1、SCOPE

This specification governs the performance of the following Nickel-Metal hydride Cylindrical cell and its stack-up battery。

Model: AA2400

Cell Size: AAcusp (14.2±0.1×50.0±0.5) mm

2、DATA OF STACK UP BATTERIES

All data involves voltage and weight to stack-up battery are equal to the value of unit cell time the number of unit cell which consisted in the stack-up batteries

Example: Stack-up batteries consisting three unit cells

Nominal voltage of unit cell=1.2V

Nominal voltage of stack-up batteries =1.2V×3=3.6V

3、RATINGS

Description	Unit	Specification	Conditions	
Nominal Voltage	V/cell	1.2	Unit cell or stack-up batteries	
Minimum Capacity	mAh	2300	Standard Charge/Discharge	
Nominal Capacity	mAh	2400	Standard Charge/Discharge	
Standard Charge	mA	240 (0.1C)	T_1=20±5℃(See Note 1)	
	hour	14~16		
Fast Charge	mA	720 (0.3C)	-△V=0~5mV/cell, Timer Cutoff=120%nominal capacity, Temp.Cutoff=55℃, DT/dt=0.8℃/min, T1=20±5℃	
	hour	4 approx (See Note 2)		
Trickle Charge	mA	(0.03C)~(0.05C)	T_1=20±5℃	
Standard discharge	mA	480 (0.2C)	T1= 20±5℃ Humidity: Max.85%	
Discharge Cut-off Voltage	V/cell	1.0		
Storage Temperature	℃	-20~25	Within 1 year*	State: 30% charge Max Humidity: 85%
		-20~35	Within 6 months	
		-20~45	Within a months	
		-20~55	Within a week	
Typical Weight	Gram	29.5	unit cell	

*To keep the best performance, We recommend the cells/batteries are charged 30% at least once every 6 months, before charge, discharge。

4、 PERFORMANCE

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

Ambient Temperature : 20±5℃
Relative Humidity : 65±20%

Notes: Standard Charge/Discharge Conditions:
Charge: 240 mA(0.1C)× 14 hours
Discharge: 480 mA(0.2C) to 1.0V/cell

Test	Unit	Specification	Conditions	Remarks
Capacity	mAh	≥ 2300	Standard Charge Discharge	up to 3 cycles are allowed
Open Circuit Voltage(OCV)	V	≥ 1.25	Within 1 hour after standard Charge	
Internal Impedance	mΩ	≤ 35	Upon fully charge(1KHz)	
High Rate Discharge(1C)	minute	≥ 51	Standard Charge, 1 hour rest Before discharge by 1C to 1.0V/cell	up to 3 cycles are allowed
Charge Retention	mAh	≥ 1440 (60%)	Standard Charge, Storage: 28 days, Standard Discharge	
IEC Cycle Life	Cycle	≥500	IEC61951-2(2003)7.4.1.1	(see Note 3)
Leakage		No leakage nor deformation	Fully charged at: 240 mA for 48 hrs	
Vibration Resistance		Change of voltage should be under 0.02V/cell, Change of impedance should be under 5 milli-ohm/cell	Charge the battery 0.1C 14hrs, then leave for 24hrs, check Battery before/after vibration, Amplitude 1.5mmVibration 3000 CPMAny direction for 60mins.	
Impact Resistance		Change of voltage should be under 0.02V/cell Change of impedance should be under 5 milli-ohm/cell	Charge the battery 0.1C 14hrsThen leave for 24hrs, check bat-before/ after dropped, Height 50 cm Wooden board(thickness 30mm) Direction not specified, 3 times.	

5、CONFIGURATION, DIMENSIONS AND MARKINGS

Please refer to the attached drawing.

6、EXTERNAL APPEARANCE

The cell/battery shall be free from cracks, scars, breakage, rust, discoloration, leakage nor deformation.

7、WARRANTY

One year limited warranty against workmanship and material defects.

8、CAUTION

(1)Reverse charging is not acceptable.

(2)Charge before use. The cells/batteries are delivered in an uncharged state.

(3)Do not charge/discharge with more than our specified current.

(4)Do not short circuit the cell/battery Permanent damage to the cell/battery may result.

(5)Do not incinerate or mutilate the cell/battery.

(6)Do not solder directly to the cell/battery.

(7)The life expectancy may be reduced if the cell/battery is subjected adverse conditions like: extreme temperature, deep cycling, excessive overcharge/ over-discharge.

(8)Store the cell/battery uncharged in a cool dry place. Always discharge batteries before bulk storage or shipment.

Notes:

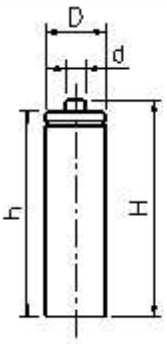
(1) T1: Ambient Temperature.

(2) Approximate charge time from discharged state, for reference only.

(3) IEC61951-2(2003)7.4.1.1 Cycle Life:

Cycle No.	Charge	Rest	Discharge
1	0.1C×16h	None	0.25C×2h20min
2-48	0.25C×3h10min	None	0.25C×2h20min
49	0.25C×3h10min	None	0.25C to 1.0V/cell
50	0.1C×16h	1-4h	0.2C to 1.0V/cell
Cycles 1 to 50 shall be repeated until the discharge duration on any 50th cycle becomes less than 3 h.			

MODEL No: AA2400 **Description:** 2400 mAh SIZE NI-MH AA



Dimensions (without Tube) (mm)

D	14.20±0.10
d	4.75±0.08
H	50.00±0.50
h	48.50±0.50

Specification

Nominal Capacity			2400 mAh
Nominal Voltage			1.2 V
Charge current		Standard	240 mA
		Fast	720 mA
Charge time		Standard	14~16 Hrs
		Fast	4 Hrs
Ambient Temperature	Charge	Standard	0℃~45℃
		Fast	10℃~45℃
	Discharge		-20℃~60℃
	Storage		-20℃~55℃
Internal Impedance(mΩ) (After Charge)			≤ 35
Weight			29.5 g