


APPROVAL SHEET

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| MESSRS | |
| BRAND |  |
| PRODUCT | 3.0V LITHIUM-MANGANESE BUTTON CELL |
| MODEL | CR2016 (75mAh) |
| PREPARED BY | |
| APPROVED BY | |
| DATE | |

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1. 【SCOPE】

This specification applies to the following 3.0v lithium button cell CR2016 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 | 75 | Standard discharge |
| Instantaneous short-circuit current | | mA | ≥ 200 | Time ≤ 0.5 second |
| Off-load voltage | | V | ≥ 3.20 | |
| Storage temperature | | $^{\circ}\text{C}$ | 0~35 | |
| Standard weight | | g | 1.7 | Unit cell |
| Service output | Initial | Standard | 420 h | Continuous discharge with load 15k Ω , till 2.0v end-voltage at 20~25 $^{\circ}\text{C}$ |
| | After 12 months storage | Standard | 395 h | |

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 | 395 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 $^{\circ}\text{C}$ ~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.

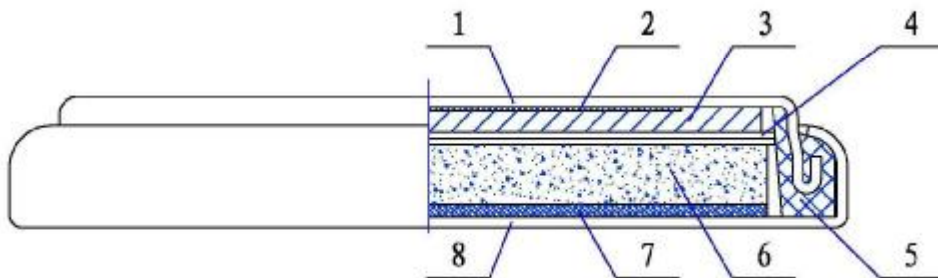
TABLE III:

| No | ITEM | TEST METHODS | STANDARD | |
|----|-------------------------------------|--|---|------------------------|
| | | | Parameter | Value |
| 1 | Dimensions | Using vernier caliper (accuracy \geq 0.02) while avoiding short-circuit | Diameter | 20.0(-0.20) mm |
| | | | Height | 1.6(+0.05 -0.10) mm |
| 2 | Off-load voltage | Using multimeter (accuracy \geq 0.25%) internal resistance \geq 1M Ω | \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 | \geq 200 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 420 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 20 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 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】

CR2016

外形 APPEARANCE

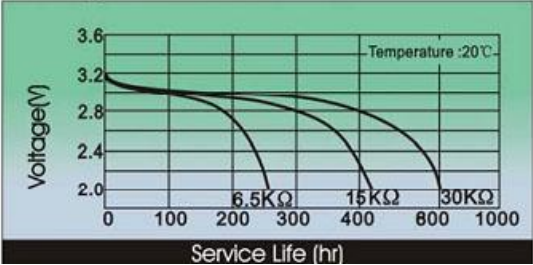


规格 SPECIFICATIONS

| 型号 Model | CR2016 | 尺寸 Dimensions(mm) |
|---------------------------|----------|----------------------|
| 标称电压 Nominal Voltage | 3(V) | |
| 标称容量 Nominal Capacity | 75(mAh) | |
| 标准电阻 Load Resistance | 30(KΩ) | |
| 重量 Weight | 1.7(g) | |
| 使用温度 Using Temperature | -20℃~60℃ | |

STANDARD CHARACTERISTICS

Discharge Characteristics



Temperature Characteristics

