
SPECIFICATIONS FOR LITHIUM BATTERY

CR2032X

APPROVED SIGNATURE	:
YOUR NAME	
TITLE	:
DATE	:

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1. 【SCOPE】

This specification applies to the following 3.0v lithium button cell CR2032 made by Shenzhen Wecodo Technology Co., Ltd.

2. 【RATINGS】

TABLE I :

ITEM		UNIT	SPECIFICATIONS	CONDITIONS
Nominal voltage		V	3.0	
Nominal capacity		mAh	210	Standard discharge with load 15k Ω
Instantaneous short-circuit current		mA	≥ 120	Time ≤ 0.5 second
Off-load voltage		V	≥ 3.2	Without load
Operating temperature		$^{\circ}\text{C}$	-20~60	
Standard weight		g	~2.75	Unit cell
Service output	Initial	Standard	1180 h	Continuous discharge with load 15k Ω , till 2.0v end-voltage
	After 12 months storage	Standard	1110 h	
Red LED light flash test		times	$\geq 500,000$	Pulse discharge with red LED light, flash each 1.5 seconds till 1.6v end-voltage
Blue LED light flash test		times	$\geq 2,000,000$	Pulse discharge with blue LED light, flash each 1.5 seconds till 2.0v end-voltage

TABLE II :

ITEM	CONDITIONS	CHARACTERISTICS	
Thermal durability	Kept for 20 days at 60 $^{\circ}\text{C} \pm 3^{\circ}\text{C}$, then continuously discharge with 15k Ω load till 2.0v end-voltage	Standard	1110 h
Self-discharge rate	Stored for 12 months at normal temperature and humidity	$\leq 1\%$	

3. 【PERFORMANCE AND TEST METHODS】

Unless otherwise stated, all the testing is carried out under the condition: environmental temperature, 20 $^{\circ}\text{C}$ ~25 $^{\circ}\text{C}$; environmental humidity, 65 \pm 20%. Please refer to Table III

4. 【SUGGESTIONS AND CAUTIONS】

- 4.1 Install batteries correctly.
- 4.2 Ensure the contact points to be clean and conductive.
- 4.3 Do not mix different types, different brands batteries to serve together.
- 4.4 Do not heat, recharge the batteries.
- 4.5 Do not dispose of the batteries in fire.
- 4.6 Keep away from the small children, if swallowed promptly see doctor.
- 4.7 Pay attention to the producing date.

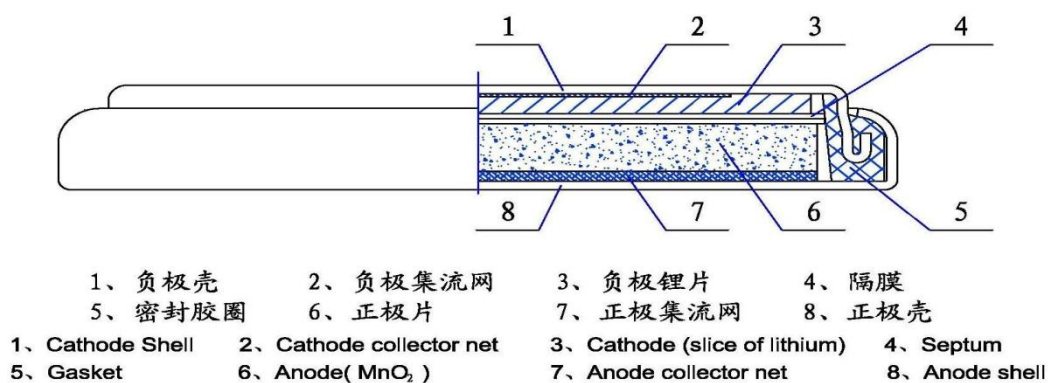
TABLE III:

No	ITEM	TEST METHODS	STANDARD	
			Diameter	20.0 (-0.2) mm
1	Dimensions	Using vernier caliper (accuracy ≥ 0.02) while avoiding short-circuit	Height	3.2 (± 0.1) mm
2	Off-load voltage	Using multimeter (accuracy $\geq 0.25\%$) internal resistance $\geq 1\text{M}\Omega$	$\geq 3.2\text{ v}$	
3	Instantaneous short-circuit current	Time of short-circuit should be less than 0.5 second and avoid repeated test within half an hour	$\geq 120\text{ mA}$	
4	Appearance	Eyeballing	Bright, clean, no rust, no leakage, And no flaw	
5	Capacity	Continuously discharge for 8 hours with load $15\text{k}\Omega$, temperature at $20\sim 25^\circ\text{C}$, humidity at $65\pm 20\%$ till 2.0v end-voltage (for fresh battery only: within 3 months)	$\geq 1180\text{ h}$	
6	Red LED light flash test	Pulse discharge with red LED light, temperature at $20\sim 25^\circ\text{C}$, humidity at $65\pm 20\%$, flash each 1.5 seconds till 1.6v end-voltage (for fresh battery only: within 3 months)	$\geq 500,000$	
	Blue LED light flash test	Pulse discharge with blue LED light, temperature at $20\sim 25^\circ\text{C}$, humidity at $65\pm 20\%$, flash each 1.5 seconds till 2.0v end-voltage (for fresh battery only: within 3 months)	$\geq 2,000,000$	
7	Vibration test	Put battery on the platform of the vibrations machine, start the machine and adjust the frequency form 10 times per minute to 15 times per minute. keep it running for an hour	Characteristics keep stability	
8	Leakage at high temperature test	Stored under temperature (60°C) for 7 days	No leakage allowed	
9	Over discharge Test	After 2.0v end-voltage, continuously discharged for 5 hours	No leakage allowed	

5. 【CUTAWAY DIAGRAM OF 3.0V LITHIUM MANGANESE DIOXIDE BUTTON CELL】

3. 0V 锂—二氧化锰扣式电池剖面图

Cutaway Diagram of 3.0V Lithium Manganese Dioxide Button Cell



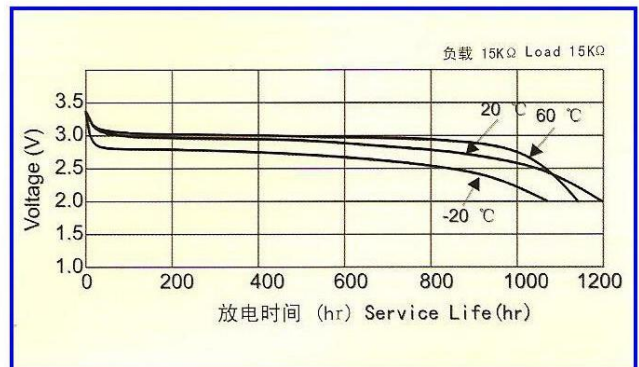
6. 【DISCHARGE CHARACTERISTICS】

标准曲线 STANDARD CHARACTERISTICS

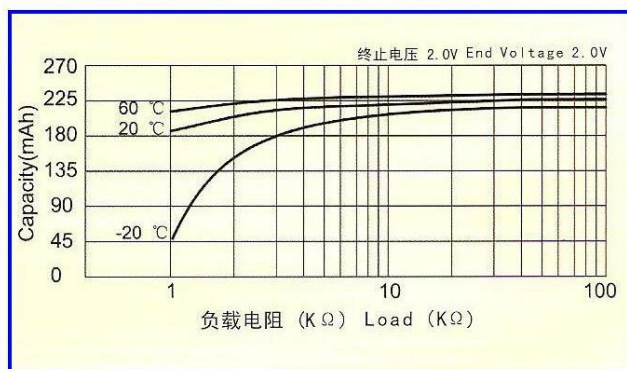
定电阻放电曲线
Discharge Characteristics



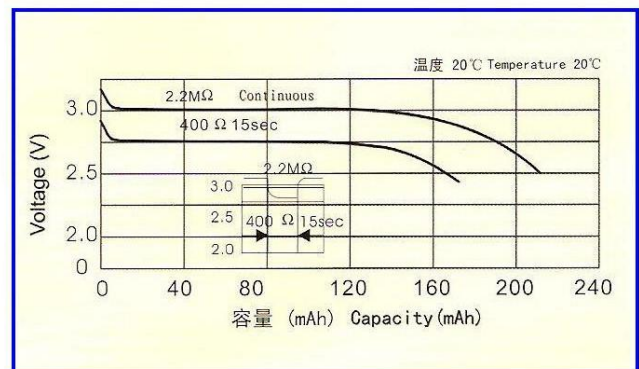
温度放电曲线
Temperature Characteristics



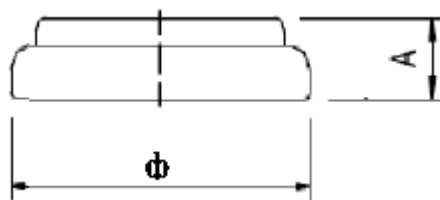
电阻容量曲线
Load-capacity



脉冲放电曲线
Pulse Discharge Characteristics



7. 【DIMENSIONS】



$$\Phi=20.0 (-0.2) \text{ mm} \quad A=3.2 (\pm 0.1) \text{ mm}$$

8. 【APPLICATION RANGE】

1. Commonly used in car key fobs and remote controls for vehicles.
2. Small electronic devices like digital cameras and MP3 players.
3. Some medical devices such as glucometers and pulse oximeters.
4. LED flashlights and small lanterns.
5. Certain toys and game controllers.
6. Small clocks and wristwatches.
