
环保无汞碱锰扣式电池

ALKALINE ZINC-MANGANESE DIOXIDE
MERCURY-FREE BUTTON CELL

技术规格

TECHNICAL SPECIFICATION

(本公司对本产品技术规格如有更改，不另行通知)

(The Manufacturer reserves the right to modify product specification and data stated herein without prior notice.)

1 概要 Scope:

此技术规格适用于浙江华荣电池有限公司生产的无汞碱锰扣式电池，型号：LR1130。

This specification is applicable to **Huarong** alkaline zinc-manganese dioxide mercury-free button cell : LR1130.

1.1 型号对照 Designations

WinPow: LR1130

IEC: LR54 Others: L1130 AG10 189

1.2 参考标准 Reference Document

IEC 60086-1-2021- primary batteries –Part 1: General

IEC 60086-2-2021- primary batteries –Part 2: Physical and Electrical Specification

IEC 60086-5-2016- primary batteries –Part 5: Safety of batteries with aqueous electrolyte

2. 化学体系 Chemical System:

碱性锌-二氧化锰 Alkaline-Manganese Dioxide (-) Zn | KOH | MnO₂(+)

3. 标称电压 Nominal Voltage: 1.50V

4. 平均重量 Average Weight: 1.1g

5. 标称容量 Nominal Capacity:

78mAh (放电条件: 在 20±2℃下, 用 15KΩ 电阻, 每天放电 24 小时, 终止电压 0.9V)

(Conditions: Rated at 15KΩ at (20±2)℃, continuous discharging to the End-point Voltage of 0.9V.)

6. 电池性能 Electrical characteristics: (测试条件 Test conditions: 20℃±2℃)

项目 Items	空载电压 Off-load voltage	负载电压(1KΩ) On-load voltage	验收标准 Acceptance criteria
新电 Initial (Within 30 days after delivery)	≥1.55V	≥1.53V	MIL-STD105E, Class II, Double Sampling, AQL=0.4
12 个月后 After 12 months	≥1.52V	≥1.50V	

7. 放电性能 Discharge performance: (测试条件 Test conditions: 20℃±2℃)

放电条件 Discharge conditions				最少平均放电时间 Minimum average duration	
放电电阻 Resistance	每天放电时间 Daily period	终止电压 End-point voltage	IEC 标准 IEC standards	新电 Initial	12 个月 After 12 months
15kΩ	24 h	1.2V	350h	550h	500h
15kΩ	24 h	0.9V	/	900h	810h
1kΩ	24 h	0.9V	/	55h	45h

验收标准 Acceptance criteria:

1) 取 9 粒电池测试 ;

Test nine batteries;

2) 平均放电时间须等于或大于规定的最少平均放电时间，而放电时间低于规定值 **90%** 的电池数量不可大于 **1**，可判定为合格。

If the average discharge time is equal to or greater than the specified figure and no more than one battery has a service out of less than 80% of the specified figure, the batteries are considered to conform to standards.

3) 若以上结果不合格，可重复检验一次。

One re-test is allowed to confirm the previous result.

8. 安全性能 Safety characteristics :

项目 Test item	条件 Conditions	周期 Period	要求 Requirements	验收标准 Acceptance standard
高温高湿 High temperature and humidity test	57℃ 95%RH	10 d 18hrs/d	无目视漏液 No leakage	N=20, S1: Ac=2,Re=3
短路测试 External short circuit	Temp.: (20±5)℃	24 h	试验期间无爆炸 There shall be no explosion during this test	N=9, Ac=0, Re=1
过放电 Over-discharge Characteristics	温度 Temp.: 20±2℃; 负载 Load: 68KΩ。	放电终止后 再连续放电 48 小时 Continuous discharge 48 hours after discharge termination	目视无漏液、爆炸 No leakage or explosion by eye	N=9, Ac=0, Re=1

9. 标记 Marking:

在电池壳底有标注以下内容 The following markings will be stamped on the cathode can of the battery:

- 电池型号 Designation: LR1130
- 极性标志 Polarity marking: “+”
- 制造商商标 Manufacturer trademark: 中性或 Neutral or
- 无汞标识 Mercury-free marking: 0.0%Hg ·Pb

10. 注意事项 Safety precautions:

- 请勿对电池进行充电，这样可能对导致电池漏液和破坏充电设备;
Do not charge the battery as this may cause battery leakage and damage to charging equipment;
- 请按电池及用电器正确的标识方向安装电池;
Insert batteries correctly with regard to the polarities (+ and -) marked on the battery and the equipment;
- 请勿将电池短路，加热和投入火中;
Do not short circuit, heat, or put the battery into fire;
- 不得拆解电池，内部的电解液会腐蚀皮肤;
Do not disassemble the battery as the internal electrolyte will corrode the skin

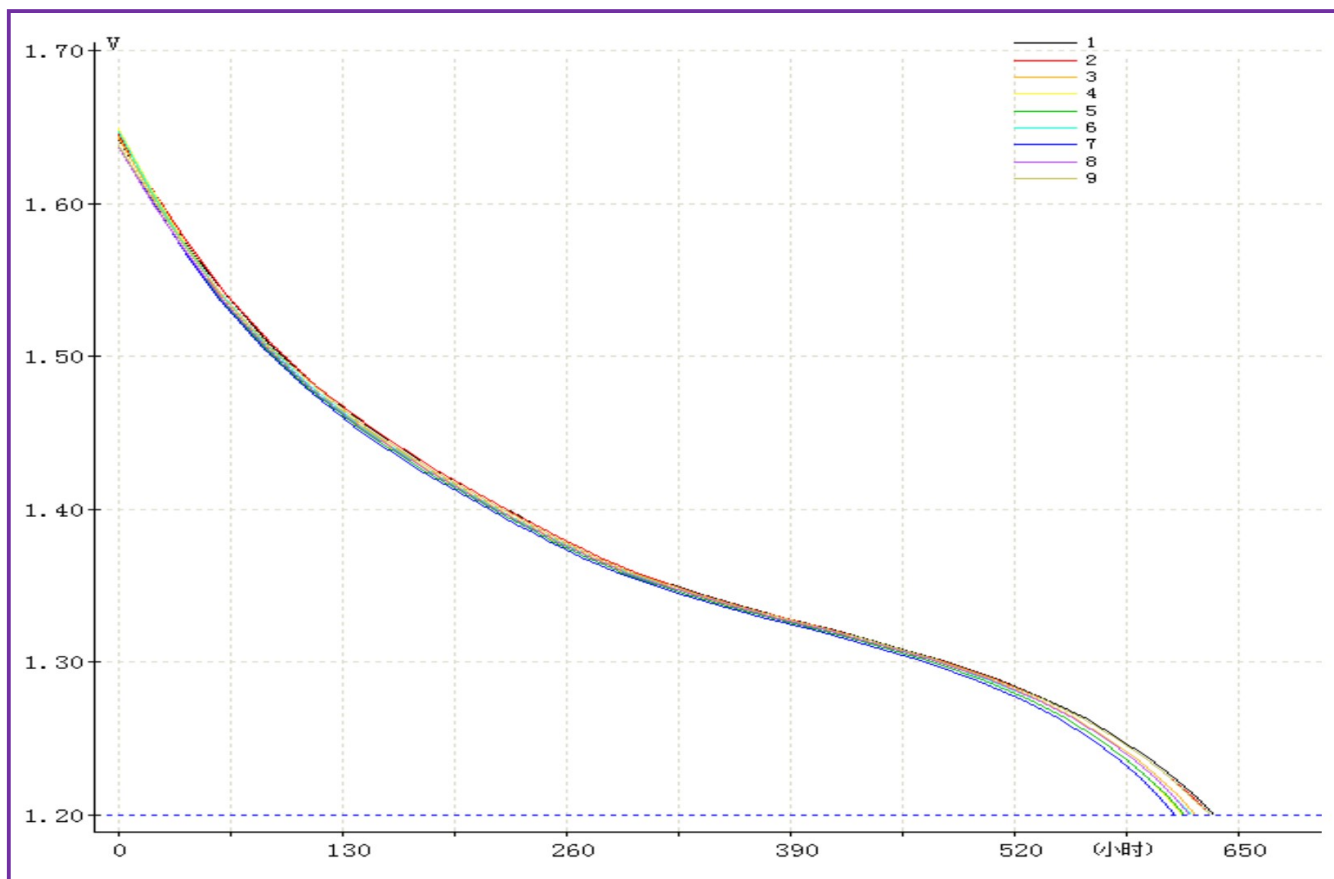
- e) 请勿将新电和已经用过的电池同时使用;
Do not use both new and used batteries at the same time
- f) 请将已经耗尽的电池从用电器上取出, 避免因过放电而引起漏液;
Please remove the depleted battery from the appliance to avoid leakage caused by over discharge;
- g) 电池应放在小童不可接触的地方, 谨防童误吞;
Batteries should be kept out of reach of children to prevent accidental ingestion;
- h) 电池在装入用电器之前, 先用酒精擦拭盖面, 会使电池更好地利用和保护用电器;
Before installing the battery into the electrical appliance, wipe the cover with alcohol to better utilize and protect the appliance;
- i) 电池不能接触强酸强碱等带有腐蚀性的物质;
Batteries should not come into contact with corrosive substances such as strong acids and alkalis.

11. 保质期 Warranty period:

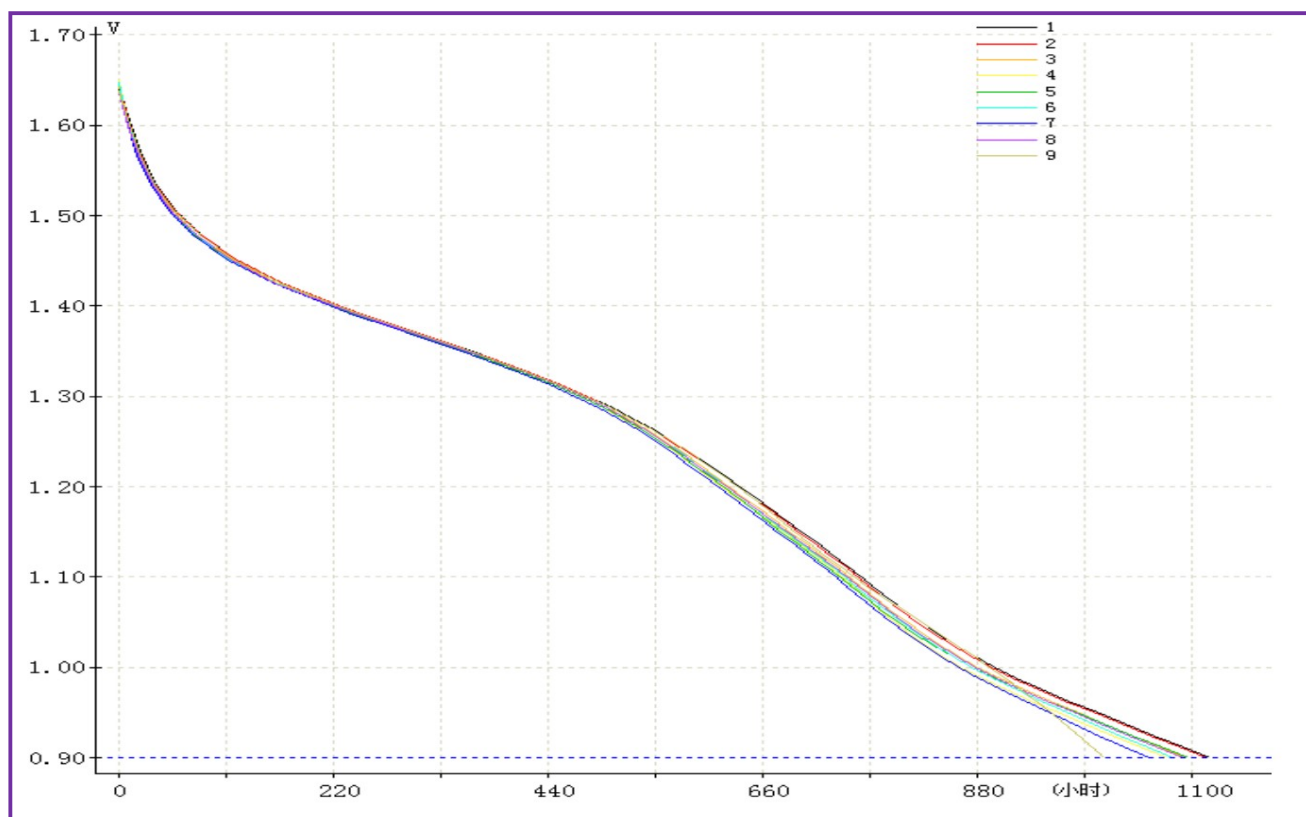
12 个月 12months

12. 放电曲线 Discharge curve (Test: $20 \pm 2^\circ\text{C}$)

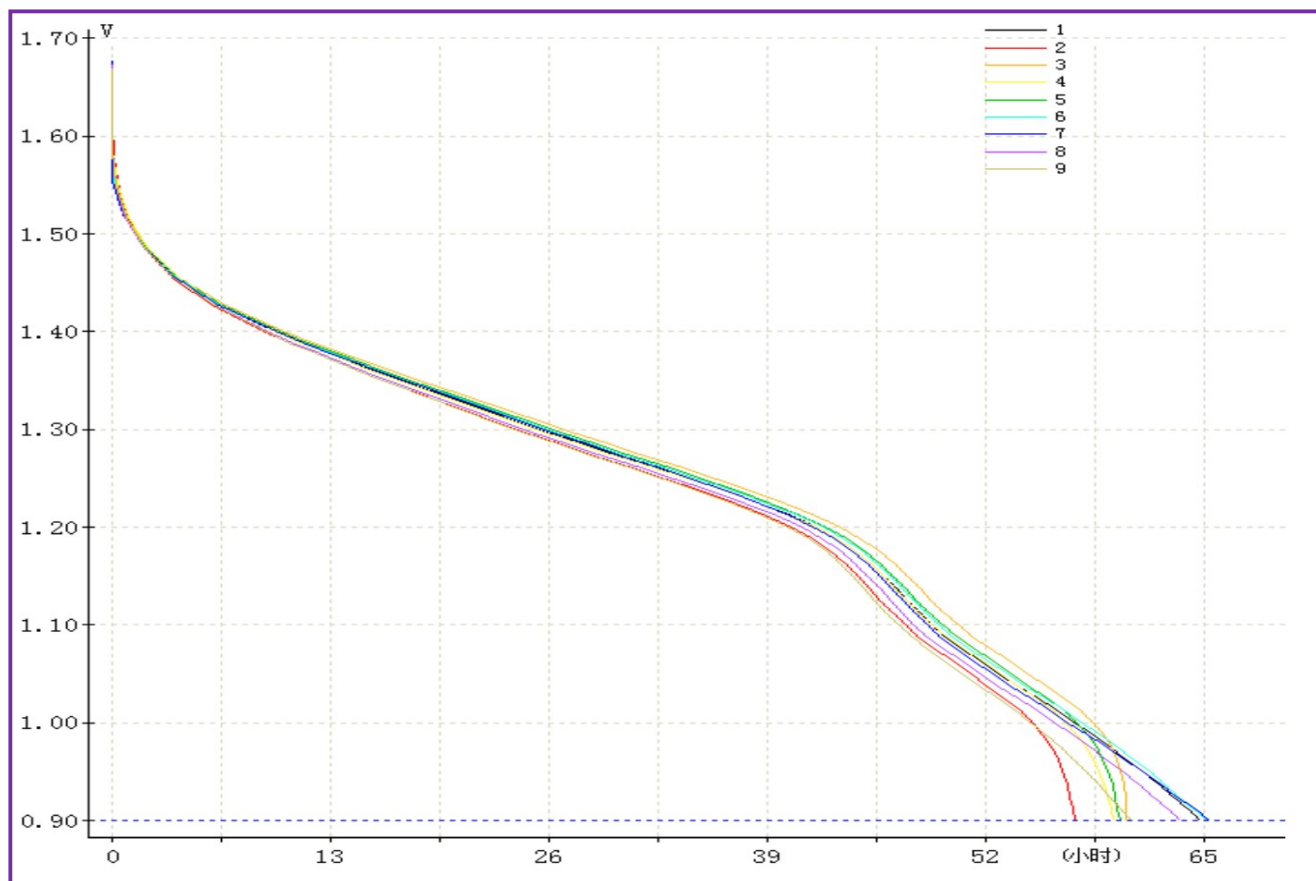
a) 15K Ω 连续放电, 终止 1.2V: 15k Ω , 24h/day, E.P.V.:1.2V



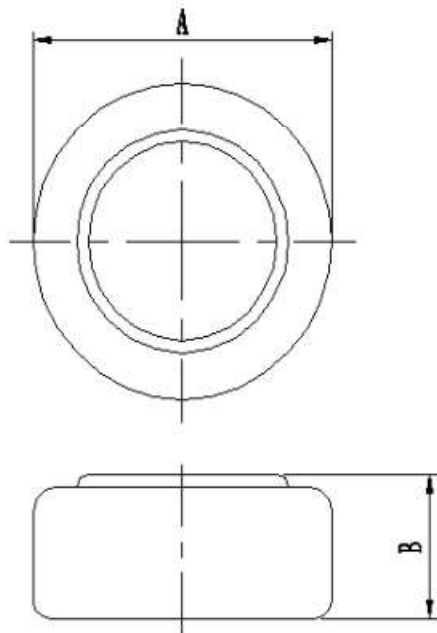
b) 15K Ω 连续放电，终止 0.9V: 15k Ω , 24h/day, E.P.V.:0.9V



c) 1K Ω 连续放电，终止 0.9V: 1k Ω , 24h/day, E.P.V.:0.9V



13. 电池尺寸与结构 Size and structure:



Item	尺寸 Size
A	11.42--11.60mm
B	2.90--3.10mm

