


APPROVAL SHEET

MESSRS	
BRAND	
PRODUCT	3.0V LITHIUM-MANGANESE BUTTON CELL
MODEL	CR2330 (250mAh)
PREPARED BY	
APPROVED BY	
DATE	

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1. 【SCOPE】

This specification applies to the following 3.0v lithium button cell CR2330 made by GUANGZHOU MARKYN BATTERY CO., LTD.

2. 【RATINGS】

TABLE I :

ITEM		UNIT	SPECIFICATIONS	CONDITIONS
Nominal voltage		V	3.0	Standard discharge
Nominal capacity		mAh	250	Standard discharge
Instantaneous short-circuit current		mA	≥ 250	Time ≤ 0.5 second
Off-load voltage		V	≥ 3.10	
Storage temperature		$^{\circ}\text{C}$	15~35	
Standard weight		g	3.7	Unit cell
Service output	Initial	Standard	1250 h	Continuous discharge with load 15k Ω , till 2.0v end-voltage
	After 12 months storage	Standard	1100 h	

TABLE II :

ITEM	CONDITIONS	CHARACTERISTICS	
Thermal durability	Kept for 72 hours at $60^{\circ}\text{C} \pm 3^{\circ}\text{C}$, then continuously discharge with 15k Ω load till 2.0v end-voltage	Standard	1100 h
Self-discharge rate	Stored for 12 months at normal temperature and humidity	$\leq 5\%$	

3. 【PERFORMANCE AND TEST METHODS】

Unless otherwise stated, all the testing is carried out under the condition: environmental temperature, $20^{\circ}\text{C} \sim 25^{\circ}\text{C}$; 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.

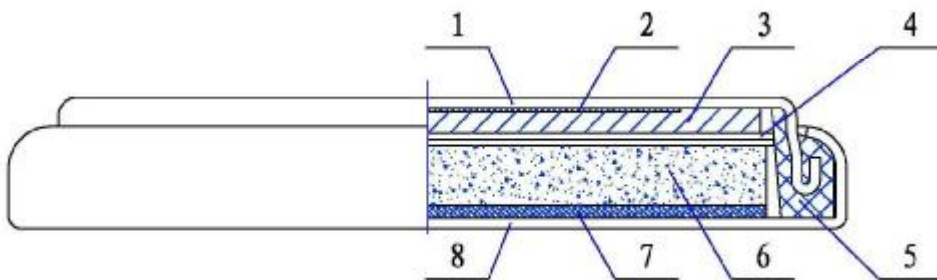
TABLE III:

No	ITEM	TEST METHODS	STANDARD	
1	Dimensions	Using vernier caliper (accuracy \geq 0.02) while avoiding short-circuit	Diameter	23.0 (-0.2) mm
			Height	3.0 (-0.2) mm
2	Off-load voltage	Using multimeter (accuracy \geq 0.25%) internal resistance \geq 1M Ω	\geq 3.10 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 250 mA	
4	Appearance	Eyeballing	Bright, clean, no rust, no leakage, And no flaw	
5	Capacity	Continuously discharge for 8 hours with load 15k Ω , temperature at 20~25 $^{\circ}$ C, humidity at 65 \pm 20% till 2.0v end-voltage (for fresh battery only: within 3 months)	\geq 1250 h	
6	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	
7	Leakage at high temperature	Stored under temperature (60 $^{\circ}$ C) for 72 hours	No leakage allowed	
8	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



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|------------------|------------------------------|-------------------------------|----------------|
| 1、负极壳 | 2、负极集流网 | 3、负极锂片 | 4、隔膜 |
| 5、密封胶圈 | 6、正极片 | 7、正极集流网 | 8、正极壳 |
| 1、 Cathode Shell | 2、 Cathode collector net | 3、 Cathode (slice of lithium) | 4、 Septum |
| 5、 Gasket | 6、 Anode(MnO ₂) | 7、 Anode collector net | 8、 Anode shell |

6. 【DISCHARGE CHARACTERISTICS】

CR2330

标准电压 Nominal Voltage	3V
标准容量 Nominal Capacity	250mAH
负载电阻 Load Resistance	15K Ω
重量 Weight	4g

