



APPROVAL SHEET

| | |
|-------------|------------------------------------|
| MESSRS | |
| BRAND | |
| PRODUCT | 3.0V LITHIUM-MANGANESE BUTTON CELL |
| MODEL | CR2025 SPECIAL FOR LED LIGHT |
| PREPARED BY | |
| APPROVED BY | |
| DATE | AUG. 8, 2015 |

1. 【SCOPE】

This specification applies to the following 3.0v lithium button cell CR2025 special for LED light made by [Shenzhen KuraTa Energy Industry Co.,Ltd](#)

2. 【RATINGS】

TABLE I :

| ITEM | | UNIT | SPECIFICATIONS | CONDITIONS |
|-------------------------------------|-------------------------|----------|----------------|--|
| Nominal voltage | | V | 3.0 | |
| Nominal capacity | | mAh | 150 | Standard discharge with load 15kΩ |
| Instantaneous short-circuit current | | mA | ≥120 | Time≤0.5 second |
| Off-load voltage | | V | ≥3.2 | Without load |
| Operating temperature | | ℃ | -20~60 | |
| Standard weight | | g | 2.5 | Unit cell |
| Service output | Initial | Standard | 840 h | Continuous discharge with load 15kΩ, till 2.0v end-voltage |
| | After 12 months storage | Standard | 790 h | |
| Red LED light flash test | | times | ≥350,000 | Pulse discharge with 6pcs red LED light, flash each 1.5 seconds till 1.6v end-voltage |
| Blue LED light flash test | | times | ≥1,400,000 | Pulse discharge with 6pcs blue LED light, flash each 1.5 seconds till 2.0v end-voltage |

TABLE II :

| ITEM | CONDITIONS | CHARACTERISTICS | |
|---------------------|--|-----------------|-------|
| Thermal durability | Kept for 20 days at 60℃±3℃, then continuously discharge with 15kΩ load till 2.0v end-voltage | Standard | 790 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℃~25℃; 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.

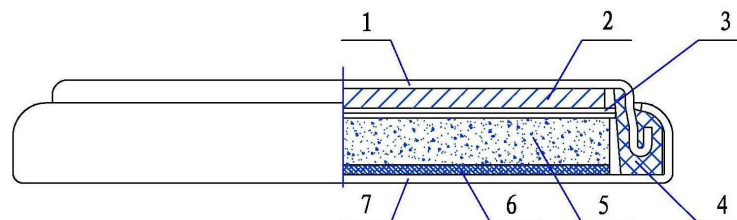
TABLE III:

| No | ITEM | TEST METHODS | STANDARD | |
|----|-------------------------------------|---|---|----------------|
| | | | | |
| 1 | Dimensions | Using vernier caliper (accuracy ≥ 0.02) while avoiding short-circuit | Diameter | 20.0 (-0.2) mm |
| | | | Height | 2.5 (-0.2) mm |
| 2 | Off-load voltage | Using multimeter (accuracy $\geq 0.25\%$) internal resistance $\geq 1M\Omega$ | $\geq 3.2 V$ | |
| 3 | Instantaneous short-circuit current | Time of short-circuit should be less than 0.5 second and avoid repeated test within half an hour | $\geq 120 mA$ | |
| 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) | $\geq 840 h$ | |
| 6 | Red LED light flash test | Pulse discharge with red LED light, temperature at 20~25 $^{\circ}C$, humidity at 65 \pm 20%, flash each 1.5 seconds till 1.6v end-voltage (for fresh battery only: within 3 months) | $\geq 350,000$ | |
| | Blue LED light flash test | Pulse discharge with blue LED light, temperature at 20~25 $^{\circ}C$, humidity at 65 \pm 20%, flash each 1.5 seconds till 2.0v end-voltage (for fresh battery only: within 3 months) | $\geq 1,400,000$ | |
| 7 | 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 | |
| 8 | Leakage at high temperature test | Stored under temperature at 60 $^{\circ}C$ and relative humidity (RH) below 75% for 7 days | No leakage allowed | |
| 9 | 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、负极锂片 | 3、隔膜 | 4、密封胶圈 |
| 5、正极片 | 6、正极集流网 | 7、正极壳 | |
| 1、Cathode Shell | 2、Cathode (slice of lithium) | 3、Septum | 4、Gasket |
| 5、Anode (MnO ₂) | 6、Anode collector net | 7、Anode shell | |

6. 【DISCHARGE CHARACTERISTICS】

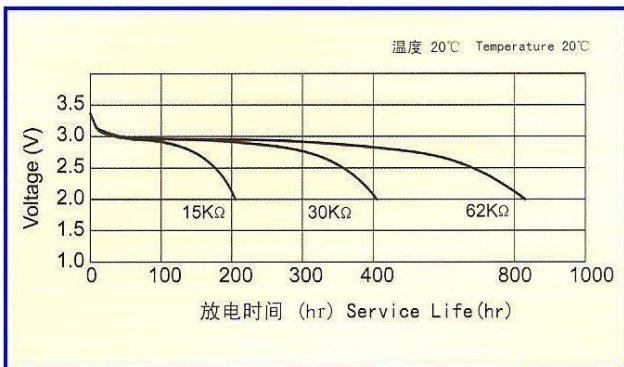
规格参数 SPECIFICATIONS



| | | |
|---------------------------|------------|------------------------|
| 型号 Model No. | CR1220 | 结构图 Dimensions (mm) |
| 标称电压 Nominal Voltage | 3 (V) | |
| 标称容量 Nominal Capacity | 40 (mAh) | |
| 标准电阻 Load Resistance | 62 (kΩ) | |
| 重量 Weight | 0.8 (g) | |
| 使用温度 Using Temperature | -20°C~60°C | |

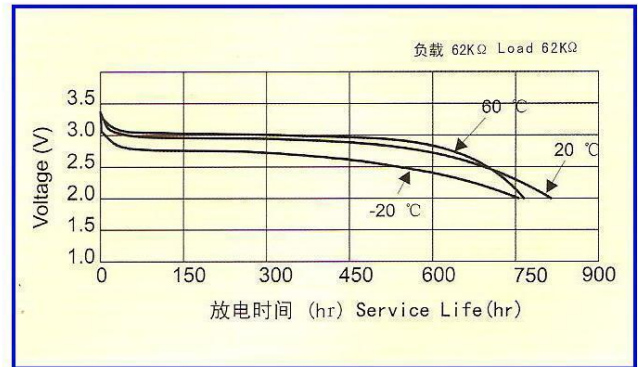
标准曲线 STANDARD CHARACTERISTICS

定电阻放电曲线
Discharge Characteristics

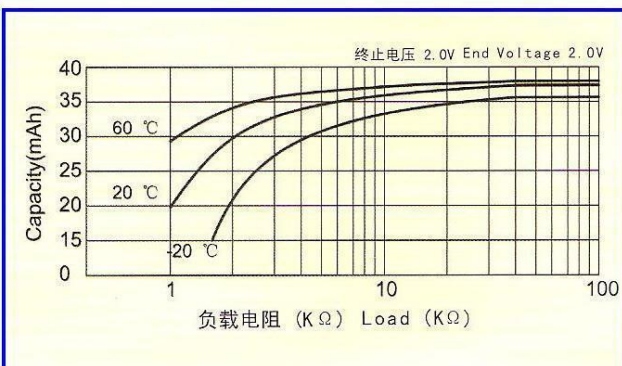


温度放电曲线

Temperature Characteristics 终止电压 2.0V 负载 62KΩ



电阻容量曲线
Load-capacity



脉冲放电曲线

Pulse Discharge Characteristics

