

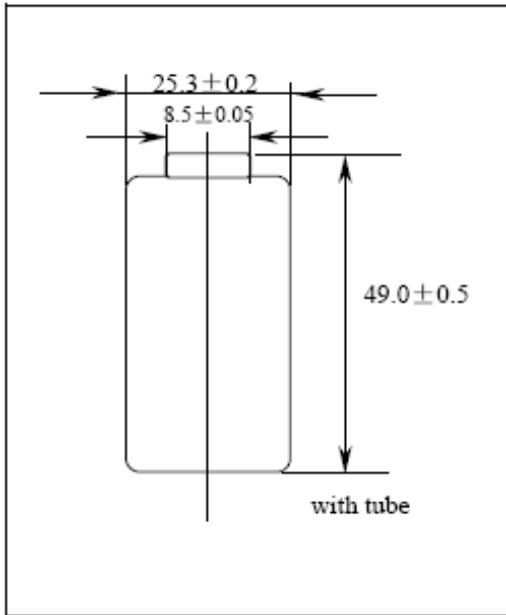


EVERGREEN (C.P.) USA INC.

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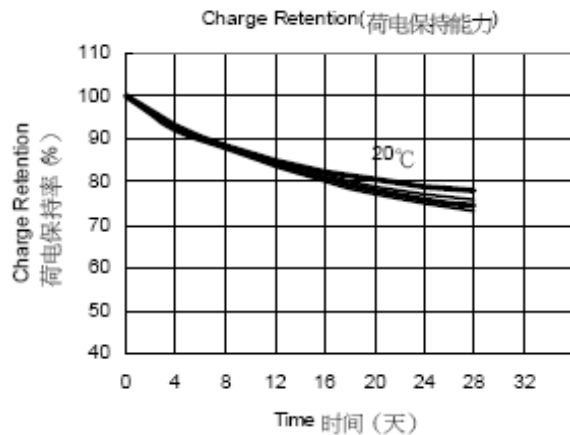
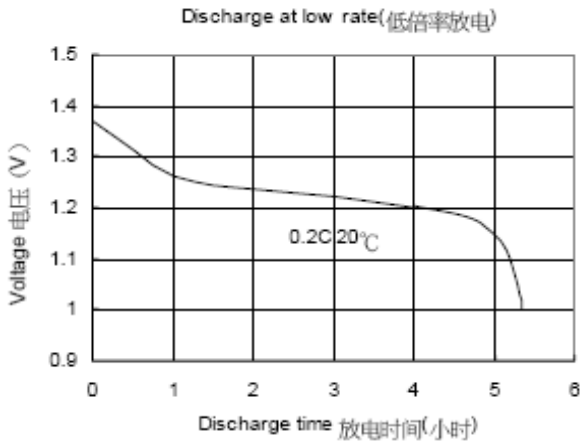
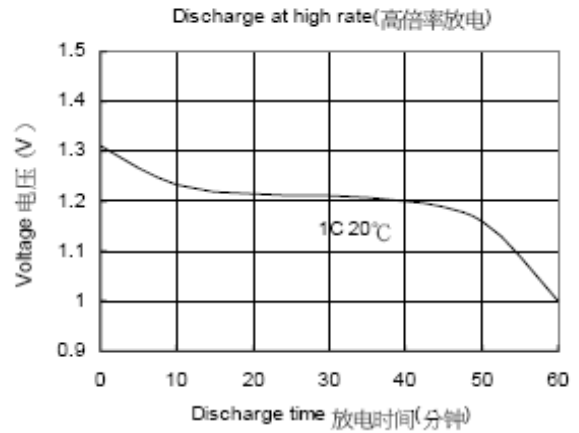
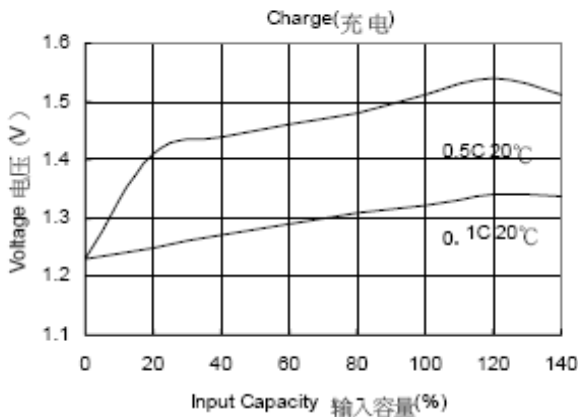
SPECIFICATIONS

Sealed Rechargeable Nickel Cadmium NI-CD 2800mAh "C"



Specification

Nominal Capacity		2800 mAh	
Nominal Voltage		1.2 V	
Charge current	Standard	280mA	
	Quick	840mA	
	Fast	1500mAh	
Charge time	Standard	14~16 Hrs	
	Quick	4.0 Hrs	
	Fast	2.5Hrs	
Ambient Temperature	Charge	Standard	0°C~50°C
		Quick	10°C~50°C
		Fast	10°C~50°C
	Discharge		-30°C~60°C
	Storage		-30°C~65°C
Internal Impedance(m Ω) (After Charge)		Max ≤ 15	
Weight		70g	





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2. 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: $65 \pm 20\%$

Test Item	Test Conditions				Requirements
(1) Standard Charge	Charge is conducted continuously for 14 hours at the constant current of 280mA(0.1C) after pre-discharge at the constant current of 560mA (0.2C) up to an 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	Capacity of the charged battery specified in item (1) is measured at 560mA(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.				$\geq 2800\text{mAh}$
(4) High rate discharge (0.5C)	Discharge time of the charged battery specified in item (1) is measured at 1400mA 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.				$\geq 108\text{minutes}$
(5) Fast charge	Charge: 1400mA(0.5C) \times 2.5 hours (charging Cut off = $\Delta V=5\sim 10\text{mV/cell}$ or Temp. Cut off= 50°C)				
(6) Trickle charge current	93mA(0.033C) \sim 140 mA (0.05C)				
(7) Charge retention	Capacity of the charged battery specified in item (1) is measured at 560mA(0.2C) up to an cut-off voltage of 1.0V after rest for 28 days at 20°C .				$\geq 1960\text{mAh}$ (70%)
(8) IEC Cycle life (IEC285(1993)4.4.1)	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/只	
	50	0.1C \times 16h	1-4h	0.2C to 1.0v/只	
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: 1400mA(1C) \times 2.5 hours (charging Cut off = $\Delta V=5\sim 10\text{mV/cell}$ or Temp. Cut off= 50°C); Discharge: 1400mA(0.5C) to 1.0V/cell,end-of:70% nominal capacity				≥ 400
(10) Safety valve operation	Forced discharge is conducted for 30 minutes at a constant current of 2800mA(1C) after pre-discharge at a constant current of 560mA(0.2C) up to 0V				Leakage, No explode or disrupt



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(11) Leakage	Fully charged at 1400mA(0.5C) for 2.4hour stand for 14 days	No leakage nor deformation
(12) Vibration Resistance	Charge the battery 0.1C 14hrs, then leave for 24hrs, check Battery before/after vibration, Amplitude 1.5mm Vibration 2800 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 14hrs 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.

