



比亚迪股份有限公司
BYD COMPANY LIMITED

SEALED METAL HYDRIDE
RECHARGEABLE CELLS & BATTERIES
APPROVAL SHEET

TO : _____

BYD MODEL NO : H-AA2500A

CUSTOMER APPROVED P/N : _____

DATE OF SUBMISSION : 10-May-11

ATTACHMENT : SPECIFICATION

TOTAL NO. OF PAGES : 5

SPECIFICATION NO : S-HAA2500A01

VERSION NO : 1.0

Drawn	CUI-MIAO	
Approved	Customer Dept. I	<i>GUOQING-LI</i>
	Technology Dept. I	<i>ZHENGYI-HUANG</i>
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(with company chop)

Please sign and return one copy to us

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1. APPLICATION

This specification applies to the Ni-MH batteries.

Model : H-AA2500A

2. CELL AND TYPE

2.1 Cell : Sealed Ni-MH Cylindrical Cell.

2.2 Type : H-AA2500A

2.3 Size type: AA

2.4 IEC type: HR 15/51

3. RATINGS

3.1 Nominal voltage : 1.2 V

3.2 Nominal capacity : 2500 mAh/0.2CmA (Note 1)

3.3 Typical weight : 32 g (unit cell)

3.4 Standard charge : 250 mA×15hours

3.5 Rapid charge : 2500mA×1.1hours(Max.)
(with-ΔV, Time, Temperature control system)

Trickle current : 75~125 mA

3.6 Discharge cut-off voltage 1 V(0.2CmA)

3.7 Temperature range for operation (Humidity: Max. 85%)

Standard charge 0 ~ +45°C

Rapid charge +10 ~ +40°C

Trickle charge 0 ~ +45°C

Discharge -5 ~ +65°C

3.8 Temperature range for storage (Humidity: Max. 85%)

Within 1 years (Note 2) -20 ~ +25°C

Within 6 months -20 ~ +35°C

Within a months -20 ~ +45°C

Within a week -20 ~ +55°C

Note 1: Rated capacity figures are based on single cell performance.

Note 2: We recommend cells or batteries are charged after one cycle every 6 months.

4. ASSEMBLY & DIMENSIONS

Per attached drawing.

5. PERFORMANCE**5.1 TEST CONDITIONS**

The test is carried out with new batteries.

(within a month after delivery)

ambient conditions

Temperature : +20±5°C Humidity : 65±20%

Standard charge : 250mA(0.1C)×15hrs

Standard discharge : 0.2C to 1.0V

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5.2 TEST METHOD & PERFORMANCE

Test	Unit	Specification	Conditions	Remarks	
Capacity	mAh	Typical	2500	Standard charge/discharge	up to 3 cycles are allowed
		Minimum	2300		
Open Circuit Voltage(OCV)	Voltage (V)	≥1.25	After 1 hour standard charge		
Internal impedance	mΩ/cell	≤25	Upon fully charge (1KHz)		
High rate discharge(1C)	minute	≥48(2000mAh)	Standard charge before discharge	End Voltage is 1.0V/Cell	
Overcharge		no leakage nor explosion	250 mA(0.1C) charge for 28 days		
Charge Retention	mAh	≥1625	standard charge; storage: 28 days Standard discharge		
Leakage		no leakage nor deformation	Fully charge at 2500 mA(1C), then storage 14 days		

5.3 Humidity

The cells shall not leak during the 14 days when it is submitted to the condition of a temperature of $33\pm 3^{\circ}\text{C}$ and a relative humidity of $80\pm 5\%$ (salting is allowed).

5.4 Vibration

Cells shall be mechanically and electrically normal after vibration which has an amplitude of 4mm(0.1575 inches) a frequency of 1000 cycles per minute, which should be continued in any directions during 60 minutes

5.5 Shock

Cells shall be mechanically and electrically normal after being subjected to a drop from a height of 450mm (17.716inches) onto an oak board in a voluntary axis respectively 3 times.

5.6 Short

Cells shall not explode after 1 hour short-circuit test.

5.7 Incorrect polarity charging

Cells shall not explode after 5 hour of incorrect polarity charging at 1 CmA.

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6. PRECAUTION

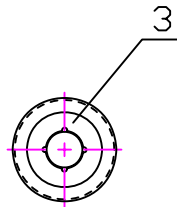
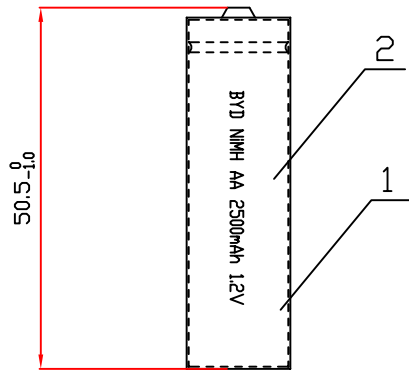
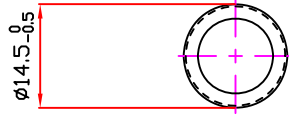
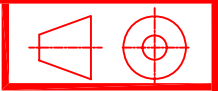
- 6.1 We recommend you to set the cut-off voltage at 1.0V/cell.
- 6.2 If it is below 1.0V/cell, cells may have over-discharged or reverse charged.
- 6.3 Do not detect $-\Delta V$ for first 5 minutes of charging.
- 6.4 The cells shall be delivered in charged condition, Before testing or using, the cells shall be correctly charged in accordance with this specifications.

7. WARNING

- 7.1 Avoid direct soldering onto cells.
 - 7.2 Observe correct polarity when connecting.
 - 7.3 Do not charge with more than our specified current.
 - 7.4 Use only within the specified working temperature range.
 - 7.5 Do not subject cells or batteries to mechanical shock.
 - 7.6 Do not mix cells of different manufacture, capacity, size or type within a battery.
 - 7.7 Seek medical advice immediately if a cell or battery has been swallowed.
 - 7.8 When disposing of secondary cells or batteries ,keep cells or batteries of different electro-chemical systems separate from each other.
 - 7.9 Do not maintain secondary cells and batteries on charge when not in use.
 - 8.0 After extended periods of storage, it may be necessary to charge and discharge the cells or batteries several times to obtain maximum performance
 - 8.1 In the event of a cell leaking, do not allow the liquid to come into contact with the skin or eyes.
If contact has been made, wash the affected area with copious amounts of water
8. The product can meet the HSF requirement.

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NO.	NAME	SIZE	QTY	NOTE	SAP NO
3	WASHER	AA	1	WHITE	414427
2	PVC	23X54	1	GREEN U	433885
1	CELL	AA	1	NI-MH	



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BYD COMPANY LIMITED

DRAWN	CUI-MIAO	DATE	2011/05/10
CHECKD	GUOQING-LI	DATE	2011/05/10
APPROVED	JIANGUO-TANG	DATE	2011/05/10
SCALE	/	UNIT	MM