



# WAMA ELECTRONICS TECH CO.,LTD

## 1、 Preface

This specification is suitable for the performance of the WAMA Ni-MH Low Self Discharge rechargeable battery.

## 2. Model: NiMH-AA A 700mah-LSD (Low Self Discharge)

## 3.Appearance

There shall be no such defects as deformation, flaw, stain, discoloration or electrolyte leakage..

## 4.Nominal specification

Description		Specification)	
Model		NiMH-AAA 700mah-LSD	
Size		AAA	
Dimensions	Diameter(mm)	10.5+0/-0.7	
	Height(mm)	44.0+0/-1.5	
	Weight(g)	Approx. 11.0g	
Nominal Voltage (V)		1.2	
Nominal capacity (mAh)		700	
Internal Impedance (full power to test) (mΩ)		≤45	
Discharge Cut-off Voltage		1.0V	
Ambient temperature	Charge	Standard	0°C to 40°C
		Fast	10°C to 40°C
	Discharge		-10°C to 50°C
	Storage	<1 year	-10°C to 30°C
		<3 months	-10°C to 40°C
		The relative humidity should keep with in 65±20%	

## 5. Characteristics

Unless otherwise specified, test: should be done within one month of delivery under the following conditions;

Ambient temperature 20±5°C

Relative humidity/ 65±20%

Atmospheric pressure 960±100mbar



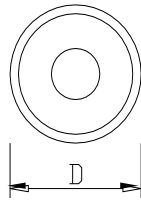
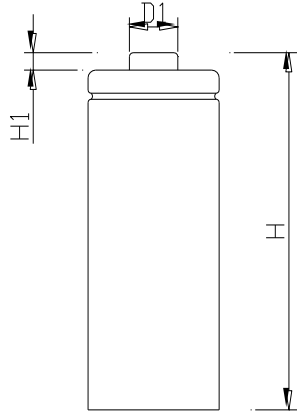
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Test item		Condition	Specification
3. Charge	Standard	Charge at 0.1C for 16 hours	0°C to 40°C
	Fast	Charge at 0.5C to $-\Delta V=0-5mV$ 、	10°C to 40°C
	Trickle	(0.03C)-(0.05C)	0°C to 40°C
2. Discharge		At 0.2C to 1.0V	
3. Discharge cut-off voltage			1.0V
4.Capacity (mAh)	Minimum	Standard charge/discharge	650
	Typical	Standard charge/discharge	700
5. Internal resistance		After fully charge,rest 1 hour, measured at 1000Hz	$\leq 45m\Omega$
6. Charge Retention		Standard charge storage:360 days Standard Discharge	Capacity $\geq 75\%$
7.High Rate Discharge		Standard charge 1hour rest Before Discharge by 0.5C to 1.0V	$\geq 108$ minutes
		Standard charge 1hour rest Before Discharge by 1C to 1.0V	$\geq 48$ minutes
8.Overcharge		0.1C charger 28 days,	No leakage

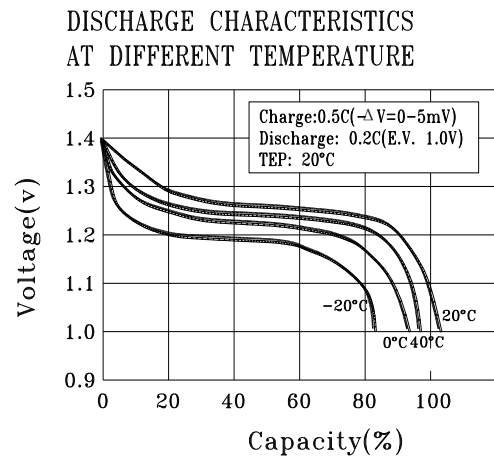
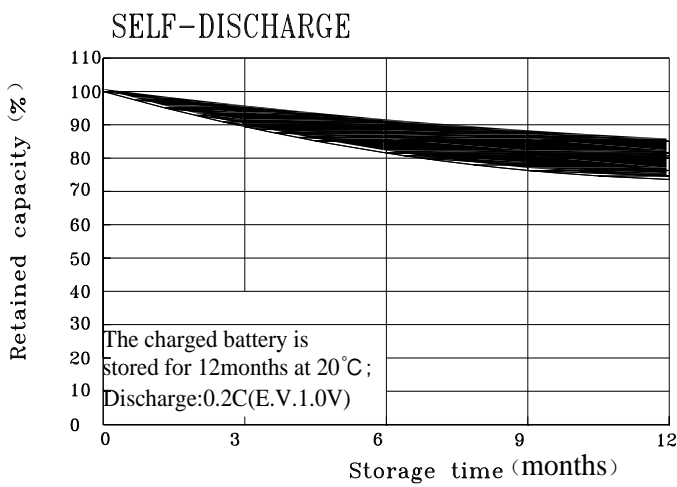
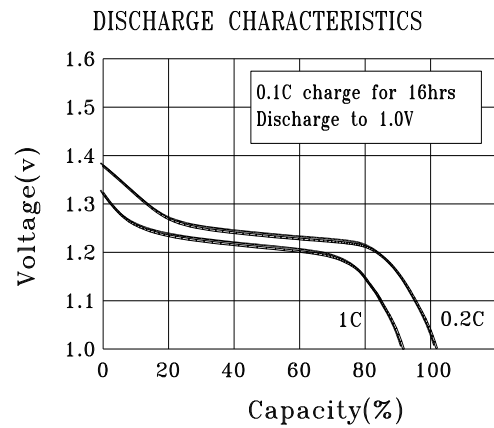
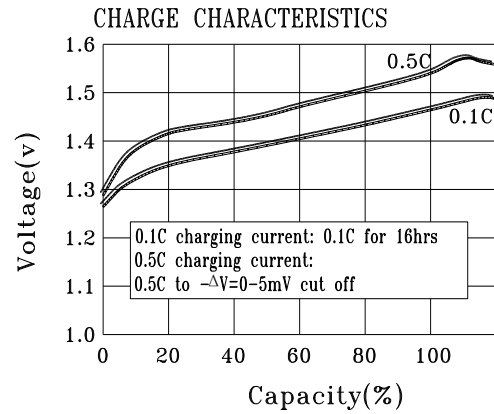
Recycle life	Charge	Rest	Discharge	Cycles 1 to 50 shall be repeated until the discharge duration on any 50 <sup>th</sup> cycle becomes Less than 3h
1	0.1C for 16h	0	0.25C for 2h20min	
2~48	0.25C for 3h10min	0	0.25C for 2h20min	
49	0.25C for 3h10min	0	0.2C to 1.0V	
50	0.1C for 16h	1~4h	0.2C to 1.0V	
9. Leakage Test		Standard charge stand for 14days		No leakage
12. High temperature test		Store at 40°C、50°C、60°C for 2 hours then charge/discharge		No leakage
13. Low temperature test		Store at 0°C for 2 hours then charge/discharge		No leakage
14. Short circuit test		Short circuit after fully charge		No explode
15. Drop test		Free fall on the concrete from 1 meters after fully charged		No leakage No short-circuit



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Project 项目	Description 类型	Dimension 尺寸(mm)
D1	Diameter 直径1	Max 4.0
D	Diameter 直径	10.5 <sup>+0</sup> <sub>-0.7</sub>
H1	Height 高度1	≥1.2
H	Height 高度	44.5 <sup>+0</sup> <sub>-1.5</sub>





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## 7. Cautions in use

To ensure proper use of the battery please read the manual carefully before using it.

### Handling

Do not expose to, dispose of the battery in fire.

Do not put the battery in a charger or equipment with wrong terminals connected.

Avoid shorting the battery.

Avoid excessive physical shock or vibration.

Do not disassemble or deform the battery.

Do not immerse in water.

Do not use the battery mixed with other different make, type, or model batteries.

Keep out of the reach of children.

### Storage

Cycle(charge and discharge)the battery every 6-9month to maintain cell/battery performance ,When being stored for an extended period of time

Store the battery in a cool, dry and well-ventilated area.

### Disposal

Regulations vary for different countries.

Dispose of in accordance with local regulations.

## 8. Note

Any other items which are not covered in this specification shall be agreed by both parties.