



SHENZHEN M&LAK INDUSTRY CO.,LTD

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Http: //www.malak.cn

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APPROVAL SHEET

BUYER: _____

PRODUCT: 3V Li-Mn BUTTON CELL

MODEL: CR1225

BUYER APPROVE:

SERVER: SHENZHEN M&LAK INDUSTRY CO.,LTD

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1. SCOPE

This specification applies to the following 3.0v lithium button cell CR1225 made by SHENZHEN M&LAK INDUSTRY CO., LTD.

2. RATINGS

TABLE I :

ITEM		UNIT	SPECIFICATIONS	CONDITIONS
Nominal voltage		V	3.0	Standard discharge
Nominal capacity		mAh	48	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	2.2	
Service output	Initial	Standard	240 h	Continuous discharge with load $15\text{k}\Omega$, till 2.0v end-voltage at 20~25 $^{\circ}\text{C}$
		Minimum	230 h	
	After 12 months storage	Standard	230 h	
		Minimum	220 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 $15\text{k}\Omega$ load till 2.0v end-voltage	Standard	230h
		Minimum	220 h
Self-discharge rate	Stored for 12 months at normal temperature, then continuously discharged with $15\text{k}\Omega$ load till 2.0v end-voltage	$\leq 5\%$	

3. PERFORMANCE AND TEST METHODS

Unless otherwise stated, all the testing is carried out under the condition: environmental temperature, 20 $^{\circ}\text{C}\sim 25^{\circ}\text{C}$; 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.



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TABLE III

No	ITEM	TEST METHODS	STANDARD	
1	Dimensions (single battery)	Using vernier caliper (accuracy ≥ 0.02) while avoiding short-circuit(unit cell)	Diameter	12.50 (-0.20) mm
			Height	2.50 (-0.20) mm
2	Off-load voltage	Using multimeter (accuracy $\geq 0.25\%$) internal resistance $\geq 1M\Omega$	$\geq 3.20v$	
3	Instantaneous short-circuit current	Time of short-circuit should be less than 0.5 second and avoid repeated test within half an hour	≥ 200 mA	
4	Appearance	Eyeballing	Bright, clean, no rust, no leakage, And no flaw	
5	Capacity	Continuously discharge for 8 hours with load 15k, temperature at 20~25°C, humidity at 65 \pm 20% till 2.0v end-voltage (for fresh battery only: within 3 months)	$\geq 240h$	
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 (45°C) for 30 days	Leakage rate $\leq 0.7\%$	
8	Over discharge Test	After 2.0v end-voltage, continuously discharged for 5 hours	No leakage allowed	

5、Element of the materials:

ITEM	ELEMENT
Anode	Manganese Dioxide Powder
	Colloid Graphite Powder
Cathode	Lithium slice
Electrolyte	Ethylene Glycol Dimethyl Ether
	Propylene Carbonate
	Lithium Perchloride
Rind	Stainless steel shell
others	Fiberglass Septum,Acetylene Black



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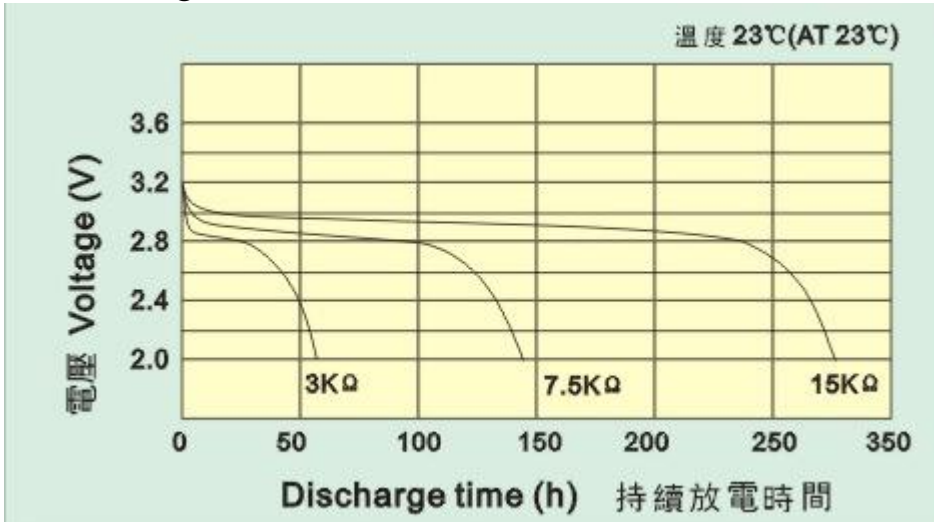
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6、 Discharge Characteristics:



7、 SIZE:

