

1. Scope

This specification governs the performance of the following Nickel-Metal Hydride cylindrical battery pack 1.2V SC 3000mAh.

Model: H-SC3000H.

Cell size: SC.

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 | 3000 | Standard charging / discharging |
| Minimal Capacity | mAh | 2900 | Standard charging / discharging |
| Standard Charge | mA | 300 (0.1C) | Ta=0-70°C |
| | hrs | 14 | |
| Trickle Charge | mA | 150 (0.05C) | Ta=0~70°C |
| Maximum Continuous Discharge Current | mA | 6000 (2.0C) | Ta= -10~70°C |
| Storage Temperature | °C | -20-35 | Percent 30-50 charged state |
| Typical Weight | g | 60 | 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: 300 mA (0.1C) x 14 hrs

Discharge: 600 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 | ≥ 2900 | Standard Charge / Discharge | Up to 3 cycles allowed |
| Open Circuit Voltage (OCV) | V | ≥ 1.25 | Within 1 hr after standard charge | Unit cell |
| Internal Impedance (Ri) | m Ω | ≤ 15 | Upon fully charge (1 Khz) | Unit cell |
| High Rate Discharge (1.0C) | min | ≥ 50 | Standard charge, 1 hr rest before discharge | Discharge cut-off voltage 1.0V |
| Overcharge | mAh | No leakage nor explosion ≥ 2250 (75%) | 150mA (0.05C) for 5 years standard discharge | |
| Charge Retention | mAh | ≥ 2250 (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 | After standard charge, short circuit for 1 hr | |

| | | | | |
|----------------------|-----|------------------------|---|-----------|
| | | occur but no explosion | (lead wire = 1.0mm ² 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.

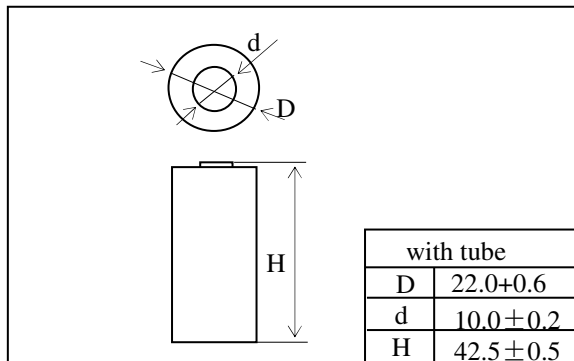
6. Warranty

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.

Dimensions (mm)



Nominal Voltage: 1.2V

Nominal Capacity: 3000 mAh

Minimal Capacity: 2900 mAh

Standard Charge: 300 mA, 14 hrs

Trickle Charge: 150 mA, 32 hrs

Durable Overcharge Life: 4 years (Trickle Charge at 40°C)

Continuous Discharge : less than 6000 mA

Weight: 60g (Approx)

Internal Resistance: 12 mΩ (Approx)

Ambient Temperature: Standard charge : 0 ~ 70°C

Discharge: -10 ~ 70°C

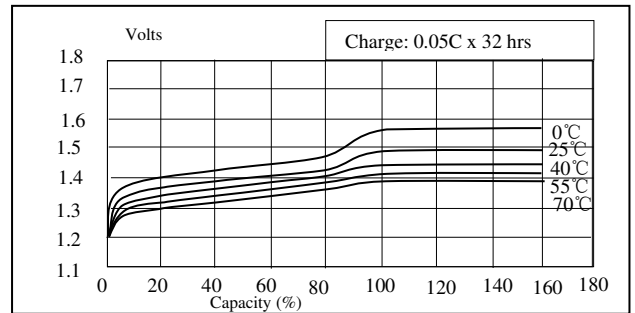
Store: (65±20% RH) Less than six months: -20~35°C

Less than one years: -20~30°C

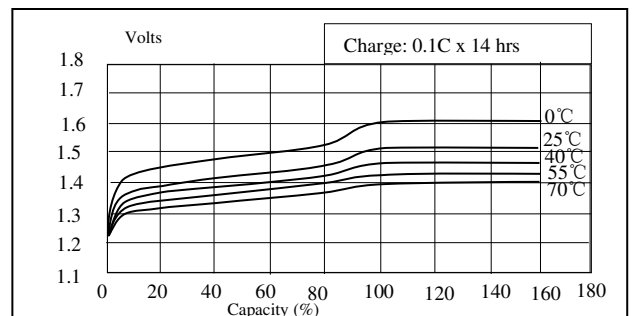
Note:

After charge at 0.1C for 14 hrs and discharge at

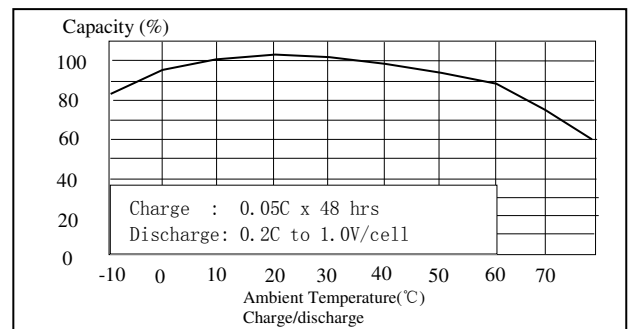
0.2C to 1.0V at 25°C



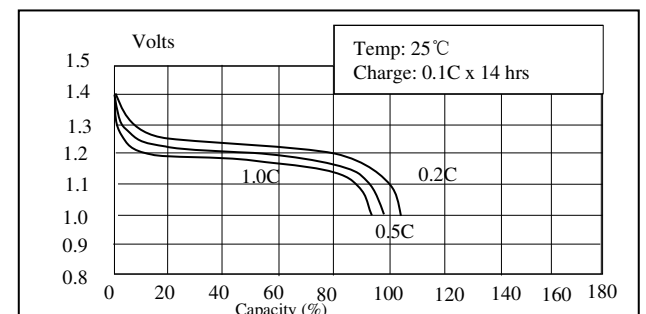
0.05C Rate Charging Curves



0.1C Rate Charging Curves



Charging Efficiency



1.0C/0.5C/0.2C Rate Discharging Curves