

## 1. Scope

This specification governs the performance of the following Nickel-Metal Hydride cylindrical battery pack 1.2V AAA 600mAh.

Model: H-AAA600H.

Cell size: AAA.

The data involving the nominal voltage and the approximate weight of the battery pack.

## 2. Ratings

Description	Unit	Specification	Conditions
Nominal Voltage	V	1.2	Unit cell
Nominal Capacity	mAh	600	Standard charging / discharging
Standard Charge	mA	60 (0.1C)	Ta=0-70°C
	hrs	14	
Trickle Charge	mA	30 (0.05C)	Ta=0~70°C
Maximum Continuous Discharge Current	mA	1200 (2.0C)	Ta= -10~70°C
Storage Temperature	°C	-20-35	Percent 30-50 charged state
Typical Weight	g	11.5	Unit cell

## 3. Performance

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

Relative humidity : 65+20% RH

Ambient Temperature (Ta) : 20+5°C

\*\*\*Notes: Standard charge / discharge condition

Charge: 60 mA (0.1C) x 14 hrs

Discharge: 120 mA (0.2C) to 1.0V

\*\*\*The batteries must be standard discharged before charging

\*\*\*Battery test vide infra:

Test	Unit	Specification	Conditions	Remarks
Capacity	mAh	$\geq 550$	Standard Charge / Discharge	Up to 3 cycles allowed
Open Circuit Voltage (OCV)	V	$\geq 1.25$	Within 1 hr after standard charge	Unit cell
Internal Impedance (Ri)	mΩ	$\leq 35$	Upon fully charge (1 Khz)	Unit cell
High Rate Discharge (1.0C)	min	$\geq 52$	Standard charge, 1 hr rest before discharge	Discharge cut-off voltage 1.0V
Overcharge	mAh	No leakage nor explosion $\geq 450$ (75%)	30mA (0.05C) for 5 years standard discharge	
Charge Retention	mAh	$\geq 450$ (75%)	Standard charge, storage for 28 days, standard discharge	
Permanent Charge endurance			IEC 61951-2 (7.4.2.3) For LT,MT cell.	
Short Circuit	N/A	Deformation & leakage may occur but no explosion	After standard charge, short circuit for 1 hr (lead wire = 0.5mm <sup>2</sup> x 20mm)	

Vibration Resistance	N/A	$\Delta V < 0.02V$	Charge at 0.1C for 14 hrs, then leave for 24 hrs. Check battery before / after vibration Amplitude: 1.5mm, Vibration: 3000CPM (and direction for 60 mins)	Unit cell
Impact Resistance	N/A	$\Delta V < 0.02V$	Charge at 0.1C for 14 hrs, then leave for 24 hrs. Check battery before / after drop the wooden board of thickness: 30 mm Height: 50 cm, test for 3 times. Direction is not specified	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 defect.

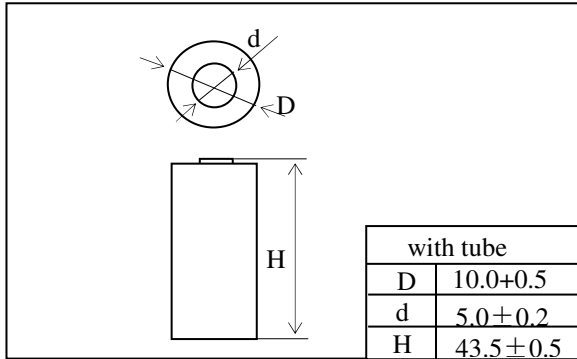
#### 7. Cautions

1. Reverse charging is not acceptable.
2. Charge before use.
3. Do not charge / discharge with more than the specified current.
4. Do not short circuit the cell / battery.
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 to adverse conditions, like extreme temperature, deep cycling, excessive overcharge /over-discharge.
8. Store the cell / battery in a cool dry place.
9. Keep away from children. If swallowed, contact a physician at once.

Ni-MH BATTERY SPECIFICATION

H-AAA600H (HR11/44T)

Dimensions (mm)



Nominal Voltage: 1.2V

Nominal Capacity: 600 mAh

Minimal Capacity: 550 mAh

Standard Charge: 60 mA, 14 hrs

Trickle Charge: 30mA, 32 hrs

Durable Overcharge Life: 4 year (Trickle Charge)

Continuous Discharge : less than 1200 mA

Weight: 11.5 g (Approx)

Internal Resistance: 25 mΩ (Approx)

Ambient Temperature: Standard charge : 0 ~ 70°C

Discharge: -10 ~ 70°C

Store: (65+20% RH) Less than 30 days: -20 ~50°C

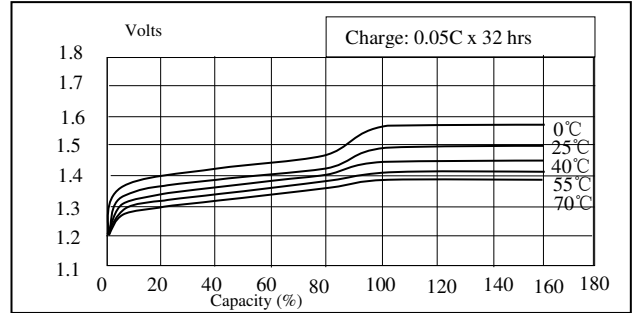
Less than 90 days: -20 ~40°C

Less than 360 days: -20 ~30°C

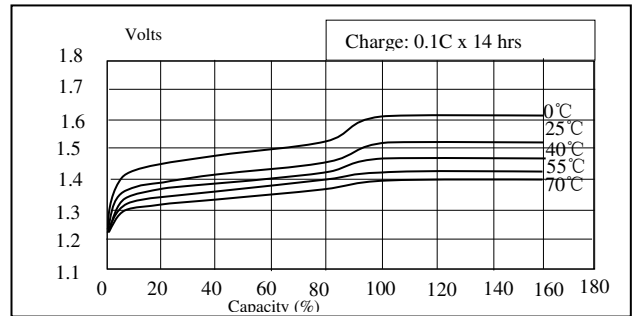
Note:

After charge at 0.1C for 14 hrs and discharge at

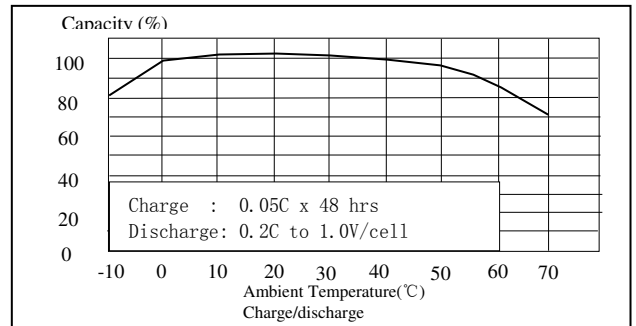
0.2C to 1.0V at 25°C



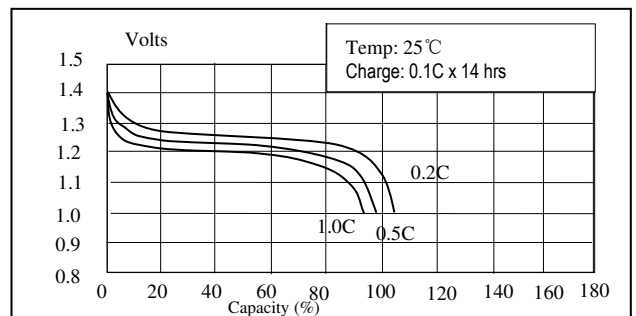
0.05C Rate Charging Curves



0.1C Rate Charging Curves



Charging Efficiency



1.0C/0.5C/0.2C Rate Discharging Curves