

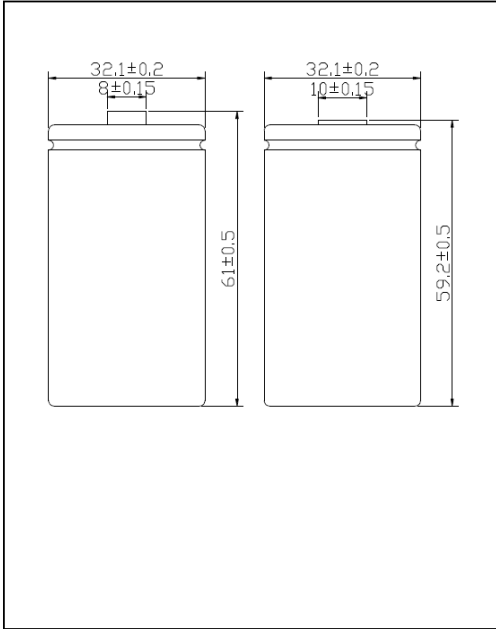


SPECIFICATIONS

Sealed Rechargeable Nickel Cadmium Ni-CD 5000mAh D

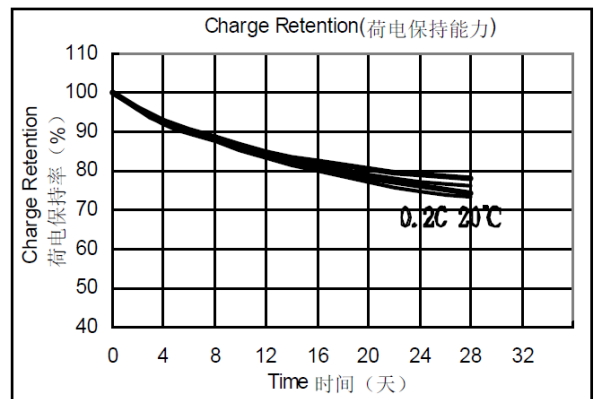
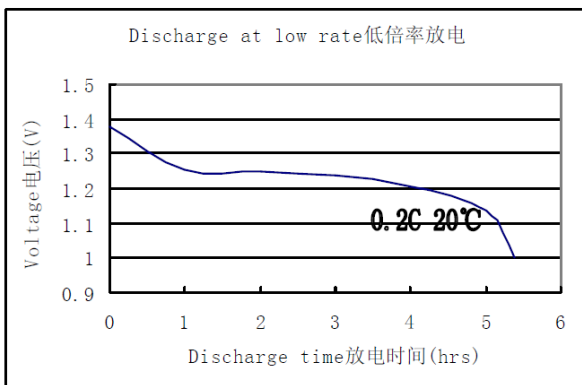
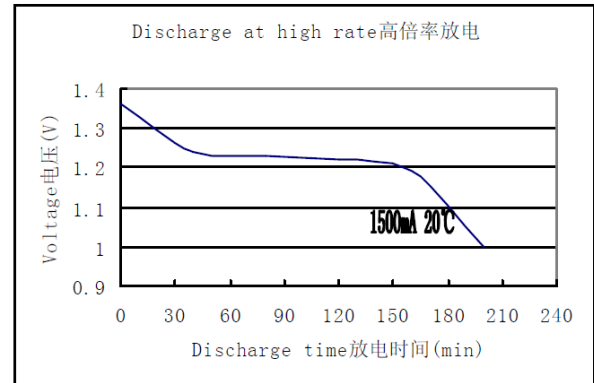
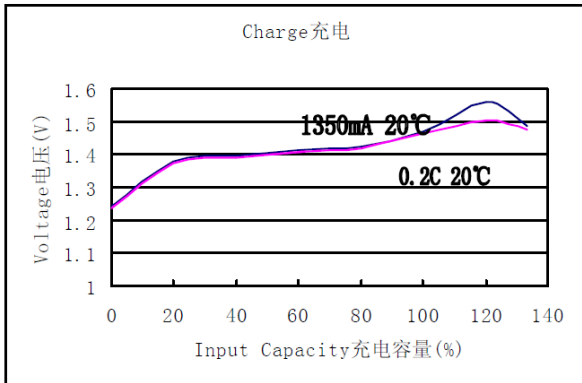
MODEL No: NCD5000

Description: 5000mAh D SIZE NI-Cd



Specification

| | | | |
|---|-----------|------------|------------|
| Nominal Capacity | | 5000 mAh | |
| Nominal Voltage | | 1.2 V | |
| Charge current | Standard | 500mA | |
| | Quick | 1000mA | |
| | Fast | 1350mA | |
| Charge time | Standard | 14~16 Hrs | |
| | Quick | 6.0 Hrs | |
| | Fast | 5Hrs | |
| Ambient Temperature | Charge | Standard | 0°C~35°C |
| | | Quick | 10°C~35°C |
| | | Fast | 10°C~35°C |
| | Discharge | | -30°C~60°C |
| Storage | | -30°C~35°C | |
| Internal Impedance(mΩ) (Upon fully charge) | | Max ≤ 13 | |
| Weight | | 122g | |





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2. 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: $65 \pm 20\%$

| Test Item | Test Conditions | | | | Requirements |
|--|---|-----------------------|------|-----------------------|--------------------------------|
| (1)Standard Charge | Charge is conducted continuously for 16 hours at the constant current of 500mA(0.1C) after pre-discharge at the constant current of 1000mA (0.2C) up to a cut-off voltage of 1.0V/cell | | | | |
| (2)Open-circuit Voltage | Voltage between terminals of the charged battery specified in item (1) is measured after rest for 1 hour | | | | $\geq 1.25\text{V}$ |
| (3)Capacity (0.2C) | Capacity of the charged battery specified in item (1) is measured at 1000mA (0.2C) up to a cut-off voltage of 1.0V after rest for 15 minutes. If the discharge time doesn't reach the specified value, the test may be carried out further twice, up to three times in total. | | | | $\geq 5000\text{mAh}$ |
| (4)High rate discharge(1500mA) | Discharge time of the charged battery specified in item (1) is measured at 1500mA up to a cut-off voltage of 1.0V after rest for 15 minutes. If the discharge time doesn't reach the specified value, the test may be carried out further twice, up to three times in total. | | | | $\geq 180\text{minutes}$ |
| (5)Fast charge (1350mA) | Charge: 1350mA \times 5 hours (charging Cut off = $-\Delta V = 5 \sim 10\text{mV/cell}$ or Temp.Cut off= 50°C) | | | | |
| (6)Trickle charge current | 165mA(0.033C)~250 mA (0.05C) | | | | |
| (7)Charge retention | Capacity of the charged battery specified in item (1) is measured at 1000mA(0.2C) up to a cut-off voltage of 1.0V after rest for 28 days at 20°C . | | | | $\geq 70\%$ |
| (8)IEC Cycle life (IEC61951-1 (2003) 7.4.1.1) | Cycle No | Charge | Rest | Discharge | ≥ 500 |
| | 1 | 0.1C \times 16h | None | 0.25C \times 140min | |
| | 2-48 | 0.25C \times 190min | None | 0.25C \times 140min | |
| | 49 | 0.25C \times 190min | None | 0.25C to 1.0v | |
| | 50 | 0.1C \times 16h | 1-4h | 0.2C to 1.0v | |
| Cycles 1 to so shall be repeated until the discharge duration on any 50 th cycle becomes less than 3h | | | | | |
| (9)Accelerated cycle life | Charge: 1350mA \times 5 hours (charging Cut off = $-\Delta V = 5 \sim 10\text{mV/cell}$ or Temp.Cut off= 50°C) ;Discharge: 1500mA to 1.0V/cell,end-of:70% nominal capacity . | | | | ≥ 400 |
| (10)Safety valve operation | Forced discharge is conducted for 60 minutes at a constant current of 5000mA(1C) after pre-discharge at a constant current of 1000mA(0.2C) up to 0V | | | | Leakage, No explode or disrupt |
| (11)Leakage | Fully charged at 1200mA for 5.0 hour stand for 14 days | | | | No leakage nor deformation |

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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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Ni-CD 5000mAh D

| | | |
|----------------------------------|--|--|
| (12) Vibration Resistance | Charge the battery 0.1C 16hrs, then leave for 24hrs, check Battery before/after vibration, Amplitude 1.5mm Vibration 4500 CPM Any direction for 60mins. | Change of voltage should be under 0.02V/cell, Change of impedance should be under 5 milli-ohm/cell |
| (13) Impact Resistance | Charge the battery 0.1C 16hrs Then leave for 24hrs, check bat-before/after dropped, Height 50cm Wooden board(thickness 30mm) Direction not specified, 3 times. | Change of voltage should be under 0.02V/cell Change of impedance should be under 5 milli-ohm/cell |

3. EXTERNAL APPEARANCE

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

4. 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 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.