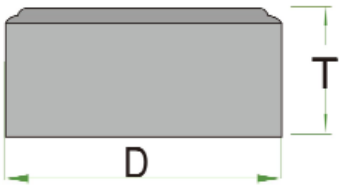
TECHNICAL SPECIFICATION

1. Scope:

This specification applies to the following 3.0v lithium button cell CR2016, Powercell brand.

2. Cell specification

Description	3.0V LITHIUM-MANGANESE BUTTON CELL	Dimension
Model	CR2016	
Diameter	20.0 +- 0.1 mm	
Thickness	1.6 +- 0.2 mm	
Weight	1.7 +- 0.2 g	
Mark	Positive surface label name, brand, model, voltage, +,	

3. Performances data

ITEM		PARAMETER	REMARK	
Nominal capacity		-	2V At 20 ℃ Ω discharge standard resistance 15 k to 2 v	
Nominal voltage		3.0V	Standard discharge	
Delivery voltage		≥3.20		
Instantaneous short–circuit current		≥250 mA	Time≤0.5 second	
Maximum continuous discharge current		5 mA		
Cut-off discharge voltage		2.0V		
Maximum Pulse Current		15mA		
Storage temperature			0～+35℃	
Self-discharge rate		＜5%	Stored for 12 months at normal temperature, then continuously discharged with 15kΩ load till 2.0v end-voltage	
1 Service output	Initial	Standard	90h	Continuous discharge with load 3kΩ, till 2.0v end-voltage at 20~25℃
		Minimum	85h	
	After 12 months storage	Standard	85h	
		Minimum	80h	
2 Service output	Initial	Standard	440h	Continuous discharge with load 15kΩ, till 2.0v end-voltage at 20~25℃
		Minimum	415h	
	After 12 months storage	Standard	415h	
		Minimum	400h	

4. Performance test

4.1. Standard Test condition:

Unless otherwise stated, all the testing is carried out under the condition: environmental temperature, 20℃~25℃; environmental humidity, 55+10%.

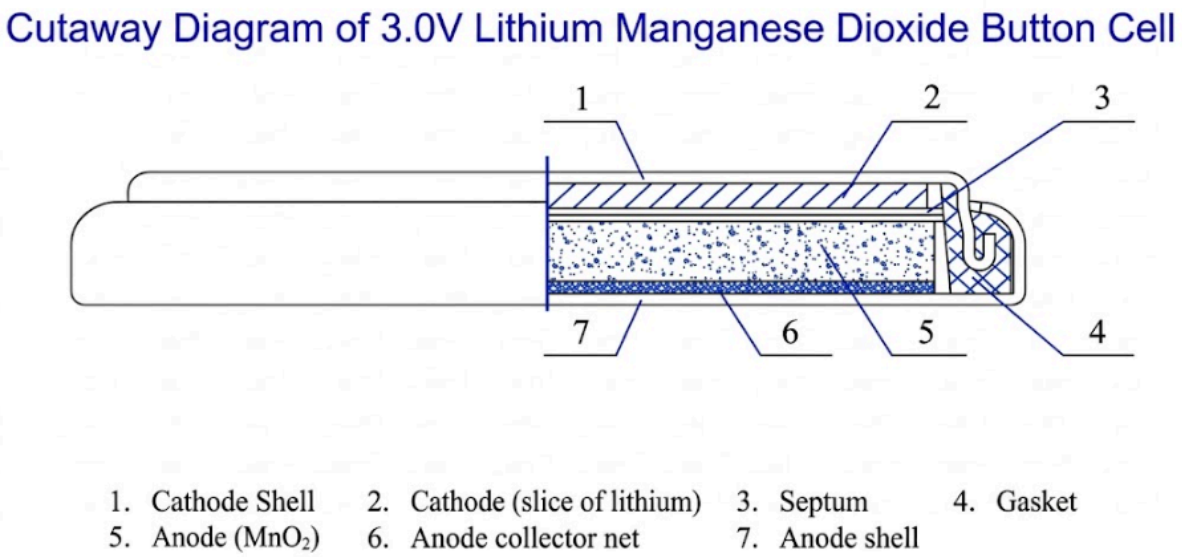
4.2. Testing equipment

Instrument	Standard Requirements
Instrument to measure dimension	Precision : ≥0.02mm
multimeter	Accuracy: ≥Class 0.5; Internal resistance: <10 kΩ/V
Thermometer	Precision : ≥±0.5℃

4.3. Performance detection

Serial number	Test item	Testing party	Standard	
1	Dimensions	Using vernier caliper (accuracy≥ 0.02) while avoiding short-circuit	Diameter	20.00(-0.10)mm
			Height	1.6(-0.20)mm
2	open circuit voltage	The accuracy of the multimeter is not less than 0.25%, and the internal resistance is greater than 1 MΩ	≥3.20V	
3	instantaneous short circuit current	When testing with a multimeter, each time should not exceed 0.5 seconds to avoid repeated tests. If another test is needed, the time interval should be more than half an hour	≥250mA	
4	surface	Eyeballing	Smooth appearance, smooth and clean No rust	
5	discharge capacity	Measured capacity at temperature of 20~25℃, 55 + 10% humidity and 15 KΩ load with termination voltage of 2.0V (new power: within three months after production)	≥440h	
6	The vibration fall test	Place the qualified samples on the vibration platform of the vibrating machine, start the vibrating machine, the vibration frequency is 10-15 times / minute, and the continuous vibration lasts for one hour	The battery performance is stable	
7	high temperature Lease resistant test	And stored at 45℃ for 30 days	No leakage	
8	Overdischarge leakage resistance test	After the battery termination voltage reaches 2.0V, the discharge continues for 5 hours	No leakage	

6. 3.0V Lithium manganese dioxide button battery profile diagram



7. Handling precautions and guidelines

7.1 Do not put the battery into the fire or heat the battery; it may cause the battery fire or explosion;
7.2 Do not drop the battery into water, keep the battery surface dry.Storage or use of batteries in humid environment will seriously affect the battery performance.
7.3 Do not shock ,crush,drop,vibrate the battery;
7.4 Do not puncture the battery
7.5 Do not disassemble the battery;
7.6 Do not short circuit the battery with wires or other metal materials. Do not store or transport the battery together with necklace, key, or other metal materials.Or else.The battery may get fire or explosion.
7.7 Do not reverse the battery positive and negative terminals.
7.8 Do not to be combined use batteries of different capacities, models and varieties together.
7.9 Keep the battery away from children .if swallow, see doctor immediately
7.10 If the skin or eyes get contact with the electrolyte, wash with sufficient water and see doctor immediately.
7.11 Remove the battery from applications if the application is not in use for long time。
7.12 Please use the battery in strict accordance with the specifications. WinPow will not be responsible for any improper operation。

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