL=0. 4  |
| 电池外观<br>Battery appearance   |                             |                            | I II                    | AQL=0. 4  |

备注： 此处电池外观不良指漏液，鼓胀， 生锈，变形等严重外观不良异常。抽样数量(参 考), 如果样品低于32只电池，对电池进行全检尺寸外观。  
Note: Here, "battery appearance defect" refers to severe appearance abnormalities such as leakage, swelling, rusting, and deformation. Sampling quantity (for reference): If the sample is less than 32 batteries, conduct a full inspection of the battery size and appearance.

| 批量Batch    | 抽样数量Number of samples |
|------------|-----------------------|
| ≤3200      | 32                    |
| 3200~10000 | 50                    |
| >10000     | 80                    |

13.5 安全使用Safe use

该电池由锂、有机溶剂、及其它易燃材料组成。请妥善使用以避免电池可能导致的变形、漏液(意外渗漏的液体)、过热、爆炸、火灾、造成人身伤害或损坏设备的状况发生。请严格遵守以下要求来避免事故的发生。  
The battery consists of lithium,organic solvents,and other flammable materials.Please use the battery properly to avoid deformation,leakage(accidental leakage of liquid),ove rheating,explosion,fire,personal injury,or damage to equipment.Please strictly abide by the following requirements to avoid accidents.

1. 禁止吞食电池， 并将电池放到远离儿童的地方， 以免误食。

Do not swallow batteries and keep them away from children to avoid accidental ingestion

2) 禁止对电池进行充电。 Do not charge the battery.

3) 禁止加热或者焚烧电池。 Do not heat or incinerate batteries.

4) 禁止拆解电池。 Do not disassemble the battery.

5) 禁止将电池短接。 Do not short-connect the battery.

- 6) 禁止安装电池时将电池的正极和负极端子反接。 Do not install the battery when the positive and negative terminals of the battery reverse connection.
- 7) 禁止对电池进行直接焊接，如需焊接，请向力源咨询具体技术要求。 It is forbidden to weld the battery directly.If welding is needed,please contact the power source for specific technical requirements.
- 8) 禁止混用不同类型的电池和新旧电池。 Do not mix different types of batteries and old and new batteries.
- 9) 禁止触摸漏液电池，如不慎接触电池液体， 请立即清洗并及时就医。 Do not mix different types of batteries and old and new batteries.
- 10) 禁止让电池接近易燃液体。 Keep batteries away from flammable liquids.
- 11) 禁止让裸电池重叠和交叉堆放。  
Do not allow bare batteries to overlap and cross-stack.
- 12) 处理电池在不同的国家或地区有不同的规定，请遵守这些规定。建议在处理电池前，用 绝缘胶带覆盖电池(+)和(-)端。 Handling batteries in different countries or regions have different regulations,please comply with these regulations.Before handling the battery,cover the battery()and(-)ends with insulation tape.

(典型值Typical values)

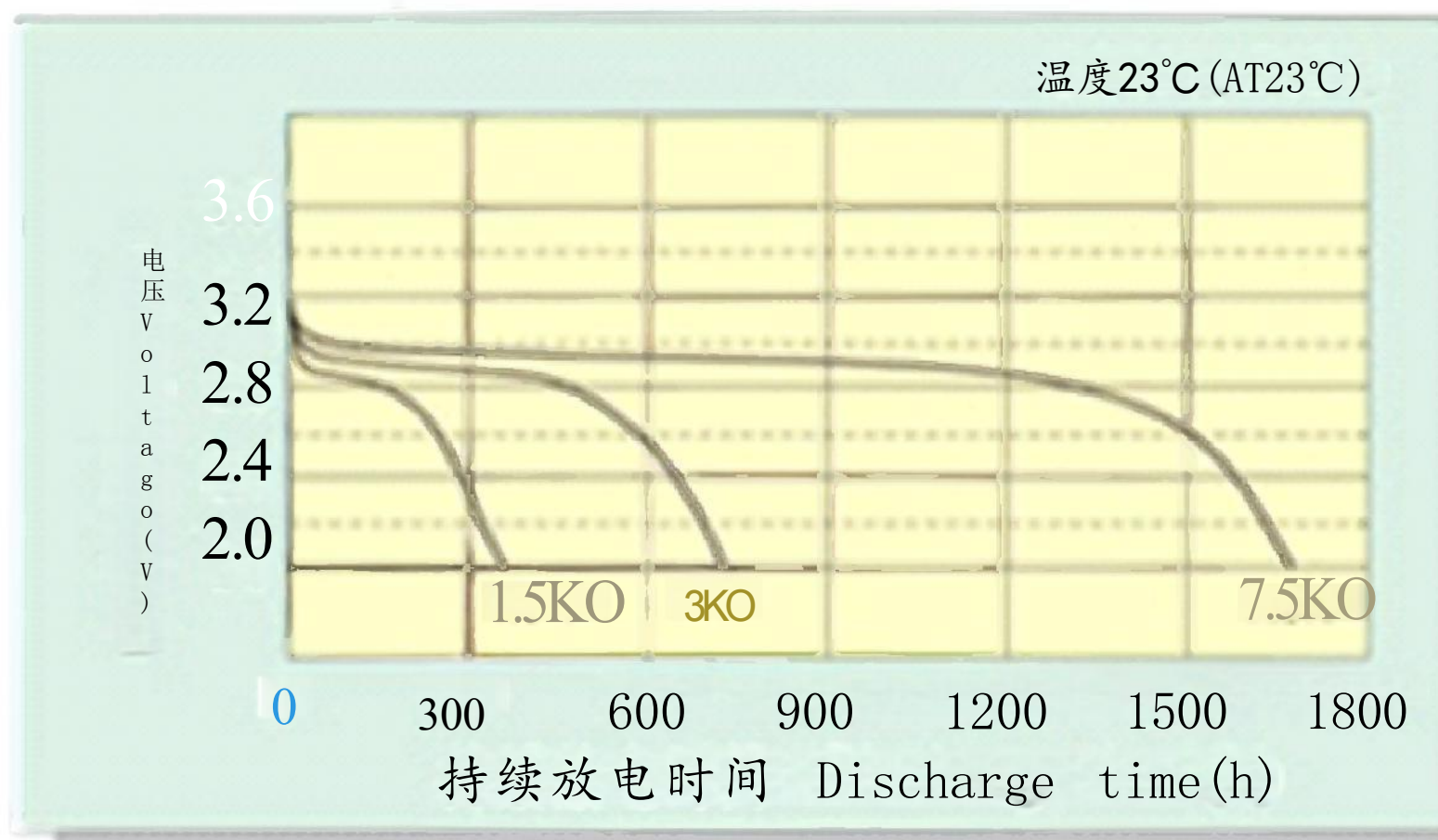


## 6. 【DISCHARGE CHARACTERISTICS】



## 负载放电特性

### Discharge Characteristics on Load



## 温度放电特性

### Discharge Characteristics on Temperature

