

Product Specification of Ni-MH AAA1000

1、 APPLICATION

This specification governs the performance of the following Nickel-MH Cylindrical cell and its stack-up battery.

Model : AAA1000

Cell Size : $\varnothing 10^{\pm 0.5} \times 43.5^{\pm 0.5}$

2、 DATA OF STACK UP BATTERIES

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

Example:

Stack-up battery consisting three unit cells

Nominal voltage of unit cell=1.2V

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

3、 RATINGS

Description	Unit	Specification	Conditions
Nominal Voltage/	V/ group	1.2	
Nominal Capacity/	mAh	1000	Standard Charge/Discharge
Standard Charge	mA	100(0.1C)	Ambient Temperature: 0~45°C
	hour	16	
Quick Charge	mA	500(0.5C)	Ambient Temperature: 0~40°C
	hour	3	
Trickle Charge		(0.05C)~(0.1C)	0~45°C
Standard discharge	mA	200(0.2C)	Ambient Temperature: -20~60°C Humidity: Max 85%
Discharge Cut-off Voltage	V/ group	1.0	
Storage Temperature	°C	-20~40	Discharged state, Humidity: Max, 85%

3、 PERFORMANCE

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

Ambient Temperature, T: $20 \pm 5^\circ\text{C}$

Relative Humidity: $65 \pm 20\%$

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Test	Unit	Specification	Other Condition	Remarks
Capacity	mAh	≥ 1000	Standard Charge Discharge	up to 3 cycles are allowed
Open Circuit Voltage(O CV)	V/Cells	≥ 1.20	Within 1 hour after standard Charge	
Internal Impedance	m Ω / Cell	≤ 60	Upon fully charge(1 KHz)	
High Rate Discharge(1C)	minute	≥ 52	Standard Charge, 1 hour rest Before Discharge by 850mA(1C) to 2.0 V/group	up to 3 cycles are allowed
Overcharge		No leakage nor explosion	85mA(0.1C)Charge 10 days	
Charge Retention	mAh	$\geq 600(60\%)$	Standard Charge, Storage: 28 days, Standard Discharge	
IEC Cycle Life	Cycle	≥ 500	61951-2©IEC:2001 4.4	(see Note 2)
Leakage Test		No leakage nor deformation	Fully charged at 255 (0.3C)mA for 4.0 hour stand for 14 days	
Vibration Resistance		There should be no leakage of electrolyte and capacity \geq nominal capacity.	Charge the battery 0.1C 16hrs,then leave for 1~4hrs,check Battery before/after vibration, Amplitude 4.0mm Frequency 1000 times/min Any direction for 60mins. Standard Discharge	
Impact Resistance		There should be no breakage for PVC sleeves, and the capacity should be more than nominal capacity.	Charge the cell 0.1C 16hrs Then leave for 1-4hrs,check bat-before/after dropped, Height 100cm Wooden board (thickness 3 mm) Direction not specified,6 times.	

4、 CONFIGURATION,DIMENSIONS AND PACKINGS

Please refer to the attached drawing

5、 EXTERNAL APPEARANCE

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

6、 CAUTION

(1)Reverse charging is not acceptable.

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- (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) Approximate charge time from discharged state is for reference only.
- (2) 61951-2©IEC:2001 4.4 Cycle Life:

Cycle No	Charge	Rest	Discharge
1	$0.1C \times 16h$	None	$0.25C \times 2h20min$
2-48	$0.25C \times 3h10min$	None	$0.25C \times 2h20min$
49	$0.25C \times 3h10min$	None	0.25C to 3.0V/ group
50	$0.1C \times 16h$	1-4h	0.2C to 3.0V/ group
Cycles 1 to so shall be repeated until the discharge duration on any 50th Cycle becomes less than 3 h.			