

鈕型鋰錳電池規格書
SPECIFICATIONS
FOR MANGANESE DIOXIDE LITHIUM BATTERY

CR2

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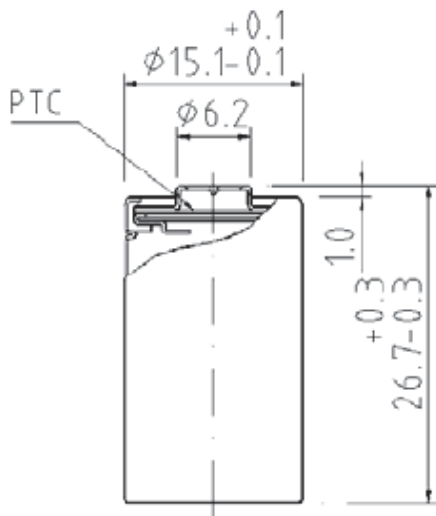
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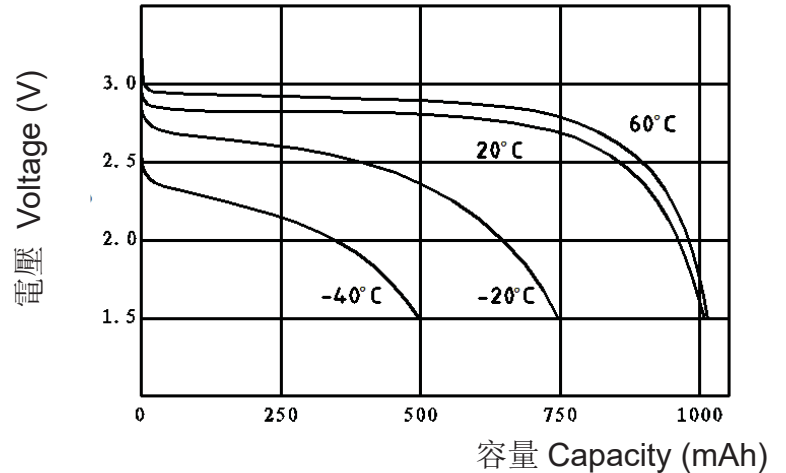
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鈕型鋰錳電池 Manganese Dioxide Lithium Battery CR2



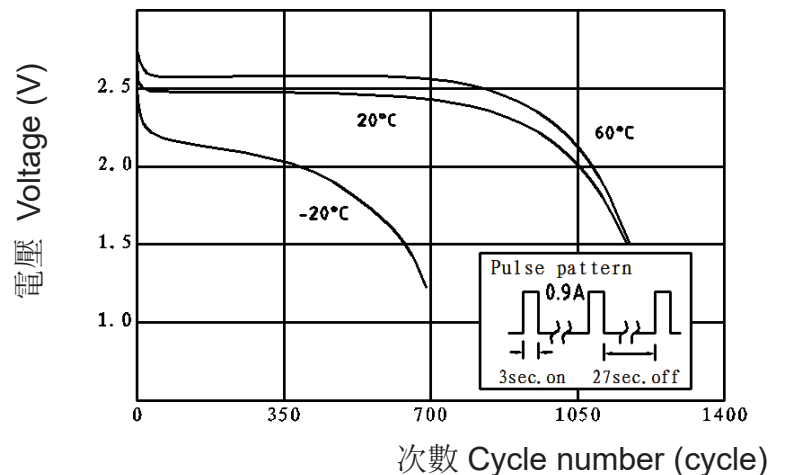
20mA 不同溫度放電特性

Temperature characteristics(20mA)



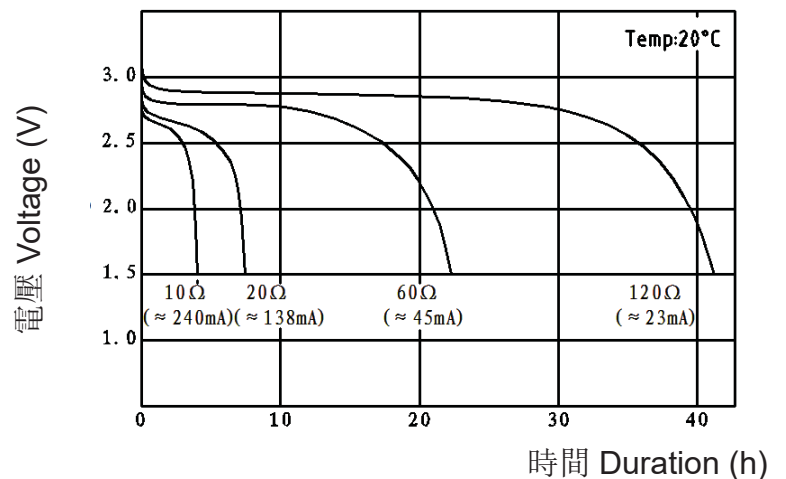
900mA 不同溫度脈衝放電特性

Pulse discharge characteristics



典型放電特性

Typical discharge characteristics



型號 Model	CR2
公稱電壓 Nominal Voltage	3V
額定容量 Nominal Capacity	950mAh
標準放電電流 Standard Discharge Current	20mA
尺寸 Dimension	Φ15.2×27mm
重量 Weight	10.2g
工作溫度 Temperature range	-40~60°C

鈕型鋰錳電池 Manganese Dioxide Lithium Battery CR2

1. 型號 Model Number : CR-2
2. 標稱電壓 Nominal Voltage : 3 V
: 950 mAh
(25±5℃ 下, 20mA 放電, 終止電壓 1.5V)
(Nominal capacity is based on standard discharge current and cutoff Voltage down to 2.0V at 25±5℃)
3. 額定容量 Nominal Capacity
4. 標準放電電流 Standard Discharge Current : 20 mA
5. 最大連續放電電流 Max. Continuous Discharge Current : 1000 mA
6. 結構 Construction : 外觀沒有明顯的變形, 規格參照隨附圖紙
There shall be no noticeable deformation.
The dimensions shall be according to the attached drawings.
- 6.1 外觀, 尺寸 Appearance, Dimensions
- 6.2 重量 Weight : 大約 Approx. 10.2g
7. 電性能 Performance
 - 7.1 空載電壓 Open Circuit Voltage : >3 V
 - 7.2 20±2℃ 脈衝放電 1. Duration 1. (at 20±2℃)
 - 7.2.1 脈衝放電條件 Pulse Discharge Conditions : 總平均次數 Population Mean ≥ 1060 cycles
脈衝電流 Pulse Current : 900 mA
一個循環週期 One Cycle : 放電 3 秒, 停 27 秒為一週期
3 seconds on, 27 seconds off
終止電壓 Cut Off V. : 1.55 V
 - 7.3 -20±2℃ 脈衝放電 2. Duration 2. (at -20±2℃)
 - 7.3.1 脈衝放電條件 Pulse Discharge Conditions : 總體平均值 Population Mean ≥ 575 cycles
脈衝電流 Pulse Current : 900 mA
一個循環週 One Cycle : 放電 3 秒, 停 27 秒為一週期
3 seconds on, 27 seconds off
終止電壓 Cut off V. : 1.2 V
 - 7.4 溫度範圍 Temperature Range : 使用溫度 Discharge -40 to 60℃
存放溫度 Storage -40 to 75℃
: 電池沒有電解液和電解質的泄漏
 - 7.5 防漏液 Leakage Resistance The battery shall not show leakage or salting which harms performance.
8. PTC (正溫度系數)裝置性能 PTC (Positive Temperature Coefficient) Device Performance : 電池沒有明顯的變形和刮痕。
There shall be no noticeable deformation and/or scratches.
: 電阻應為 10-70mΩ (空載).
當 5A 電流流過, 在前 80 秒電阻應大於 10Ω。
The resistance shall be between 10 to 70mΩ (no load). When 5 A flows, the resistance shall be more than 10 Ω before 80 seconds.
- 8.1 外觀 Appearance
- 8.2 電阻 Resistance

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9. 測試條件, 測量工具和測量方法

Test Conditions, Measuring Instruments and Measuring Methods

9.1 測試條件 Test Conditions

除特殊情況外 If not otherwise specified,

溫度 Temperature : $25\pm 5^{\circ}\text{C}$

濕度 Humidity : $65\pm 10\%$

9.2 測量工具 Measuring Instruments

i) 電壓表 Volt Meter

: 內阻: 大於 $1\text{M}\Omega$

Internal Impedance : More than $1\text{M}\Omega$

精確性: 誤差小於 0.25%

Accuracy : Less than 0.25%

ii) 卡尺 Caliper

: 精確性 : 誤差小於 0.25%

Accuracy : less than 0.25%

iii) 秤 Balance

: 靈敏度 : 大於 100 mg

Sensitivity : More than 100 mg

9.3 測量方法 Measuring Method

i) 外尺寸 Outer Dimensions

: 使用 9.2 ii 描述的卡尺測量

This shall be measured with the caliper described in Item 9.2 ii).

ii) 重量 Weight

: 使用 9.2 iii 描述的秤測量

This shall be measured with the balance described in Item 9.2 iii).

iii) 外觀 Appearance

: 目測變形和光澤

Deformation or tarnish shall be visually checked.

iv) 空載電壓

Open Circuit Voltage

: 使用 9.2 i 所列的電壓表測量。

This shall be measured with the volt meter described in Item 9.2 i).

v) 使用時間 (持續時間)

Operating Time (Duration)

: 測量循環次數直到終端電壓達到指定的終止電壓。

Operating time shall be measured with cycles until terminal voltage reaches the specified cut-off voltage.

vi) 振動電阻

Vibration Resistance

: 振幅 Amplitude : 2 mm

振動次數 Number of Vibrations : 1000 rpm

方向 Directions : X,Y,Z

時間 Time : 每個方向 30 分鐘

30 minutes in each direction

: 受熱循環測試 Heat cycle test

根據 MIL-STD-202E-106D, 測試泄漏, 外觀和外部尺寸應在 10 次循環后檢測。

電池應存放在乾燥的地方, 當存放在此環境時不能有露珠。

vii) 防漏液 Leakage Resistance

Leakage, appearance and outer dimensions shall be checked after 10 cycles according to MIL-STD-202E-106D.

The battery shall be kept in a dry place. It should not show any dew point when stored in this condition.

10. 電池的保質期為 5 年。

Expiration Date : 5 Years.

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11. 注意事項 Precautions for use

- 1) 電池不能長期存放在溫度超過 45 攝氏度的地方, 建議存放在溫度 30 攝氏度以下, 存放在溫度低於-40 攝氏度會使電池塑料部分變形導致泄漏。為防止因腐蝕導致自身放電, 濕度應少於 70%。

A battery shall not be stored at temperatures in excess of 45°C. Storage at less than 30°C is recommended. Storage at less than -40°C can deform the plastic parts and may cause a leakage. To prevent self-discharge caused by corrosion, or decrease of insulation, humidity during storage shall be less than 70%.

- 2) 電池自身有防爆結構, 但仍要注意以下的事項, 因為有易燃物料, 如在電池內含有鋰金屬和有機電解液。

The battery has an explosion resistant construction. But the following cautions should be taken, because combustible materials such as lithium metal and organic electrolyte are contained in the battery.

- * 應在適用的設備上使用
Do not use except in applicable model or equipment
- * 不能多於三粒電池使用
Do not connect more than three cells in series
- * 不能與其它類型電池混用
Do not mix different types (chemistries) of batteries
- * 不能短路
Do not short circuit
- * 不要把電池棄置在火中
Do not dispose in fire
- * 不能充電
Do not charge
- * 不能拆解
Do not disassemble.
- * 不能正、負極放反
Do not connect the wrong polarity (+,-)

- 3) 遠離火源或熱源。

Keep away from heat source of flame.

- 4) 請勿使用超聲波清洗電池。

The battery shall not be washed by ultrasonic wave washer.