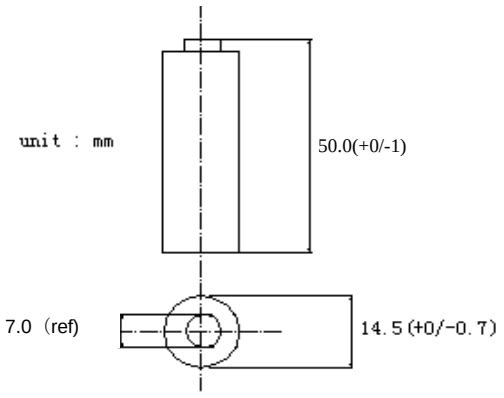
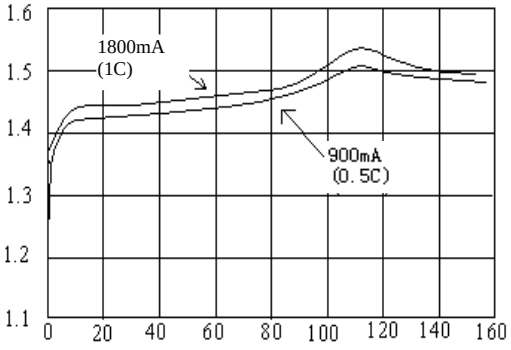
BATIMEX

Data Sheet Model No： H-AA1800P

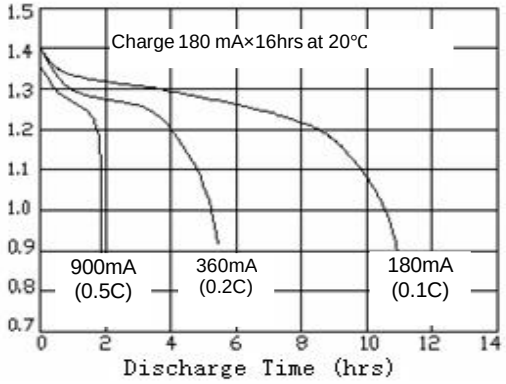
Type：	Rechargeable Nickel Metal Hydride Cylindrical Cell
Nominal Dimension ： (with sleeve)	Φ=14.5mm H=49.0mm
Applications:	Recommended discharge current 180mA to 18A
Nominal Voltage:	1.2V
Capacity:	Minimum:1800mAh Typical: 1830mAh when discharged at 0.2C to 1.0V at 20℃
Charging Condition:	180mA for 16 hrs at 20℃
Fast Charge:	900 ~ 1800mA(0.5C ~ 1C) charge termination control recommended control parameters: △V: 0~5mv DT/dt¯: 0.8℃/min TCO¯: 45~50℃ Time¯:105% nominal input For reference only
Service life :	> 500 cycles (IEC standard)
Continuous : overcharge	180mA maximum current for 48 hrs No conscicuous deformation and/or leakage
Weight:	about 25.4g
Internal Resistance:	Max 30mΩ upon fully charged at 1000HZ
Max. Charging : Voltage	1.5V at 180mA charging
Ambient Temperature: Range	Standard charging : 0 to 45℃ Fast charging : 10 to 45℃ Discharging : -20 to 50℃ Storage : -20 to 35℃



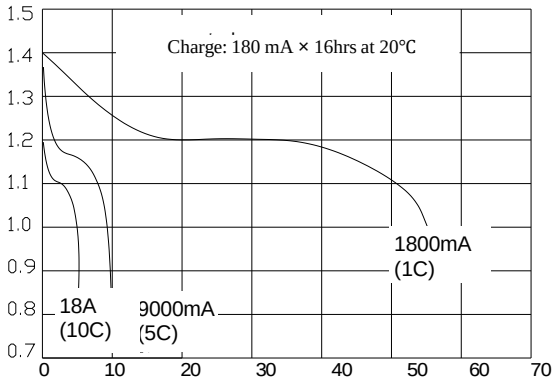
Fast charge(charge control required)
Voltage (v)



Low rate discharge
VoItage (v)



High rate discharge
Voltage(V)



BATIMEX

1．SCOPE

This specification governs the performance of the following Batimex Nickel-Metal Hydride Cylindrical Cell and its stack-up batteries

Model: H-AA1800P

Cell Size: AA

The data involving nominal voltage and the approximate weight of stack-up batteries shall be equal to the value of the unit cell multiplied by the mumber of cells in the battery. For example,a stack-up battery consists of three unit cells:

Nominal Voltage of stack-up battery = 1.2×3 = 3.6V

2．RATINGS

Description	Unit	Specification	Conditions
Nominal voltage	V	1.2	Unit cell
Typical Capacity	mAh	1830	Standard charge/ Discharge
Minimum Capacity	mAh	1800	Standard charge/ Discharge
Standard charge	mA	180(0.1C)	Ta=0~45℃
	hr	16	(see note1)
Fast charge	mA	900(0.5C)	-△V=0~5mV/cell or Time cut off = 105% input capacity
	min	132 (see note 2)	Temp. cut off = 45~50℃ Ta =10~45℃ dT/dt = 0.8~1℃/min
Trickle charge	mA	90~180	Ta = 0~45℃
Discharge cut off voltage	V	1.0	Less than1.0C discharge
		0.8	1C-10C discharge
Maximum Discharge Current	mA	18000(10C)	Ta = -20~50℃
Storage Temperature	℃	-20~35	Discharge state
Typical Weight	gram	about25.4	Unit cell

3. PERFORMANCE

Unless otherwise stated, tests should be done within one month of delivery under the following conditions

Ambient Temperature Ta : 20 ± 5℃

Relative Humidity : 65 ±20%RH

Notes: Starndard Charge/Discharge Condition

Charge : 180mA(0.1C) × 16hrs

Discharge: 360mA(0.2C) to 1.0V/cell

Test	Unit	Specification	Condition	Remarks
Capacity	mAh	≥1800	Standard Charge / Discharge	Up to 3 cyclcs are allowed
Open Circuit Voltage (OCV)	V	≥1.25	Within 1hr after standard charge	Unit cell

Test	Unit	Specification	Condition	Remarks
Internal impedance(Ri)	mΩ	≤30	Upon fully charge (1KHZ)	Unit cell
High Rate Discharge (0.5C)	minute	≥112	Standard Charge , 1hr rest before discharge	
High Rate Discharge (1C)	minute	≥51	Standard Charge , 1hr rest before discharge	
Overcharge	N/A	No leakage nor explosion	180mA(0.1C) charge for 48 hrs	
charge Retention	mAh	≥1080(60%)	Standard charge Storage: 28 days at RT or 7 days at 45℃ Standard discharge	
IEC Cycles Test	Cycle	> 500	IEC 61951-2 (2003)	(see note 3)
Leakage	N/A	No leakage nor deformation	Fully charged at 900mA (0.5C), stand for 14 days	
Short Circuit	N/A	Leakage & deformation may occur, but no explosion is allowed	After standard charge. short circuit the cell at 20+/-5℃ until the cell temperature returns to ambient temperature. (The resistance of the inter-connecting circuitry shall not exceed 0.1 ohm.)	
Vibration Resistancs	N/A	change of voltage △V<0.02V change of internal impedance △R<5mΩ	Charge at 0.1C for 16hrs and then leave for 24hrs check battery before after vibration Amplitude: 1.5mm Vibration: 3000CPM (any direction for 60mins)	Unit cell
Impact Resistance	N/A	change of voltage △V<0.02V change of internal impedance △R<5mΩ	Charge at 0.1C for 16hrs and then leave for 24hrs check battery before/ after drop Height: 50cm Thickness of the wooden board: 30mm Direction is not specified Test for 3 times	Unit cell

4. CONFIGURATIONS,DIMENSIONS AND MARKINGS
Please refer to the related drawing.

5. EXTERNAL APPEARANCE
The cell / battery shall be free from cracks,scars, breakage, rust, discoloration, leakage and deformation

6. WARRANTY

One year limited warranty against workmanship and material defects.

7. CAUTION

1. Batteries should be charged prior to use
2. For charging methods please referred to our technical handbook
3. Use the correct charger for Ni-Cd or Ni-MH batteries
4. Do not reverse charge batteries
5. Do not subject batteries to adverse condition such as extreme temperature, deep cycling and excessive over charge/over discharge.
6. Avoid batteries being used in an airtight compartment. Ventilation should be provided inside the battery compartment ,otherwise batteries may generate hydrogen gas , which could cause an explosion if exposed to an ignition source
7. Do not attempt to take batteries apart or subject them to pressure or impact. Heat may be generated or fire may result. The alkaline electrolyte is harmful to eyes and skin, and it may damage clothing upon contact.
8. Keep away from children. If swallowed,contact a physician at once.
9. Do not short circuit batteries, permanent damage to batteries may result
10. Do not incinerate or mutilates batteries, may burst or release toxic material.
11. Do not solder directly to cells or batteries.
12. Store batteries in a cool dry place.
13. If find any noise,excessive temperature or leakage from a battery, please stop its use.
14. When using a new battery for the first time or after long term storage, please fully charge the battery before use
15. When using a new battery in use with semi-used batteries, over-discharge may occur.
16. Do not mix new batteries in use with semi-used batteries, over-discharge may occur.
17. When connecting a battery pack to a charger, ensure correct polarity.
18. When the battery is hot, please do not touch it and handle it, until it has cooled down.
19. Do not remove the outer sleeve from a battery pack nor cut into its housing.
20. When find battery power down during use, please switch off the device to avoid over discharge.
21. Unplug a battery by holding the connector itself and not by pulling at its cord.
22. After use, If the battery is hot. Before recharging it, allow it to cool in a well-ventilated place out of direct sunlight.
23. Never put a battery into water or seawater

Notes: 1. Ta: Ambient Temperature.

2. Approximate charge time from discharged rate, for reference only.

3. IEC61951-2(2003) Cycle Life Test:

Cycle No.	Charge	Rest	Discharge
1	0.1C×16hrs	none	0.25C×2hrs20mins
2-48	0.25C×3hrs10mins	none	0.25C×2hrs20mins
49	0.25C×3hrs10mins	none	0.25C to 1.0V/cell
50	0.1C×16hrs	1-4hr(s)	0.2C to 1.0V/cell
Cycle 1 to 50 shall be repeated until the discharges duration on any 50th cycle becomes less than 3hrs			