

# Product Specification

Product Model: Nickel-Metal Hydride Battery

Product Type: J-AAA800E

Draw up: Technical Department

Date: 2015-3-4



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### 1、SCOPE

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

JJJ Model: AAA 800E

Cell Size: AAAcusp(10.1±0.1×44.0±0.5)mm

AAAcrow cut(10.1±0.1×44.0±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    | 800                      | Standard Charge/Discharge   |
| Standard Charge           | mA     | 80 (0.1C)                | T <sub>1</sub> =20±5°C(See Note 1)  |
|                           | hour   | 16                       |   |
| Fast Charge               | mA     | 160 (0.2C)               | - ΔV=0~5mV/cell , Timer<br>Cutoff=120% nominal capacity ,<br>Temp.Cutoff=55°C, dT/dt=0.8°C/min,<br>T <sub>1</sub> =20±5°C |
|                           | hour   | 6 approx<br>(See Note 2) |   |
| Trickle Charge            | mA     | (0.03C)~(0.05C)          | T <sub>1</sub> =20±5°C  |
| Standard discharge        | mA     | 160 (0.2C)               | T <sub>1</sub> = 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 9 months   |
| Typical Weight            | Gram   | 13.0                     | unit cell   |

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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: 80 mA(0.1C) $\times$  16 hours

Discharge: 160 mA(0.2C) to 1.0V/cell

| Test                      | Unit       | Specification   | Condition  | Remarks                                    |
|---------------------------|------------|---|--|--|
| Capacity                  | mAh        | $\geq 750$  | Standard Charge/ Discharge   | up to 3 cycles are allowed                 |
| Open Circuit Voltage(OCV) | V          | $\geq 1.25$   | Within 1 hour after standard charge  |  |
| Internal Impedance        | m $\Omega$ | $\leq 40$   | Upon fully charged(1KHz)   |  |
| High Rate Discharge(1C)   | min        | $\geq 51$   | Standard Charge, 1 hour rest before discharge by 1C to 1.0V/cell   | up to 3 cycles are allowed                 |
| Charge Retention          | mAh        | $\sim 680$ (85%)  | Standard Charge,Storage: 6 months, Standard Discharge  | $T_1=20\pm 5^{\circ}\text{C}$ (See Note 1) |
|                           |            | $\sim 600$ (75%)  | Standard Charge,Storage: 12 months, Standard Discharge   |  |
| IEC Cycle Life            | Cycle      | $\geq 500$  | IEC61951-2(2003)7.4.1.1  | see Note 3                                 |
| Leakage                   |            | No leakage nor deformation  | Fully charged at : 80 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.            |  |
| 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 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:

[1]  $T_1$ : 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         | $0.1C \times 16h$      | 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 $1.0V/cell$ |
| 50        | $0.1C \times 16h$      | 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.

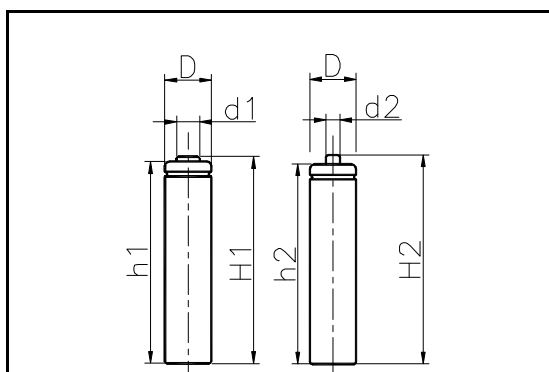
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# JJJ Battery Co.,LTD.

**MODEL No:** J-AAA800E

**Description:** 800 mAh SIZE NI-MH AAA

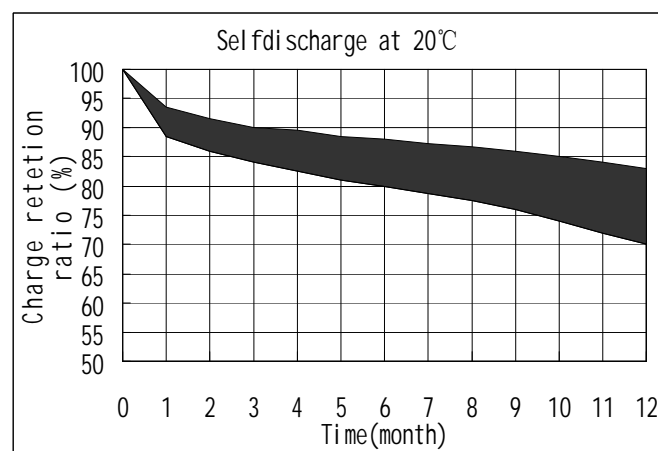
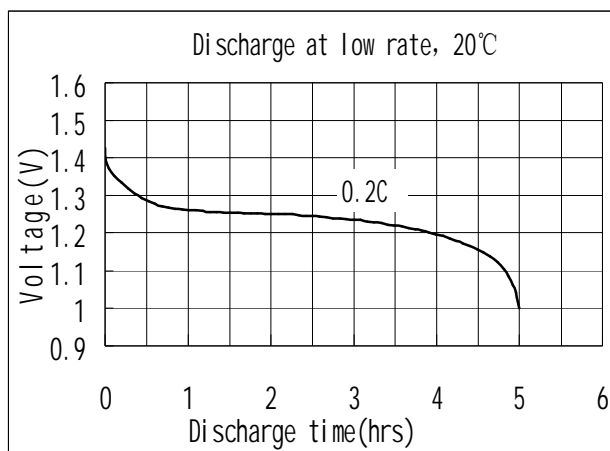
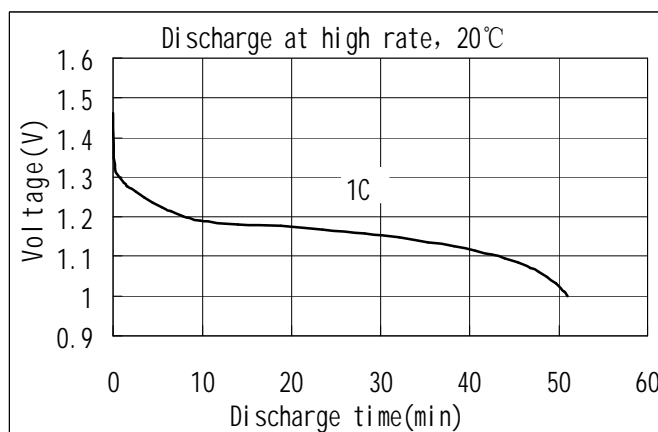
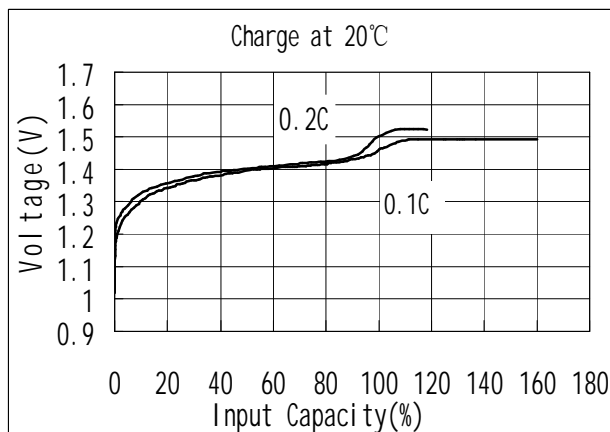


Dimensions(without Tube) (mm)

|                |            |                |            |
|----------------|------------|----------------|------------|
| D              | 10.10±0.10 |                |            |
| d <sub>1</sub> | 4.65±0.08  | d <sub>2</sub> | 3.70±0.08  |
| H <sub>1</sub> | 44.00±0.50 | H <sub>2</sub> | 44.00±0.50 |
| h <sub>1</sub> | 43.50±0.50 | h <sub>2</sub> | 42.50±0.50 |

## Specification

|  |           |            |            |
|--|-----------|------------|------------|
| Nominal Capacity                         |           | 800 mAh    |            |
| Nominal Voltage                          |           | 1.2 V      |            |
| Charge current                           | Standard  | 80 mA      |            |
|  | Fast      | 160 mA     |            |
| Charge time                              | Standard  | 16 Hrs     |            |
|  | Fast      | 6 Hrs      |            |
| Ambient Temperature                      | Charge    | Standard   | 0°C~45°C   |
|  |           | Fast       | 10°C~45°C  |
|  | Discharge |            | -20°C~60°C |
| Storage                                  |           | -20°C~35°C |            |
| Internal Impedance(mΩ)<br>(After Charge) |           | ≤ 40       |            |
| Weight                                   |           | 13.0 g     |            |



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