

# Product Specification

Number: L-KLS5-04-CP332544-800mAh

Name: Primary Lithium Battery

Date: 2025-11-29



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|       |        |        |         |
|-------|--------|--------|---------|
| Compi | Check  | Review | Approva |
| Jenny | Jack.C |        |         |

|             |                           |         |            |
|-------------|---------------------------|---------|------------|
| Part name   | Primary Lithium Battery   | Date    | 2025-11-29 |
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# Primary Lithium Battery

## CP332544

3.0V [Li-MnO<sub>2</sub>]



### BENEFITS

- High Voltage Response, Stable During Most of the Lifetime of the Application
- Energy Density up to 830Wh/L
- Wide Operating Temperature Range (-20 °C ~ +70 °C)
- Low Self-discharge Rate (less than 1% per year after 1 year of storage at +25 °C)

### KEY FEATURES

- Optimized Battery Structure, Full Discharge Capacity
- Long Endurance
- No Passivation

### MAIN APPLICATIONS

- Security System
- Smart Metering
- RFID and Tracking System
- Wireless Transmitting
- Smart Home Devices
- Military Devices

### References Data

#### Electrical characteristics

Open circuit voltage (at 23±2°C) ≥3.10V

Nominal capacity 800mAh

(At +25°C, battery discharged at continuous current 1mA until voltage reaches cut-off voltage 2V. The capacity can vary at different temperature, discharge current or cut-off voltage.)

Maximum continuous current 300mA

(At +25°C, 2.0V cut-off, battery discharged for minimum 50% of rated capacity.)

Maximum pulse discharge current 500mA

(At +25°C, 2.0V cut-off, battery discharged for minimum 50% of rated capacity with max pulse for 3 seconds after 27 seconds break. The discharged capacity may vary according to the pulse characteristics, the temperature, and the cell's previous history. Fitting the cell with a capacitor may be recommended in severe conditions, consult KLS.)

Storage (recommended) ≤+30°C

(For more severe conditions, consult KLS.) ≤75%RH

Operating temperature range -20°C~+70°C

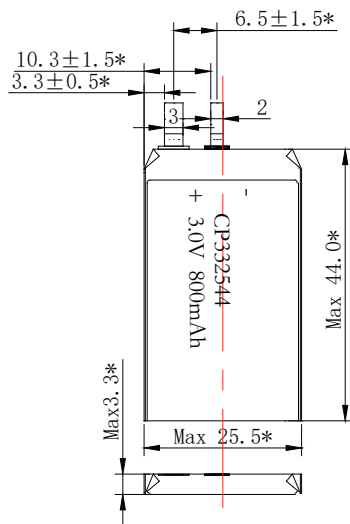
(Operation above ambient Temperature may lead to reduced capacity and lower voltage readings at the beginning of pulses, consult KLS.)

|             |                           |         |            |
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## Physical characteristics

|                  |            |
|------------------|------------|
| Width            | Max 25.5mm |
| Height           | Max 44.0mm |
| Thickness        | Max 3.3mm  |
| Typical weight   | 7.2g       |
| Li metal content | 0.32g      |

MSDS as per request  
Diode (1N4007, 1N5819)  
PTC (SRS175...)  
Tag, wire, connector, etc. available



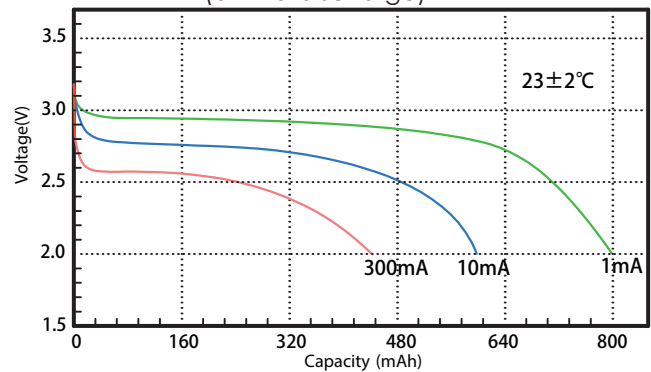
Dimensions in mm (GB1804-m)

## WARNING:

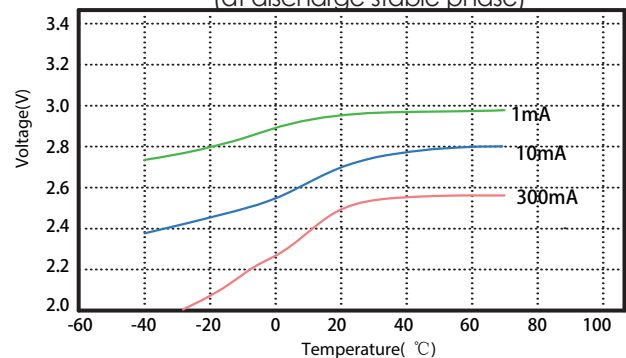
- Do Not Short Circuit
- Do Not Recharge
- Do Not Puncture
- Do Not Crush
- Do Not Dismantle
- Do Not Incinerate
- Do Not Mix New and Used Batteries
- Do Not Heat Above 100°C

This information is generally descriptive only and is not intended to make or imply any representation, guarantee or warranty with respect to any cells and batteries. Cell and battery designs/specifications are subject to modification without notice. Contact KLS for the latest information

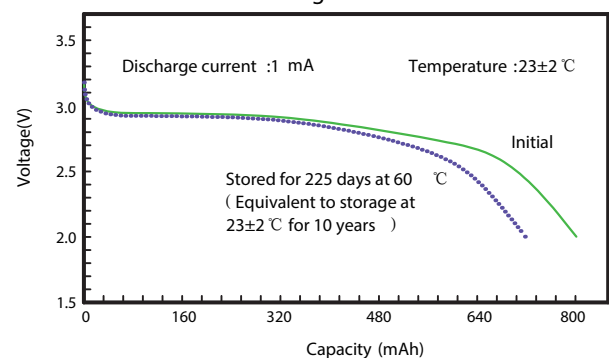
1. Typical discharge profiles at 23±2°C  
(at mid-discharge)



2. Voltage plateau versus Current and Temperature  
(at discharge stable phase)



3. Storage characteristics



## 1. Battery Cell Performance Criteria

### 电芯性能标准

#### 1.1 Standard testing environment

##### 标准测试环境

Unless specifically stated otherwise, tests must be done within one month of delivery.

The following is test conditions:

Test conditions:

Ambient Temperature:  $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$

Ambient Humidity: 45~75%RH

除非另有说明，测试应在电池出货的 1 个月内进行。本产品规格书中的所有测试均在以下环境条件下进行：

温度：  $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$

湿度： 45~75%RH

#### 1.2 The requirement of measure instrument

##### 测量设备要求

- (1) The measurement instrument has been certified by a qualified source.
  - (2) The accuracy of the measuring instrument is less than 0.01mm.
  - (3) The accuracy of multimeter is at least 0.5%.
  - (4) The current accuracy of the battery test system is at least  $\pm 0.1\%$ , isobarically accuracy is  $\pm 0.5\%$ , and timer accuracy is not less than  $\pm 0.1\%$ .
  - (5) The accuracy of the thermometer is at least  $\pm 0.5^{\circ}\text{C}$ .
- (1) 测量设备、仪器需经检定机构检验合格。
  - (2) 测量尺寸的仪器精确度小于 0.01mm。
  - (3) 万用表测量电压及电流的准确度应不低于 0.5%。
  - (4) 电池测试系统的电流精度应在 $\pm 0.1\%$ 以上，恒压精度 $\pm 0.5\%$ ，计时精度不低于 $\pm 0.1\%$ 。(5) 测量温度的仪表准确度应不低于 $\pm 0.5^{\circ}\text{C}$ 。

#### 1.3 Visual inspection

##### 外观检查

Not allowing any visual defects which will affect the electronic characteristics, such as leakage and damage.

不允许有影响电芯性能的外观缺陷，诸如泄漏、损坏等。

#### 1.4 Mechanical Characteristics 机械特性

| No.<br>序号 | Item<br>项目                    | Testing Conditions and Method<br>测试方法及条件                                                                                                                                                                                                                                                                                                                                                           | Standard<br>标准                             |
|-----------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| 1         | <b>Vibration Test</b><br>振动测试 | After standard charging, the cell is secured to a vibration table and subjected to vibration cycling in which the frequency is varied at the rate of 1Hz per minute between 10Hz and 55Hz; the excursion of the vibration is 0.38mm. The cell shall be vibrated for 30 minutes on each of X, Y, and Z axis.<br>将标准充电后的电芯固定在振动台上,并沿 X、Y、Z 三个方向各振动 30 分钟, 振幅为 0.38mm , 振动频率为 10Hz - 55Hz, 每分钟变化 1Hz。 | UL1642<br>No explosion, no fire<br>无爆炸、无起火 |
| 2         | <b>Drop Test</b><br>跌落测试      | A battery is dropped from a height of 1 meter two times onto a concrete surface.<br>标准充电后, 将电芯 2 次从 1 米的高度跌落至混凝土地面。                                                                                                                                                                                                                                                                                | UL1642<br>No explosion, no fire<br>无爆炸、无起火 |

#### 1.5 Safety Test 安全测试

| No.<br>序号 | Item<br>项目                            | Testing Conditions and Method<br>测试方法及条件                                                                                                                                                                                                                                | Standard<br>标准                             |
|-----------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| 1         | <b>Short-circuit</b><br>短 路           | A battery is short-circuited for 1 hour at 0.04Ω.<br>将标准充电后的电芯, 用 0.04Ω 电阻器短接 1h。                                                                                                                                                                                       | UL1642<br>No explosion, no fire<br>无爆炸、无起火 |
| 2         | <b>Heat shock</b><br>热冲击              | The cell is placed in a thermal chamber. Temperature is raised to 130±2°C at the rate of (5±2°C)/min and held for 10 minutes, then cooled to room temperature at the rate of 5±2°C/min.<br>电池置于热箱中, 温度以 (5±2°C) /min 的速率升至 130±2°C 并保温 10min, 再以 5 ± 2 °C /min 的速度降至室温。 | UL1642<br>No explosion, no fire<br>无爆炸、无起火 |
| 3         | <b>Humidity and heat test</b> 湿度和热度测试 | A battery is placed in a box for 48 hours where the temperature is 40°C±2°C and the relative humidity is 90% ~ 95%<br>将电芯放入温度为 40°C±2°C, 相对湿度为 90% ~ 95% 的箱子中, 保持 48h。                                                                                                  | UL1642<br>No explosion, no fire<br>无爆炸、无起火 |

KLS

electronic

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1.6 High and low temperature test 高低温性能测试

| No.<br>序号 | Item<br>项目                  | Testing Conditions and Method<br>测试方法及条件                                                                                                                                         | Standard<br>标准                                                                       |
|-----------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 1         | High<br>Temperature<br>高温性能 | A battery is placed in an oven for 2 hours at 55°C±2°C, then discharged at a 1mA current to the termination voltage.<br>在 55°C±2°C条件下, 将电芯放入高温箱中 2h 后, 再以 5mA 电流放电至终止电压。         | Discharge 90 percent of the original capacity.<br>可放出初始容量的 90%.                      |
| 2         | Low<br>Temperature<br>低温性能  | A battery is placed in a thermal chamber for 2 hours at -10°C±2°C; then discharged at 1mA to the termination voltage.<br>在-10°C±2°C条件下, 将标准充电后的电芯放入低温箱中 2h 后, 再以 10mA 电流放电至终止电压。 | Discharge more than 45 percent of the original capacity. 可放出初始容量的 45%<br>(-10°C) 以上. |

2. Storage and others  
贮存及其它事项

2.1 Longterm Storage  
长期贮存

If the cell is to be stored for 3 months or longer it should be held in a dry and cool environment.  
Voltage during storage needs to me maintained between 3.10V~3.25V.  
长期贮存的电池(超过 3 个月)须置于干燥凉爽处, 储存电压应保持在 3.10V~3.25V.

2.2 Any issues not covered in this specification should be discussed.  
本说明书中未提及的任何事项, 须经协商确定。