

APPROVAL SHEET

MESSRS	
BRAND	akyga battery
PRODUCT	3.0V LITHIUM-MANGANESE BUTTON CELL
MODEL	CR2032
PREPARED BY	
APPROVED BY	
DATE	FEB. 20, 2019

CUS	STOMER APPR	OVAL RECORE)
COMPANY NAME	DEPART- MENT	APPROVED BY	DATE



1. **[SCOPE]**

This specification applies to the following 3.0v lithium button cell CR2032 (high capacity of 230mAh)

2. [RATINGS]

TABLE I:

	TEM	UNIT	SPECIFICATIONS	CONDITIONS
Nomir	nal voltage	V	3.0	
Nomin	al capacity	mAh	230	Standard discharge with load 15kΩ
	ous short–circuit urrent	mA	≥250	Time $≤$ 0.5 second
Off-lo	ad voltage	V	≥3.2	
Operatinę	g temperature	°C	-20~60	
Stand	ard weight	g	3.1	Unit cell
Service	Initial	Standard	1200 h	Continuously discharge with load 15kΩ, temperature at 20°C,
output	After 12 months storage	Standard	1170 h	humidity at 65±20% till 2.0v end-voltage

TABLE II:

ITEM CONDITIONS		CHARACTERISTICS		
Thermal durability	Kept for 20 days at 60°C±3°C, then continuously discharge with $15k\Omega$ load till 2.0v end-voltage	Standard	1170 h	
Self-discharge rate	Stored for 12 months at normal temperature and humidity	Ŵ	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, $65\pm20\%$. 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.

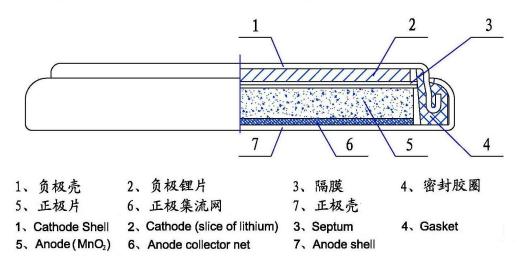


TAE	BLE III:			
No	ITEM	TEST METHODS	STA	ANDARED
1	1 Dimensions	Using vernier caliper (accuracy \geqslant 0.02) while	Diameter	20.0 (-0.2) mm
	Dimensions	avoiding short-circuit	Height	3.2 (-0.2) mm
2	Off-load voltage	Using multimeter (accuracy \geq 0.25%) internal resistance \geq 1M Ω	≥3.2 v	
3	Instantaneous short-circuit current	Time of short-circuit should be less than 0.5 second and avoid repeated test within half an hour	≥250 mA	
4	Appearance	Eyeballing	Bright, clean, no rust, no leakage, And no flaw	
5	Capacity	Continuously discharge for 8 hours with load $15k\Omega$, temperature at 20~25°C, humidity at $65\pm20\%$ till 2.0v end-voltage (for fresh battery only; within 3 months)		
6	Vibration test	Put battery on the platform of the vibrations machine, start the machine, and adjust the		
7	Leakage at high temperature test	Stored under temperature (60°C) for 7 days No leakage allowed		kage allowed
8	Over discharge Test	After 2.0v end-voltage, continuously discharged for 5 hours	No lea	kage 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]

规格参数 SPECIFICATIONS



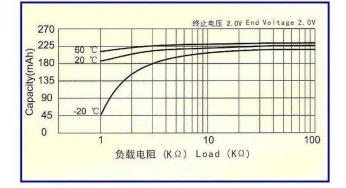
型 号 Model No.	CR2032	结 构 图 Dimensions(mm)
标称电压 Nominal Voltage	3 (V)	-
标称容量 Nominal Capacity	230 (mAh)	
标准电阻 Load Resistance	15 (kû)	
重量 Weight	3.0 (g)	0200 - 03 0210 - 03 017.5
使用温度 Using Temperature	-20℃~60℃	€ ⊕

标准曲线 STANDARD CHARACTERISTICS

定电阻放电曲线 Discharge Characteristics

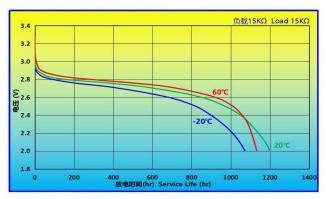


电阻容量曲线 Load-capacity

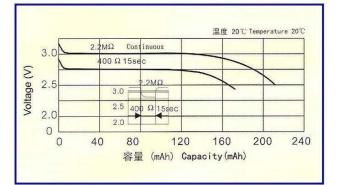


温度放电曲线

Temperature Characteristics

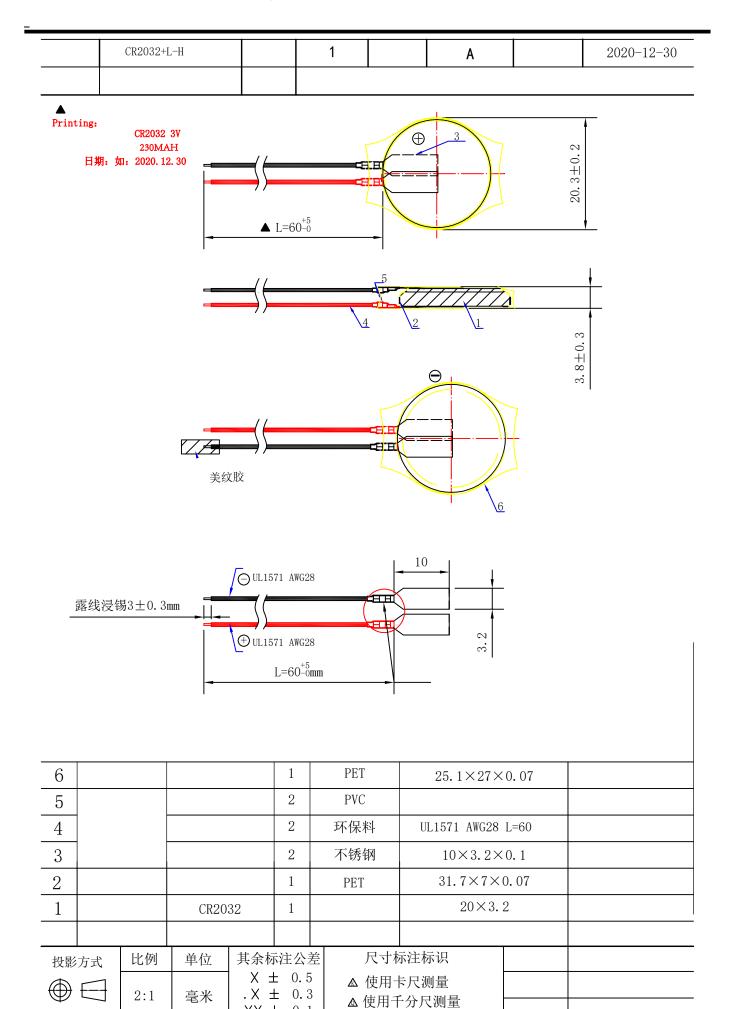






Specification Approval sheet





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