



SPECIFICATIONS

Sealed Rechargeable Nickel Metal Hydride Ni-MH 750mAh 5/4AAA

1、SCOPE

This specification governs the performance of the following Nickel-Metal Hydride cylindrical cell and its stack-up battery.

Model : **NH54AAA750**

Cell Size: **5/4AAA (10/49) crew cut (10.0±0.1×49.5±0.5) mm**

2、DATA OF STACK UP BATTERIES

All data involve voltage and weight of stack-up batteries are equal to the value of unit cell multiplied by 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	Condition
Nominal Voltage	V/cell	1.2	Unit cell or stack-up batteries
Minimum Capacity	mAh	750	Standard Charge/Discharge
Nominal Capacity	mAh	750	Standard Charge/Discharge
Standard Charge	mA	75 (0.1C)	T ₁ =20±5°C (See Note 1)
	hour	16	
Fast Charge	mA	750 (1C)	- ΔV=0~5mV/cell, Timer
	hour	1.2 approx (See Note 2)	Cutoff=120%nominal capacity, Temp.Cutoff=55°C, dT/dt=0.8°C/min, T ₁ =20±5°C
Trickle Charge	mA	(0.03C)~(0.05C)	T ₁ =20±5°C
Standard discharge	mA	150 (0.2C)	T ₁ = 20±5°C Humidity: Max.85%
Discharge Cut-off Voltage	V/cell	1.0	
Storage Temperature	°C	-20~25	Within 1 year*
		-20~35	Within 6 months
		-20~45	Within 1 month
		-20~55	Within 1 week
Typical Weight	Gram	13.5	Unit cell

*To keep the best performance for those not used for a long time, we recommend charging the cells/batteries at least 30% after discharge entirely in every 6 months.



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4、PERFORMANCE

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

following conditions : Ambient Temperature : $20\pm 5^{\circ}\text{C}$

Relative Humidity : $65\pm 20\%$

Notes : Standard Charge/Discharge conditions :

Charge : 380mA (0.1C) x16 hours

Discharge: 760mA (0.2C) to 1.0V/cell

Test	Unit	Specifications	Condition	Remarks
Capacity	mAh	≥ 750	Standard Charge/ Discharge	Up to 3 cycles are allowed
Open Circuit Voltage (OCV)	V	≥ 1.25	Within 1 hour after standard charge	
Internal Impedance	m Ω	≤ 30	Upon fully charged (1KHz)	
High Rate Discharge (1C)	min	≥ 51	Standard Charge, 1 hour rest before discharge by 1C to 1.0V/cell	Up to 3 cycles are allowed
Charge Retention	mAh	≥ 450 (60%)	Standard Charge, Storage: 28 days Standard Discharge	$T_1=20\pm 5^{\circ}\text{C}$
IEC Cycle Life	Cycle	≥ 500	IEC61951-2(2003)7.4.1.1	See Note 3
Leakage		No leakage nor deformation	Fully charged at: 75 mA for 48 hrs	
Vibration Resistance		Change of voltage should be less than 0.02V/cell, Change of impedance should be less than 5 milli-ohm/cell	Charge the battery at 0.1C for 14hrs, then leave for 24hrs,check battery before/after vibration, amplitude 1.5mm,vibration 3000 CPM, any direction for 60mins.	



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Ni-MH 750mAh 5/4AAA

Impact Resistance		Change of voltage should be less than 0.02V/cell, change of impedance should be less than 5 milli-ohm/cell	Charge the battery at 0.1C for 14hrs, then leave for 24hrs, check battery before/after dropped, height 50 cm wooden board (thickness 30mm) direction not specified, 3 times.	
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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 or 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 cells/batteries may result.
- (5) Do not incinerate or mutilate the cells/batteries.
- (6) Do not solder directly to the cells/batteries.
- (7) The expected life may be reduced if the cells/batteries are subjected to adverse conditions such as: extreme temperature, deep cycling, excessive overcharge/over-discharge.
- (8) Store the cells/batteries in a cool dry place. Always discharge batteries before packing.

Notes :

Nh54aaa750_spec_14.0 P.3/5

Notice: Unless duly signed and stamped, the information (subject to change without prior notice) contained herein this document is for reference only and should not be used as a criterion for product guarantee or warranty.



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- [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

Cycle 1 to 50 shall be repeated until the discharge duration on any 50th cycle becomes less than 3 h.

Model : NH45AAA750

Description: Ni-MH, Size 5/4AAA, 750mAh

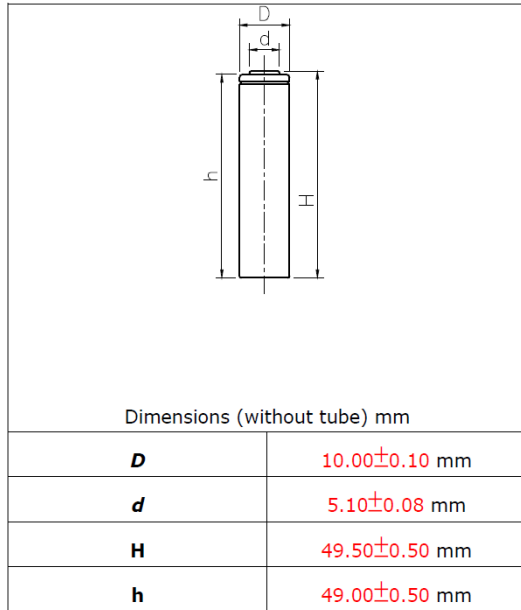
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Nominal voltage		1.2 V	
Capacity comparison (mAh)		--	--
		750	--
Weight (g)		13.5	
Internal Impedance at 1000Hz (After Charge; mΩ)		≤30	
Charge current	Standard	75 mA	
	Rapid	750 mA	
Charge time	Standard	16 h	
	Rapid	1.2 h	
Temperature	Charge	Standard	0~+45°C
		Rapid	+10~+45°C
	Discharge		-20~+60°C
	Storage		-20~+55°C

