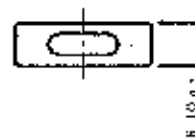
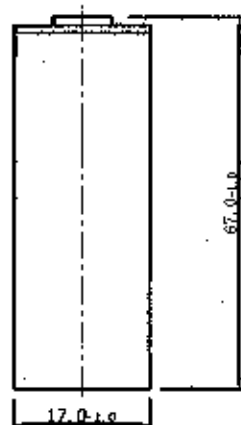


SPECIFICATIONS:

Type	Sealed Ni-MH Prismatic Battery cell
Size	H1400 7/5F6
Mode	7/5F6
Nominal Voltage	1.2V
Nominal Capacity	1400mAh
Typical Internal Impedance(at 1 kHz) (fully charged at 20°Cmax)	30m Ω
Average Weight	25.5g
Dimensions(including PVC tube)	
Height(h)	67.0 ^{+1.0} mm
Width(W):	17.0 ^{+1.0} mm
Thickness(t):	6.1 ^{-0.7} mm
Capacity (20°C0.2C discharge to 1.0V) (Reference only)	
Typical Capacity:	1400 mAh
Minimum Capacity	1350 mAh
Charging Method: (20°C)	
Standard Charge:	Charge with 140 mA for 12
Quick Charge	Charge with 420 mA for 5 hours
Fast Charge:	Charge with 700 mA for 150 minutes (Under -ΔV controlled 10mV/cell)
Max Overcharge Current	140 mA(No longer than 100 hours)
Trickle Current	42~70mA
Operating Temperature(reference only):	
Storage	-20°C~+35°C
Discharge:	-20°C~+60°C
Standard Charge	0°C~+45°C
Fast Charge	+10°C~+45°C



1,Performance

Testing Item	Testing Conditions	Standard
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Approved by:

Checked by::

Documented by:

●Subject to be modified without prior notice

Standard Testing Condition	If not specially described, Temperature 20+/-5℃ Relative Humidity: ≤60%.	
(1)Standard Charge	0.2C discharge to 1.0V/cell, then 0.1C charge for 16 hours (Constant Current)	
(2)Fast Charge	0.2C discharge to 1.0V/cell, then 0.5C charge for 150 minutes (Constant Current)	
(3)Open Circuit Voltage	Test within 14 days after standard charge	≥1.25V/cell
(4)Nominal Capacity	Have 30 minutes of rest after standard charge, then 0.2C discharge to 1.0V/cell 3 cycles permitted	≥290minutes
(5)High Rate Discharging Capacity	Have 30 minutes of rest after fast charge, Then 0.5C discharge to 1.0V/cell, 3 cycles permitted	≥108 minutes
(6)Cycle Life	0.2C Charge for 7.5 hours, have 30 minutes rest, then 0.2C discharge to 1.0V/cell, for 3 cycles, then rest as following condition: 0.5C charge for 2.5 hours, 30 minutes rest; 0.5C discharge to 1.0V/cell, 30 minutes rest.	60% nominal capacity can be attained at the 300 th cycle
	2) for GB/T 15100.2-2003/IEC61951-2: 2003(7.4.1.1)	≥500 th cycle
(7)Over-charge	After(4) testing, 0.1C charge for 48 hours, check cell surface, 0.2C discharge to 1.0V/cell.	No deformation or leakage can be found, and ≥270 minutes.
(8)Over-Discharge	After(4) testing, 0.2C discharge for 24 hours, under constant impedance, then standard charge, rest for 30 minutes, 0.2C discharge to 1.0V /cell.	≥240 minutes
(9)Temperature	Fast charged as (2) under 20+/-5℃, stored 3 hours, under following temperatures, then discharge to 1.0V/cell: a) Discharging Temperature: 0℃ b) Discharging Temperature: 20℃ c) Discharging Temperature: 40℃	Discharging Time 90 minutes 100 minutes 90 minutes
	Fast charged as (2) under following temperature, stored 3 hours under 20+/-5℃, then 0.5C discharged to 1.0V/cell: a) Charging Temperature: 0℃ b) Charging Temperature: 20℃ c) Charging Temperature: 40℃	Discharging Time 90 minutes 100 minutes 90 minutes
(10)Self-discharge	After standard charge, stored for 30 days under 20+/-5℃, then discharged to 1.0V/cell	Discharging Time ≥225 minutes
(11)Storage	Charged or discharged as (1) condition and stored for 180 days under 20+/-5℃, then tested as(4) condition	Discharging Time ≥ 280 minutes

(12) Humidity	Standard charged and stored under RH of 60%.	No deformation or leakage found
(13) Vibration	Vibration in any direction at amplitude of 4 mm and A frequency of 1000 cycles per minute and continue for 60 minutes.	The battery shall conform electrical spec, mechanical deformation or damage is acceptable
(14) Drop	The battery shall be subjected to drop from the height of 100cm to an oak board more than 10mm thick, the test should be carried for 3 times at each direction of the battery axis.	
(15) Safety	(1) External short: Fast Charged and then short-circuited between terminals of the battery by the lead wire with the cross section area of 0.75 square millimeter.	The battery shall not explode, but electrolyte leakage or deformation of the battery is acceptable.
	(2) Over charge: Charge for 5 hours at the constant current of 0.5C.	
	(3) Reverse charge: Reverse charge for 5 hours at the constant current of 0.5C.	
	(4) Safety vent operation: The reverse-charge is conducted for 30 minutes at the constant current of 1.0C. after pre-discharge at the constant current of 0.2C up to the end voltage of 0V/Cell.	Safety vent shall operate, The battery shall not explode, electrolyte leakage or deformation of the battery is acceptable.

2. Note:

- 1). Do not dispose of cell into fire or be dismantled under any condition.
- 2). Do not mix different cell types and capacities in the same battery assembly.
- 3). Charge and discharge under specified ambient temperature recommended to BFN specification.
- 4). Short circuit leading to cell venting must be avoided .
- 5). Never solder onto cell directly.
- 6). Cell reversal should be avoided.
- 7). Use batteries in extreme condition may affect the service life, such as: extreme temperature, deep cycle, extreme overcharge and over discharge.
- 8). Batteries should be stored in a cool dry place.
- 9). Once problems be found, stop using, send batteries to local dealer.

3. Storage

- 1). It is strongly recommended to store Ni-MH batteries and cells in the temperature range from -20 to 25°C , and in low humidity and no corrosive gas environment, to maintain a reasonably high capacity recovery level.
- 2). Avoid storage higher (e.g. 35°C), lower temperature than -20°C , or higher humidity which would result in deterioration or damage to the cells and batteries such as follows:

4. Permanent capacity loss

Electrolyte leakage resulted from the expansion or shrinkage of organic material inside the cells

5. Rust of metal parts.

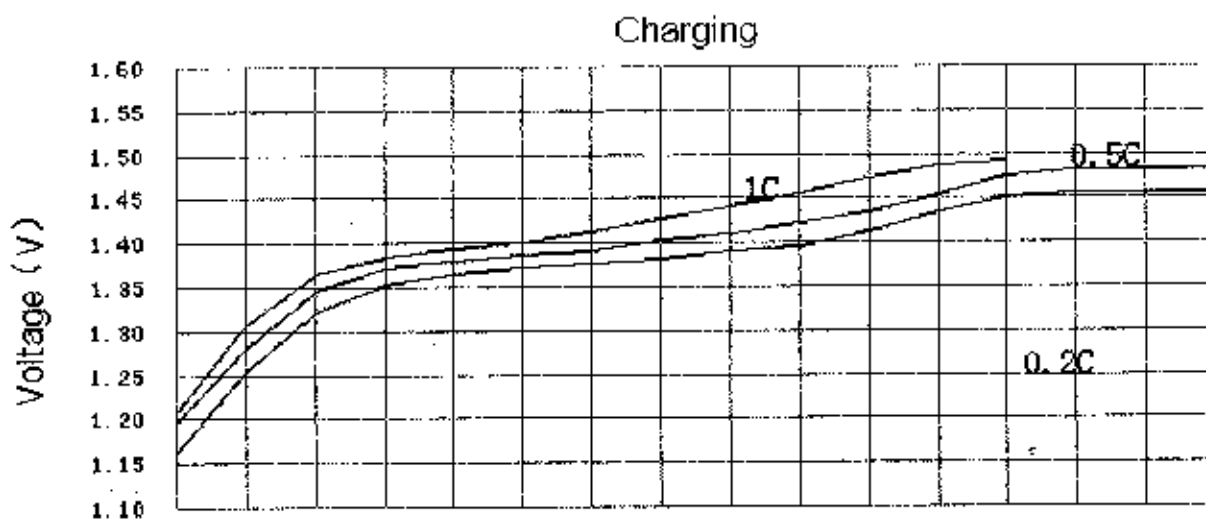
6, Up to three full cycles of charge /discharge after long-termed storage may need to obtain highest capacity.

GB/T 15100.2-2003/IEC61951-2: 2003(7.4.1.1) Endurance in cycles

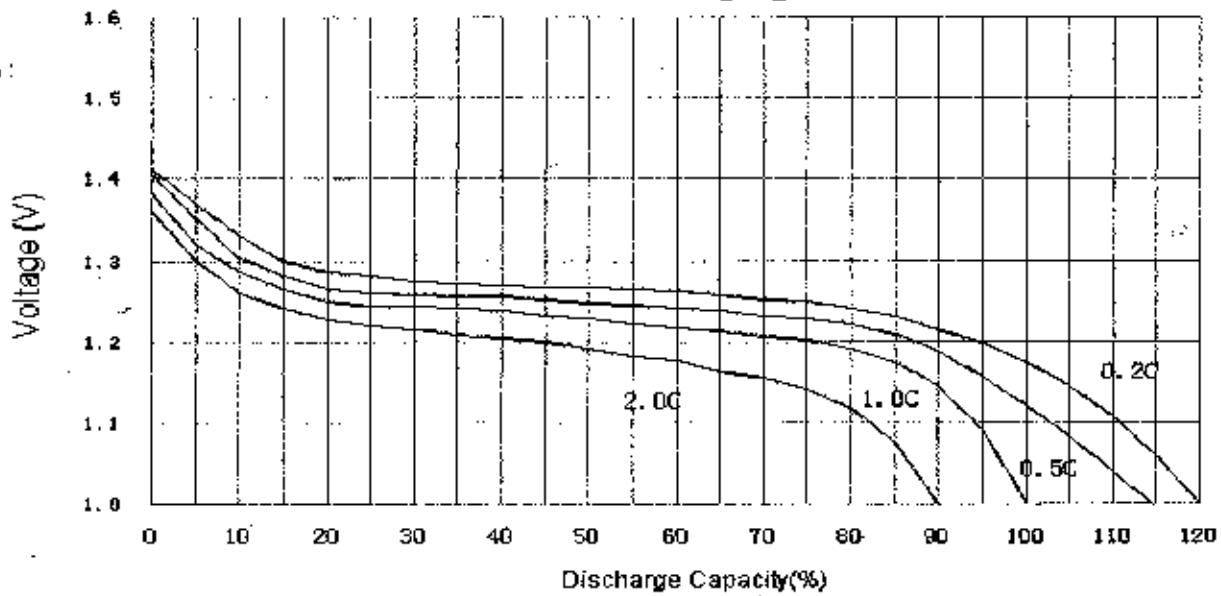
Cycle number	Charge	Stand in charged condition	Discharge
1	0.1CA (140mA) for 16h	none	0.25CA (350mA) for 2h 20 min
2-48	0.25CA (350mA) for 3h 10 min	none	0.25CA (350mA) for 2h 20 min
49	0.25CA (350mA) for 3h 10 min	none	0.25CA (350mA) to 1.0 V
50	0.1CA (140mA) for 16h	1 h to 4 h	0.2CA (280mA) to 1.0 V

Cycle 1 to 50 shall be repeated until the discharge duration on any 50th cycle becomes Less than 3 h. At this stage, a repeat capacity measurement as specified for cycle 50 shall be carried out.

The endurance test is considered complete when two successive capacity measurement cycles give a discharge duration of less than 3 h. The number of cycles obtained when the test is completed shall be not less than 500.



Discharging



Effect of Different Current On cylindrical Battery Cell Charge Voltage VS.Capacity
Temperature:20°C