



广州市鹏辉电池有限公司

GREAT POWER BATTERY CO., LTD.

广东省广州市番禺区沙湾镇市良路 922 号

ADD: No. 922 . Shi Liang Rode, Shawan Town, Panyu, Guangzhou, China.

APPROVAL SHEET

MESSRS	
BRAND	
PRODUCT	3.0V LITHIUM-MANGANESE BUTTON CELL
MODEL	CR2032-PEN3
PREPARED BY	ZHOU YAN
APPROVED BY	WANG JU JIAN
DATE	December. 18, 2014



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1. 【SCOPE】

This specification applies to the following 3.0v lithium button cell CR2032 made by GREAT POWER BATTERY CO., LTD.

2. 【RATINGS】

TABLE I :

ITEM		UNIT	SPECIFICATIONS	CONDITIONS
Nominal voltage		V	3.0	Standard discharge
Nominal capacity		mAh	220	Standard discharge with load 7.5kΩ
Off-load voltage		V	≥3.2	
Storage temperature		°C	0~35	
Standard weight		g	3.0	Unit cell
Service output	Initial	Standard	1116 h	Continuous discharge with load 15kΩ, till 2.0v end-voltage at 20~25°C
	After 12 months storage	Standard	1049 h	

TABLE II :

ITEM	CONDITIONS	CHARACTERISTICS	
Thermal durability	Kept for 20 days at 60°C±3°C, then continuously discharge with 7.5kΩ load till 2.0v end-voltage	Standard	1049 h
Self-discharge rate	Stored for 12 months at normal temperature and humidity	≤5%	

3. 【PERFORMANCE AND TEST METHODS】

Unless otherwise stated, all the testing is carried out under the condition: environmental temperature, 20°C~25°C; environmental humidity, 50±10%. Please refer to Table III



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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 ≥ 0.02) while avoiding short-circuit	Diameter	20.0(-0.20)mm
			Height	3.2(-0.20) mm
2	Off-load voltage	Using multimeter (accuracy $\geq 0.25\%$) internal resistance $\geq 1M\Omega$	$\geq 3.2v$	
3	Appearance	Eyeballing	Bright, clean, no rust, no leakage, And no flaw	
4	Capacity	Continuously discharge for 8 hours with load 7.5k Ω , temperature at 20~25 $^{\circ}C$, humidity at 50 \pm 10% till 2.0v end-voltage (for fresh battery only: within 3 months)	≥ 1116 h	
5	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	
6	Leakage at high temperature	Stored under temperature (60 $^{\circ}C$) for 3 days	No leakage allowed	
7	Over discharge Test	After 2.0v end-voltage, continuously discharged for 5 hours	No leakage allowed	



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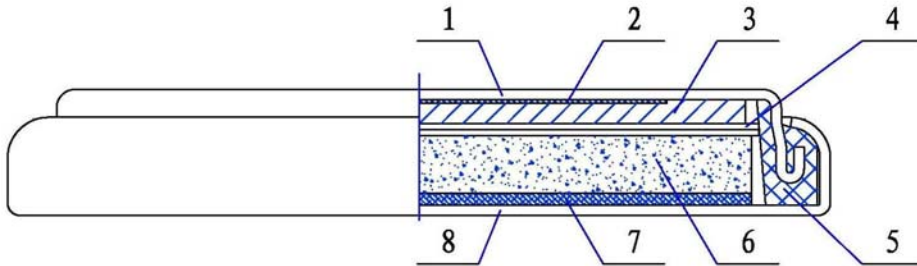
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5. 【CUTAWAY DIAGRAM OF 3.0V LITHIUM MANGANESE DIOXIDE BUTTON CELL】

3.0V 锂—二氧化锰扣式电池剖面图

Cutaway Diagram of 3.0V Lithium Manganese Dioxide Button Cell



- | | | | |
|-----------------|-----------------------------|------------------------------|---------------|
| 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】

CR2032 (220mAh)

外形 APPEARANCE

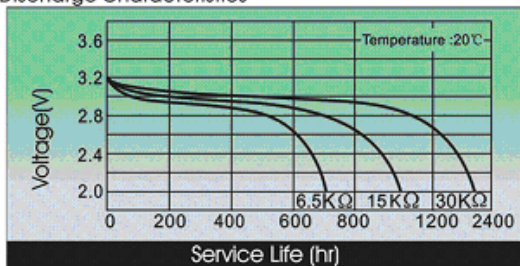


规格 SPECIFICATIONS

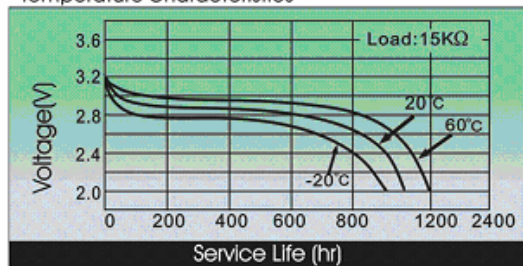
型号 Model	CR2032	尺寸 Dimensions(mm)
标称电压 Nominal Voltage	3(V)	
标称容量 Nominal Capacity	220(mAh)	
标准电阻 Load Resistance	15(KΩ)	
重量 Weight	3.0(g)	
使用温度 Using Temperature	-20℃~60℃	

STANDARD CHARACTERISTICS

Discharge Characteristics



Temperature Characteristics





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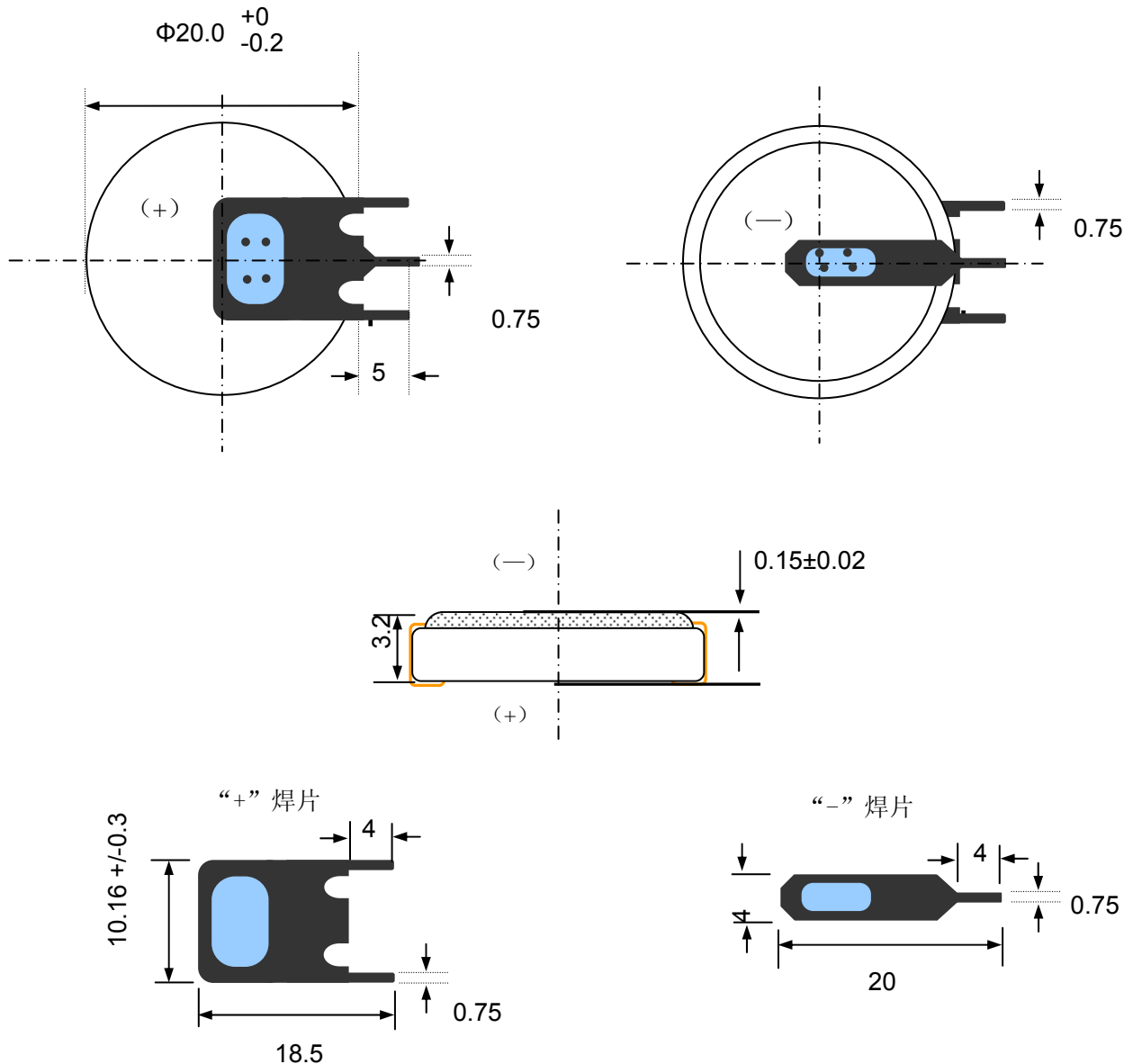
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7. 【Diagram paper】 007

CR2032-PEN3 / Yellow PVC Insulation



Remark:

- 1、Weld firm burliness.
- 2、Respectively from, the fixed position etc. is the paper that has the size and illustrated manual table mutually is all games.
- 3、Unit: millimeter
- 4、Flat Tab with 4-Spot Welding
- 5、Solder plating of tips
- 6、With Yellow PVC Insulation.