



APPROVAL SHEET

BRAND	The logo for WinPow A+, featuring the word "WINPOW" in yellow and "A+" in red, with a globe icon behind it.
PRODUCT	3.0V LITHIUM-MANGANESE BUTTON CELL
MODEL	CR1220 (40mAh)
PREPARED BY	
APPROVED BY	
DATE	AUG., 2016



1. 【SCOPE】

This specification applies to the following 3.0v lithium button cell CR1220 made by WINPOW.

2. 【RATINGS】

TABLE I :

ITEM		UNIT	SPECIFICATIONS	CONDITIONS
Nominal voltage		V	3.0	
Nominal capacity		mAh	40	Standard discharge with load 62kΩ
Instantaneous short-circuit current		mA	≥ 100	Time ≤ 0.5 second
Off-load voltage		V	≥ 3.20	
Operating temperature		°C	-20~60	
Standard weight		g	0.75	Unit cell
Service output	Initial	Standard	965 h	Continuous discharge with load 62kΩ, till 2.0v end-voltage at 20~25°C
	After 12 months storage	Standard	905 h	

TABLE II :

ITEM	CONDITIONS	CHARACTERISTICS	
Thermal durability	Kept for 10 days at 50°C±3°C, then continuously discharge with 62kΩ load till 2.0v end-voltage	Standard	905 h
Self-discharge rate	Stored for 12 months at normal temperature and humidity	≤ 1%	

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, 65±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.

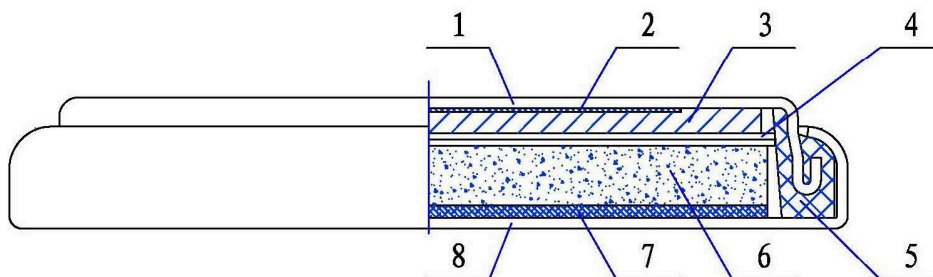
TABLE III:

No	ITEM	TEST METHODS	STANDARD	
			Diameter	Height
1	Dimensions	Using vernier caliper (accuracy ≥ 0.02) while avoiding short-circuit	Diameter	12.5 (-0.20) mm
			Height	2.0(± 0.1) mm
2	Off-load voltage	Using multimeter (accuracy $\geq 0.25\%$) internal resistance $\geq 1M\Omega$	$\geq 3.20v$	
3	Instantaneous short-circuit current	Time of short-circuit should be less than 0.5 second and avoid repeated test within half an hour	≥ 100 mA	
4	Appearance	Eyeballing	Bright, clean, no rust, no leakage, And no flaw	
5	Capacity	Continuously discharge with load 62k Ω , temperature at 20~25 $^{\circ}C$, humidity at 65 $\pm 20\%$ till 2.0v end-voltage (for fresh battery only: within 3 months)	≥ 965 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 test	Stored under temperature (50 $^{\circ}C$) for 10 days	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 鋰—二氧化錳扣式電池剖面圖

Cutaway Diagram of 3.0V Lithium Manganese Dioxide Button Cell



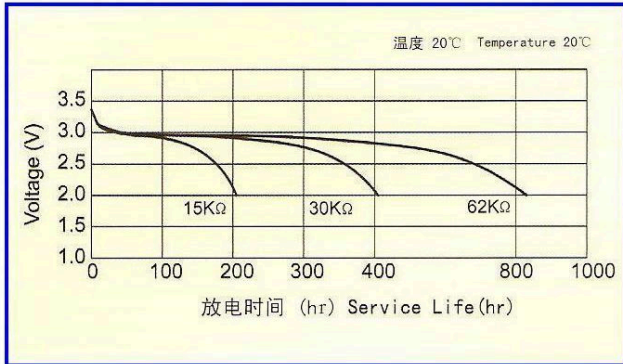
- | | | | |
|--------|---------|---------|-------|
| 1、負極殼 | 2、負極集流網 | 3、負極鋰片 | 4、隔膜 |
| 5、密封膠圈 | 6、正極片 | 7、正極集流網 | 8、正極殼 |

- | | | | |
|-----------------|-----------------------------|------------------------------|---------------|
| 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 |

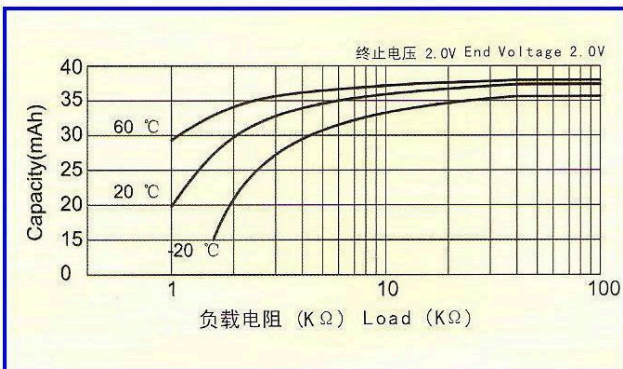
6. 【DISCHARGE CHARACTERISTICS】

标准曲线 STANDARD CHARACTERISTICS

定电阻放电曲线
Discharge Characteristics

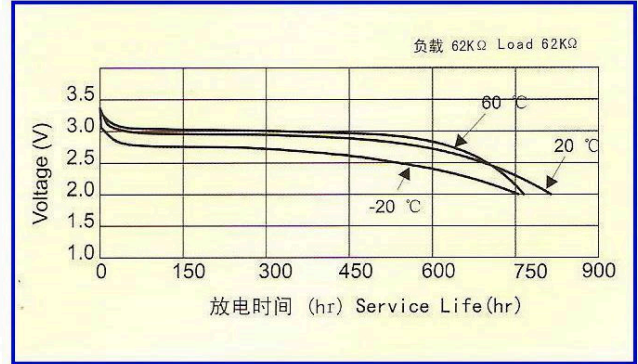


电阻容量曲线
Load-capacity



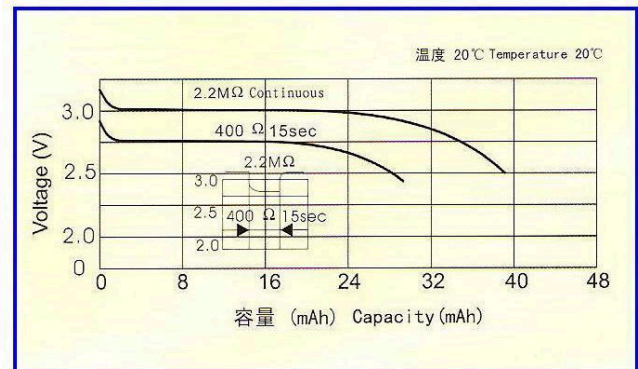
温度放电曲线

Temperature Characteristics 终止电压 2.0V 负载 62KΩ

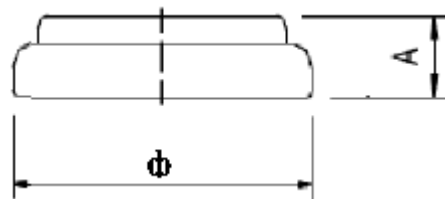


脉冲放电曲线

Pulse Discharge Characteristics



7. 【DIMENSIONS】



$\Phi=12.5 (-0.2) \text{ mm}$ $A=2.0 (\pm 0.1) \text{ mm}$