SPECIFICATIONS

Product Name: Alkaline Zinc-Manganese Battery

Model: 2412

Document No.：DLDJ07-2412-2021

Version：07-2021

Draft	✓
Check	✓
Approve	✓
Date	2021/10/21

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Helping To Care

1. Scope

This specification provides the technical requirements of 2412 Alkaline Manganese Dioxide AAA Battery. The requirements and size should satisfy or above GB/T8897.1 and GB /T8897.2 if there is not any other detail requirements.

1.1 Reference Standards

GB/T8897.1 (IEC60086-1, MOD) (Primary Battery Part 1: General)

GB/T8897.2 (IEC60086-2, MOD) (Primary Battery Part 2: Size & Technical requirements)

GB8897.5 (IEC 60086-5, MOD) (Primary Battery Part 5: Safety of batteries with aqueous electrolyte)

1.2 Environmental Protecton Standard

The battery meets the standard of EU battery derective 2006/66/EC.

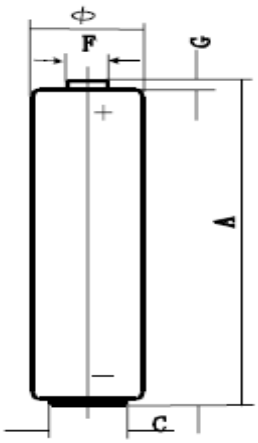
2. Chemical system, Voltage and Designaton

Chemical system: Zn-MnO2(KOH), without Hg & Cr

Nominal Voltage: 1.5V

Designaton: IEC: LR03, ANSI: AAA, JIS:AM-4, 4003, E92

3. Battery Size



Units: mm		
Model	2412	
	Max	Min
A	44.5	43.3
C	/	4.3
F	3.8	/
G	/	0.8
Ø	10.5	9.5

3.1 Inspecton Tool

Using vernier calipers with a precision of up to 0.02mm. To avoid short-circuit, insulaton material is pasted on one end of the vernier calipers.

3.2 Acceptance Method

Using GB2828.1-2003 sampling program, special sampling S-3, acceptance quality limitaton: AQL=1.0

4. Weight and discharging capacity

Battery weight: 10.5g

Discharging capacity: 1000mAh (Loading 20Ω, 24h/day, 20 ±2% RH 60±15%, End-point Voltage 0.9V)

Units

5. Open circuit voltage, loading voltage and short-circuit current

Project	Open circuit Voltage （V）	Loading Voltage （V）	Short-circuit Voltage （A）	Sampling Voltage
New battery in 2 months	1.59	1.40	5.00	GB2828.1-2003 One Sampling, special sampling S-4, AQL=1.0
12 months storage @ room temp.	1.56	1.35	4.00	
Inspection Condition	Loading 3.9Ω, loading time 0.3s, temp: 20 ±2°C			

6. Discharging Ability

Discharging Temp: 20 ±2°C					
Condition			GB/T8897.2 Requirements	Shortest Average Discharging Time	
Load	Discharging Way	End-point Voltage		2 months new battery	12 months storage battery
10Ω	**1h/d**	**0.9 V**	**6h**	**7.5 h**	**6.8 h**
75Ω	**4h/d**	**0.9 V**	**50h**	**60h**	**55h**
5.1 Ω	**4min/h, 8h/d**	**0. 9 V**	**145min**	**160min**	**145min**
24Ω	**15s/min, 8h/ d**	**1.0 V**	**14.5h**	**18 h**	**16.00 h**
20Ω	**24h/d**	**0.9 V**	**/**	**15h**	**13.5 h**
3.9 Ω	**24h/d**	**0.9 V**	**/**	**135min**	**110min**

1） Testing 9 batteries of each discharging way.

2） The result of the average discharging time from each discharging standard shall be equal to or more than the average minimum time requirement. No more than one battery has a service output less than 80% of the specified requirement.

3） The result of the average discharging time from each discharging standard shall be equal to or more than the average minimum time requirement, if one battery has a service output less than 80% of the specified requirement then take another 9 pieces to test again. This lot of batteries are qualified if the result meets the NO.2 provision. If not qualified, then will not test again.

7. Anti-leakage ability

Project	Condition	Requirements	Qualified Standard
Over Discharging	Continuous discharging 48h in 20±2%, humidity 60 ±15%, load 10Ω condition.	No leakage by visual inspection	N=9 Ac=0 Re=1
High-temp storage	Storing in 60 ±2%, relative humidity 90% condition for 20 days.		N=30 Ac=1 Re=2

8. Safety Requirements

Project	Condition	Requirements	Qualified Standard
External Short-circuit	Using wire to connect positive and negative pole in 20 ±2% for 24h.	No Explosion	N=5 Ac=0 Re=1
Inproper Equipment	4 batteries in series connection, but one with reversed polarity	Leakage happened on the reversed battery or the shell temp reduce to room temp	N=4×5 Ac=0 Re=1

9. Labels

The following signs are on the battery body:

1. Model: LR03/AAA
2. Manufacturer and brand: Daily-max
3. Battery Poles: “+”and “-”
4. Expiry date or manufacturing date
5. Warnings.

10. Cautions for using

1. This battery can not be charged. Leakage and explosion may result when charging.
2. Ensure batteries are installed with the correct + and - polarity.
3. Short-circuit, heating, disposing of into fire or disassembling of battery is prohibited.
4. Battery can not be forced discharged, which leads to excess gassing and may result in bulging, leakage and de-crimping of cap.
5. New and used batteries can not be used at the same time. It is recommended to use the same brand when replacing batteries.
6. Batteries should be removed from a device if it will not be used for a long time.
7. Discharged battery should be taken out from the device.
8. Welding batteries are prohibited or it will cause damage.
9. Keep batteries out of reach of children. If swallowed seek medical advice immediately.

11. Normal Package

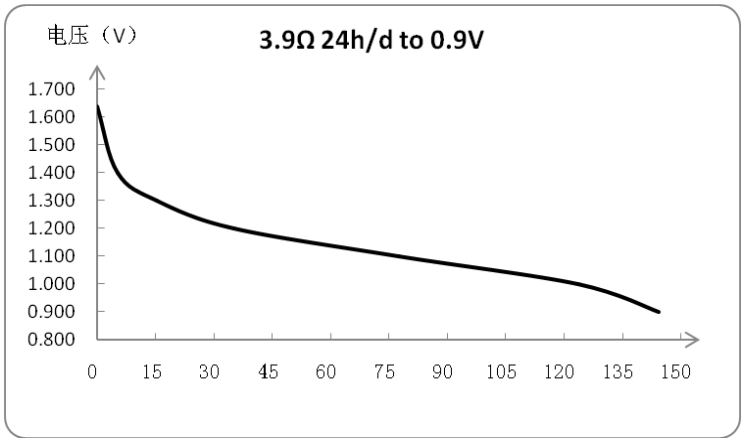
Each 2, 3 or 4 batteries in a shrink package, 60 pieces in one inner box, 12 boxes in one carton.

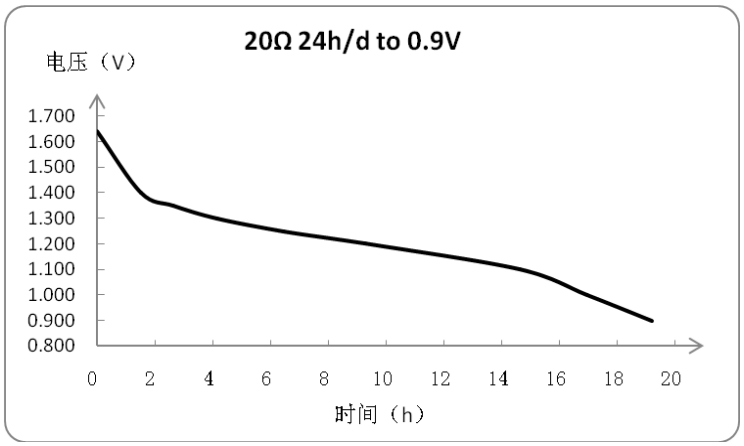
12. Storage and Expiry

1. Batteries should be stored in cool, dry and well ventilated conditions.
2. The batteries should not be exposed to sunshine or rain.
3. Do not use with batteries of different brands.
4. Storing in 20^{0}C ±2%, RH 60% ±15%.
5. Maximum storage time is 3 years.

13. Nominal discharging curve

Discharging condition: 20^{0}C ±2%, RH 60 ±15%





Product specifications are subject to change. Please contact cura1 for the latest specification document.