



E&J TECHNOLOGY GROUP CO., LTD

Ni-MH Low Self-Discharge Battery Specification

Model Number: EJ50AA2000S

Doc No: SPE-NH-0132

Version: 01

Date: 2012-03-16

Prepared	Checked	Approved
Sara	Jess	John

E&J TECHNOLOGY GROUP CO., LTD

ADD: Building 13, 403 gong village industry, Longhua, Shenzhen, China

Tel: +86-755-29064219

Fax: +86-755-22635063

Website: <http://www.ejbattery.com>

E-mail: sales@ejtechgroup.com

1、 Scope

This specification is suitable for the performance of the E&J Ni-MH Low Self rechargeable battery.

2. Model

EJ50AA2000S

3.Appearance

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

4.Nominal specification

Description		Specification	
Model		EJ50AA2000S	
Size		AA	
Dimensions	Diameter(mm)	14.5+0/-0.7	
	Height(mm)	50.5+0/-1.5	
	Weight(g)	Approx. 26g	
Nominal Voltage(V)		1.2	
Nominal capacity(mAh)		2000	
Internal Impedance(mΩ)		≤35	
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

Test item		Condition	Specification
1. 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	1950
	Typical	Standard charge/discharge	2000
5. Internal resistance/		After fully charge, rest 1 hour, measured at 1000Hz	$\leq 35m\Omega$
6. High Rate Discharge		Standard charge 1 hour rest Before Discharge by 0.5C to 1.0V	≥ 108 minutes
		Standard charge 1 hour rest Before Discharge by 1C to 1.0V	≥ 48 minutes
7. Overcharge		0.1C charger 28 days,	No leakage
8. Charge Retention		The charged battery is stored for 12 months at 20 °C . And the discharge time is measured at standard discharge	Capacity $\geq 75\%$

Cycle time	Charge	Rest	Discharge	
1	0.1C for 16h	0	0.25C for 2h20min	Cycles 1 to 50 shall be repeated until the discharge duration on any 50 th cycle becomes Less than 3h
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
10. High temperature test		Store at 40°C、50°C、60°C for 2 hours then charge/discharge		No leakage
11. Low temperature test		Store at 0°C for 2 hours then charge/discharge		No leakage
12. Short circuit test		Short circuit after fully charge		No explode
13. Drop test		Free fall on the concrete from 1 meters after fully charged		No leakage No short-circuit

6. 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

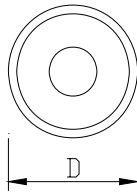
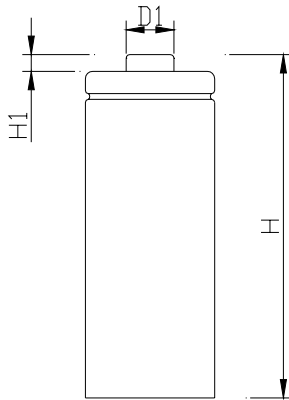
Regulations vary for different countries.

Dispose of in accordance with local regulations.

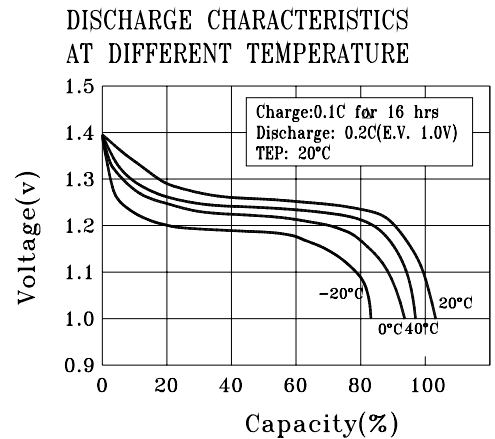
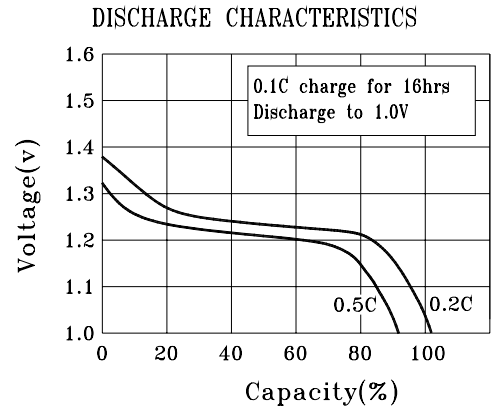
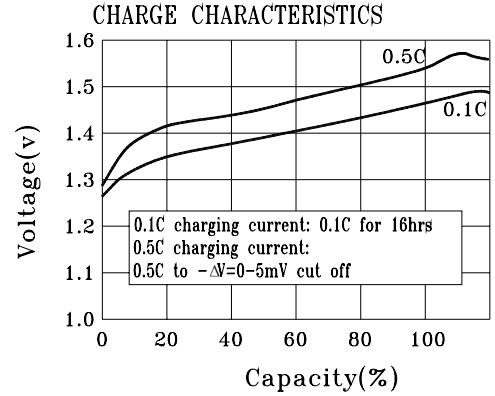
7. Note

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

Appendix: Battery performance curve



Project	Description	Dimension (mm)
D1	Diameter 1	Max 5.5
D	Diameter	14.5 ⁺⁰ _{-0.7}
H1	Height 1	≥1.0
H	Height	50.5 ⁺⁰ _{-1.5}



SELF-DISCHARGE

