LITHIUM COIN CELL SPECIFICATION / MODEL : CR2016

1 Scope

This technology specification covers lithium/manganese dioxide coin cells of Model CR2016

2 Technologyparameters

Item		Unit	Specification	Condition
Nominal voltage		V	3.0	CR series
Nominal capacity		mAh	80	Continuously discharged under 15kΩ
Burst short-circuit current		mA	≥300	time≤0.5′
Open-circuit voltage		V	3.25-3.60	CR series
Storage temperature		℃	0-40	CR series
Operating temperature		℃	-20-60	CR series
Standard weight		g	1.60	CR2016
Self-discharge rate		%/year	2	CR2016
Quick test service life	Initial	h	≥420	Continuous discharge with load 15kΩ, till 2.0v end-voltage at 20~25℃
	After 12 months	h	≥395	

3 Characteristics and test

Test item	Test method	Quality standard
1.Contour dimension	Measured with vernier caliper of which accuracy no less than 0.02 ㎜， test with inculations on the surface,avoid short-circuit.	diameter（㎜）：20.0（-0.15） height（㎜）：1.60（-0.20）
2.Open-circuit voltage	Measured with digital multimeter of which the accuracy is no low than 0.25%、internal resistence is> 1 MΩ	3.25-3.60
3.Burst short-circuuit current	Measured with arch culverts multimeter, testing time is< 0.5′, retest should after more than 0.5 hours	≥300mA
4.Appearance	Test by eyes	Clean and tidy, with clear mark, no transformation, rusting and leakage.
5.Quick discharge capacity	Continuously discharge with load 15kΩ, temperature at 20~25℃, humidity at 65±20% till 2.0v end-voltage (for fresh battery only: within 3 months)	≥420 hours
6.Vibration test	Vibration fruquency is 100-150 times/mins for 1 hour.	Stable performance
7.High temperature and leakage-proof performance	Under 45±2℃ for more than 30 days	Leakage rate≤0.05%
8.Over discharge and leakage-proof performance	Continuous discharge for 5 hours till the voltage is 2.0v	No leakage

Note：

1.The above test had been proved by lots of experiments.

2.Can adopt special test method according to clients' requirements.

4 Condition of testing

4.1 Initial Test:

Means the test begin in three months after the cell produced.

4.2 Temperature、humidity：

As for as there is no special requirement, testing should be placed under normal temperature 25℃and Relative humidity of 60％±20％.

4.3 Test facility: 4.3.1 Outer micrometers: Instruments which tolerance shall be ± 0.02mm or below and those having equal or better accuracy shall be used.

4.3.2 DC voltmeters: Precision is 0.25 rate or better and the input resistor shall be 10MΩ or more.

4.3.3 Exactitude resistance: Relative error is 0.5% or below.

4.3.4 Resistance box: Relative error is 0.5% or below.

4.3.5 Electrical drying box : Tolerance shall be ±2℃ or below.

5 Mark

5.1 Battery type: CR2016

5.2 Nominal voltage: 3.0V

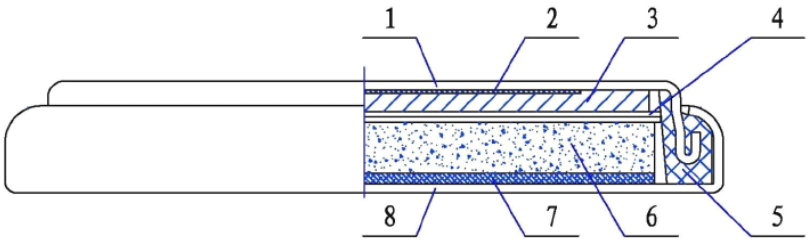
5.3 Polarity: +

5.4 Manufacturing marks: The year and month of production shall be marked on negative terminal when needed.

6. CUTAWAY DIAGRAM OF 3.0V LITHIUM MANGANESE DIOXIDE BUTTON CELL

3.0V锂—二氧化锰扣式电池剖面图

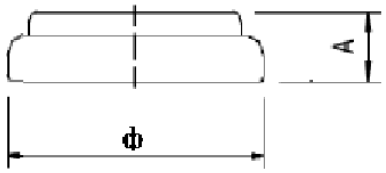
Cutaway Diagram of 3.0V Lithium Manganese Dioxide Button Cell



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

7. DIMENSIONS

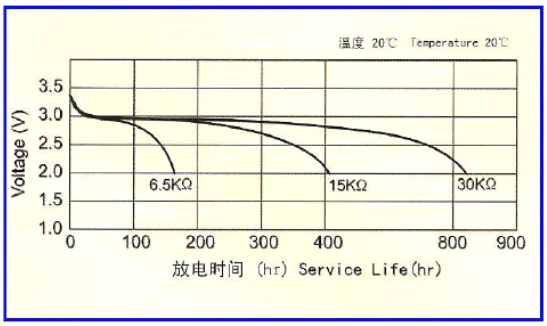


Φ=20.0（-0.2）mm　A=1.6（±0.1）mm

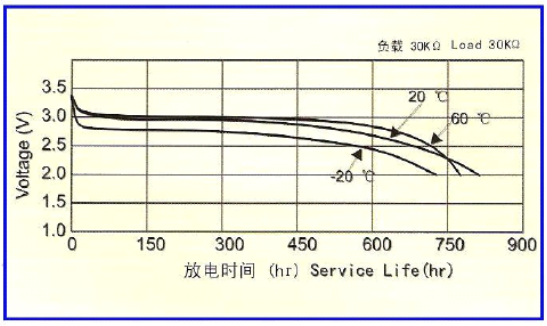
8. DISCHARGE CHARACTERISTICS

标准曲线 STANDARD CHARACTERISTICS

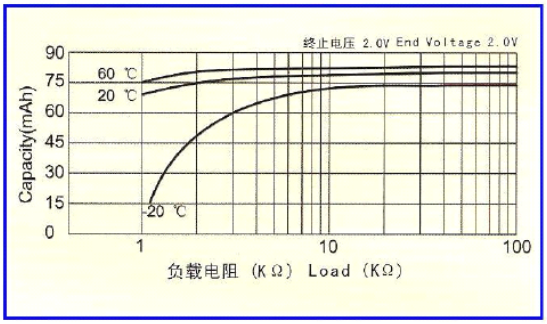
定电阻放电曲线
Discharge Characteristics



温度放电曲线
Temperature Characteristics



电阻容量曲线
Load-capacity



脉冲放电曲线
Pulse Discharge Characteristics