



PRODUCT SPECIFICATION

产品规格书

Product Name 产品名称: 扣式锂. 氟化碳电池

Product Model 产品型号: BR2032

Product Capacity 产品容量: 210mAh

Part Code 产品编码: _____

Total Page 文件页数: _____

The company acknowledges 公司承认 (Stamp) (盖章)	Registered 编制	Checked by 审核	Approved 批准
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目 录

1. Scope 适用范围.....	4
2. Features 特性.....	4
3. Product basic information 产品基本信息.....	4
4. Test method 试验方法.....	5
5. Acceptance regulations 验收规则.....	6
6. Warnings 警告事项.....	6
7. Notes 注意事项.....	7
8. Storage environment 贮存环境.....	7
9. Marking and packaging 标志与包装.....	8
10. Discharge curve 放电曲线.....	8

力源电池科技有限公司

1. Scope 适用范围

This specification applies to the following 3.0v lithium button cell BR2032 made by LIYUAN BATTERY TECHNOLOGY(YI CHUN)., LTD. Meeting specifications of GB8897-2008、2006/66/EC.

本规格书适用于力源电池科技(宜春)有限公司生产的 3V BR2032 扣式锂. 氟化碳电池。符合 GB8897-2008, 欧盟 2006/66/EC 电池指令等。

2. Features 特性

- (1) The excellent heat resistance, It can be stored at 125 maximum storage temperature for 1 hour, After returning to room temperature, it can be used normally and meet the storage temperature requirements of TPM.
- (1) 优异的耐高温性能, 可在 125°C 上限贮存温度存放 1h, 恢复至室温后可正常使用, 满足 TPM 的贮存温度要求。
- (2) The great low temperature performance, at -40, the standard resistance output performance is better than the conventional battery
- (2) 良好的低温性能, 在-40°C 下, 标准电阻输出性能优于常规电池。

3. Product basic information 产品基本信息

Electrochemical Systems 电化学体系	锂-氟化碳/有机电解质	
Nominal Voltage 公称电压	3V	
Nominal Capacity 公称容量 (20°C时标准电阻 15kΩ放电至 2V)	210mAh	
Storage Temperature Range 贮存温度范围	-40°C~125°C	
Operating Temperature Range 使用温度范围	-40°C~125°C	
	直径 (A)	20.0(-0.3)mm
	高度 (B)	3.2(-0.3)mm
Standard Weight 电池重量	约 3.0g	
Appearance 外观	clear and clean without deformation, corrosion and leakage 外观应光洁、标志清晰、无变形、锈蚀、漏液	
Minimum average discharge time 最小平均放电时间 (15kΩ)	Initial period (within 60 days after production) 初始期 (生产后 60 天内)	1000h
	After storage for 12 months 贮存 12 个月后	950h
Open-circuit voltage 开路电压	Initial period (within 60 days after production) 初始期 (生产后 60 天内)	3.10V-3.45V
	After storage for 12 months 贮存 12 个月后	3.10V-3.45V



Closed-circuit voltage 闭路电压（负载电阻 30kΩ）	Initial period (within 60 days after production) 初始期（生产后 60 天内）	3.10V-3.45V
	After storage for 12 months 贮存 12 个月后	3.00V-3.45V
The leakage resistance 耐漏液性（过放电）		No leakage 目测无漏液

4. Test method 试验方法

No 序号	ITEM 测试项目	TEST METHODS 测试方法
1	Dimensions 外形 尺寸	Using vernier caliper (accuracy ≥ 0.02) while avoiding short-circuit. One end of the caliper should be coated with an insulating material. 用精度不低于 0.02mm 游标卡尺测量，测量时防止电池短路，卡尺的一端卡头上应贴上一层绝缘材料。
2	Off-load voltage 开路电压	Using multimeter (accuracy $\geq 0.25\%$) internal resistance $\geq 1M\Omega$. 用精度不低于 0.25%，内阻不小于 1MΩ 万用表测量。
3	Instantaneous short-circuit current 闭路电压	Before the test, the battery should be placed under the condition of $20\pm 2^{\circ}C$ 、RH60 $\pm 15\%$ for more than 8 hours, and then measured at the same temperature Time of short-circuit should be less than 0.5 second and avoid repeated test within half an hour. 测试前电池需在 $20\pm 2^{\circ}C$ 、RH60 $\pm 15\%$ 条件下放置 8 小时以上，再在同样温度下测量。用万用表测量时，每次测量时间不超过 5 秒，避免重复测量，若需再次测量时，时间间隔应在半小时以上。
4	Appearance 外观与极端	Eyeballing 目测检查
5	Discharge time 放电时间	Taking nine cells under the condition of $20^{\circ}C\pm 2^{\circ}C$ 、RH60% $\pm 15\%$ place more than 8 hours, at the same temperature and humidity conditions for 15 k Ω resistance to 2.0 V, the average continuous discharge the battery discharge time should be within 60 days after the production, storage electric should be carried out within 14 days after the expiration of the storage 取 9 只电池在 $20^{\circ}C\pm 2^{\circ}C$ 、RH60% $\pm 15\%$ 条件下放置 8 小时以上，在相同温湿度条件下用 15kΩ 电阻连续放电至 2.0V 时的平均放电时间。电池应在生产后 60 天内进行，贮存电应在贮存期满后 14 天内进行。
6	Leakage at high temperature 高温贮存性能	Stored under temperature ($125^{\circ}C$) for 1 hours, After returning to normal temperature, there is no leakage visually. 在 $125^{\circ}C$ 高温箱中贮存 1h，恢复到常温后，目视无漏液。
7	Over discharge Test 耐漏液性（过放电）	Take 9 batteries, only under the condition of $20^{\circ}C\pm 2^{\circ}C$ 、RH60% $\pm 15\%$, continuous discharge with 15 k Ω resistance to 1.2 V, visual inspection 取 9 只电池，在 $20^{\circ}C\pm 2^{\circ}C$ 、RH60% $\pm 15\%$ 条件下用 15kΩ 电阻连续放电至 1.2V 时，目测检查。



5. Acceptance regulations 验收规则

5.1 Each shipment quantity shall be one inspection batch.

5.1 交收检验以每次出货数量为一个检查批。

5.2 Each shipment quantity shall be one inspection batch.

5.2 交收检验采用 GB2828.1 正常检验一次抽样方案，检验项目、检查水平（IL）、接收质量限（AQL）按下表规定执行。

No 序号	Test Item 检验项目	IL	AQL
1	外形尺寸	I	0.25
2	开路电压		0.25
3	外观与极端	II	0.25

6. Warnings 警告事项

6.1 It is forbidden to swallow 严禁吞咽

Keep the battery away from infants and children to prevent them from swallowing. If they have swallowed the battery, consult a doctor immediately

将电池置于远离婴儿和儿童的地方，防止他们吞咽电池。如已吞咽电池，请立即咨询医生。

6.2 It is forbidden to recharge 严禁充电

Not being able to charge the battery from any other source can lead to the generation of gases and internal short circuits that can cause the battery to distort, leak, overheat, explode or catch fire.

不能用任何其他电源对该电池进行充电。充电可导致产生气体以及内部短路，从而造成电池变形、泄露、过热、爆炸或起火。

6.3 Do not place in a fire environment 严禁置于明火之中

Leaving the battery in an fire environment causes the lithium metal to melt.

将电池置于明火中会导致锂金属熔化。

6.4 Disassembly of batteries is strictly prohibited 严禁拆解电池

Do not disassemble the battery, otherwise it will cause damage to the battery seal ring or diaphragm paper, and make the battery deformation leakage overheating explosion or fire.

不要拆解电池，否则会造成电池密封圈或隔膜纸的损坏，而使电池变形、泄露、过热、爆炸或起火。

6.5 Do not install the positive and negative electrodes of the battery in reverse 严禁反向安装电池的正负极

Improperly installed batteries can cause them to short-circuit to charge or force them to discharge which can cause them to distort, leak, overheat, explode or catch fire.

不恰当地安装电池会导致电池短路、充电或者强制放电。这会造成电池变形、泄露、过热、爆炸或起火。

6.6 Do not short circuit the battery 严禁将电池短路

Do not short-circuit the positive and negative electrodes. Do not carry or store the battery with metal objects or it will cause the battery to distort, leak, overheat, explode or catch fire.



不要将正负极短路。不要将电池和金属物品放在一起携带或保存。否则会导致电池变形、泄露、过热、爆炸或起火。

6.7 Do not use different batteries together 严禁将不同的电池一起使用

Due to different battery characteristics, using different batteries together, such as different types of new and old or different manufacturers, can cause the battery to distort, leak, overheat, explode or catch fire.

由于电池特性不同，将不同的电池一起使用，如不同类型的、新的和旧的或者不同制造商的，可能会导致电池变形、泄露、过热、爆炸或起火。

6.8 Do not weld terminal pins or wires directly on the battery 严禁直接在电池上焊接端子引脚或导线

Heating during welding can lead to the melting of lithium or damage to the insulation material in the battery which can cause the battery to be deformed, leaked, overheating, explosion or fire.

焊接时的加热会导致锂的熔化，或导致电池中的绝缘材料的损坏。这会造成电池变形、泄露、过热、爆炸或起火。如需焊接，请与达立或专业焊接商联系。

7. Notes 注意事项

7.1 Do not seriously shake the battery, drop or step on the battery, It may cause the battery to distort, leak, overheat, explode or catch fire

7.1 不可严重震动电池，掉落、抛撒或踩踏电池可能会使电池变形、泄露、过热、爆炸或起火。

7.2 When installing the battery, please be careful not to let the battery come into contact with metal objects that may short-circuit the battery

7.2 安装电池时请小心操作，不要让电池接触到可能会使电池短路的金属物品。

7.3 Follow the instructions for selecting and using the appropriate battery

7.3 按照设备的操作说明来选择和使用合适的电池。

7.4 Do not use or place batteries in hot places, such as in direct sunlight, or in cars in hot weather, as this can cause batteries to distort, leak, overheat, explode or catch fire

7.4 不要在高温的地方使用或放置电池，如阳光直射处，或炎热天气的汽车中，否则可能会导致电池变形、泄露、过热、爆炸或起火。

7.5 Do not let the battery and water contact or placed in a humid environment, or the battery will rust, or deformation of the battery leakage overheating explosion or fire.

7.5 不要让电池和水接触或放置在潮湿的环境中，否则会使电池生锈，或使电池变形、泄露、过热、爆炸或起火。

7.6 Battery voltage may be below target due to poor contact, so maintain contact pressure above 2N to ensure proper contact resistance

7.6 由于接触不良，电池电压可能低于目标值，因此请保持 2N 以上的接触压力以确保适当的接触电阻。

7.7 If you have any other questions, please contact LIYUAN battery for consultation

7.7 如有其他疑问请向力源电池联系咨询。

8. Storage environment 贮存环境

The storage environment should be clean, cool, dry and ventilated, not close to the high temperature and high humidity, the ambient temperature is 0-30,RH no more than 75%.

建议贮存环境应清洁、凉爽、干燥、通风、不能靠近高温高湿处，环境温度在 0℃-30℃，RH 不超过 75%为宜。

9. Marking and packaging 标志与包装

9.1 Battery positive sign 电池正极标志



9.2 Spraying the code 喷码

If the customer needs, please spray 2 bits of code on the negative surface of the battery according to the international IEC standard **: **. The front digit is 0~9 for the corresponding year, the back digit is 1~9 for January ~ September, and O Y Z for October ~ December. Different jet code can also be customized.

如客户有需求可按国际 IEC 标准在电池负极面上喷 2 位码: **, 前位以 0~9 数字表示相应年份, 后位以 1~9 表示 1~9 月份, O、Y、Z 表示 10~12 月份。

例: 31	表示 2013 年 1 月生产;	3O	表示 2013 年 10 月生产;
3Y	表示 2013 年 11 月生产;	3Z	表示 2013 年 12 月生产。

不同喷码方式也可定制。

9.3 Packaging 包装

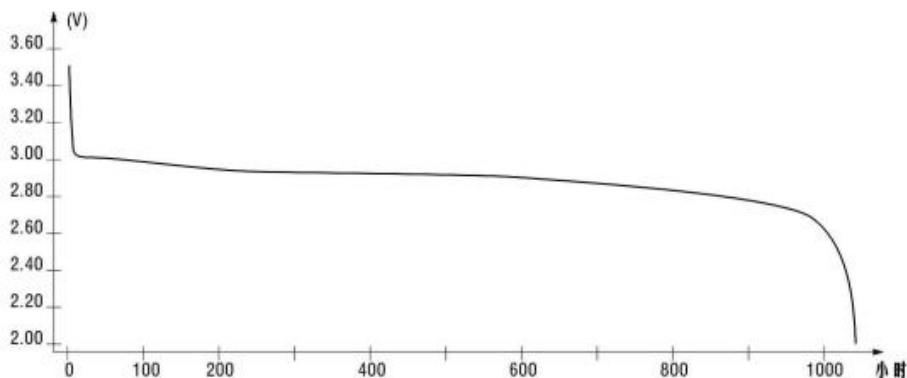
Every 20 batteries are put into a PVC tray, then 25 plates (a total of 500 batteries) are packaged with transparent film, 6 small packages are packed into the inner box, and 2 inner boxes (a total of 6000 batteries) are packed into an outer box.

* if the battery needs to be processed into welded foot, the packaging will be adjusted according to the specific shape of the product

每 20 粒电池置入一个 PVC 托盘内, 然后 25 盘 (共 500 粒电池) 用透明膜封装, 6 个小包装装入内箱, 2 个内箱 (共 6000 粒电池) 装入一个外箱。

*如需加工成焊脚电池, 包装将根据产品具体形状调整。

10. Discharge curve 放电曲线



As the technical parameters of the product are updated and adjusted, the specification will be updated at any time. Please contact LIYUAN battery for the latest version of the specification.

随着产品技术更新、技术参数调整, 规格书会随时更新, 请及时与力源电池联系获取最新版规格书。