NICKEL CADMIUM BATTERY

NC-N280

BRIEF SPECIFICATION

Model: NC-N280
Nominal Voltage: 1.2V
Nominal Capacity: 280mAh
Weight: Approx. 6.8g
Manufacturer: EEMB Co., Ltd.
Website: http://eemb.com

1, Preface

This specification is suitable for the performance of the Ni-Cd rechargeable battery produced by EEMB CO.,LTD

2, Model

NC-N280

3, Appearance

There shall be no such defects as deformation, flaw, stain, discoloration or electrolyte leakage.

4, Nominal Specification

Description			Specification
Model			NC-N280
Size			N
Dimensions	Diameter (mm)		11.5±0.3
	Height (mm)		28.0±0.5
	Weight (g)		Approx.6.8g
Nominal Voltage (V)			1.2
Nominal Capacity (mAh)			280
Internal Impedance (mΩ)			≤45
Discharge Cut-off Voltage			1.0V
Ambient temperature	Charge	standard	0°C to 45°C
		fast	10°C to 40°C
	Discharge		-20°C to 60°C
	Storage	<2 year	-20°C to 35°C
		<6 months	-20°C to 40°C
		The relative humidity should keep with in 65±20%.	

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5, Characteristics

Unless otherwise specified, the standard range of atmospheric conditions for test as follows:

Ambient temperature: 20±5°C
Relative humidity: 65±20%
Atmospheric pressure: 960±100mbar

Accuracy of voltmeters and amperometers to be used in testing shall be equal to or better than grade 0.5.

Test item		Condition	Specification
1, Charge	Standard	Charge at 0.1C for 14~16 hours	Voltage CutOff-ΔV=6-8mV Temp.CutOff =50℃
	Fast	Charge at 1C to for 75mins	
2, Standard Discharge		At 0.2C to 1.0V	
3, Discharge Cut-off voltage			1.0V
4. Nominal Capacity		Standard charge / discharge	280mAh
5, Internal resistance		After fully charge, rest 1 hour, measured at 1000HZ	≤45mΩ
6, High Rate Discharge		Following Standard Charge, Stored for a period of 1hour, The Discharge duration by 280mA(1C) to 0.9V/cell	≥54minutes
7, Low Temperature Discharge		Standard Charge(0.1C): 14~16h (20OC±5OC) Storage: 16~24h (-18OC±2OC) Standard Discharge(0.2C): 1.0V/cell (-18OC±2OC)	≥3 hours
8, Self Discharge		Following Standard Charge，Stored on open circuit for a period of 28days, The Discharge duration by 56mA(0.2C) to 1.0V/cell	≥196mAh(70%)
9, Storage		The cell shall be stored on open circuit for a period of 12months at discharged state, Following completion of the storage period, the cell shall be charge for 16hours at 28mA(0.1C). The discharge duration by 56mA(0.2C) to 1.0V/cell	≥5 hours
10, Overcharge		Charge: 28mA(0.1C) charge 48 h Storage: 1 hour Discharge: 56mA(0.2C) to 1.0V/cell	≥5 hours (No leakage and no explosion)
11. Over-discharge		Within 1hour after standard Charge, Discharge 24h with 1Ω/cell load.	No distortion
12. Humidity		The charged battery is stored for 10 days at 33±3OC and 80±5% of relative humidity.	No leakage

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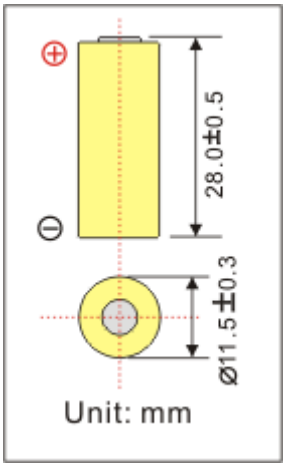
<table>
<tr><td colspan="2">13. Safety Valve Operation</td><td colspan="2">Forced discharge is conducted for 1hour at a constant current of 280mA(1C) after pre-discharge at a constant current of 56mA(0.2C) up to 0V.</td><td>No explode or disrupt</td></tr>
<tr><td colspan="2">14. Drop Test</td><td colspan="2">The battery is subjected to a drop, which has a height of 45cm(17.7 inches)to an oak board of 10mm or more thick in a voluntary axis respectively 3 times.</td><td>Mechanically and electrically normal</td></tr>
<tr><td colspan="4">15, IEC61951-2 (2003) 7.4.1.1 Cycle Life Test</td><td rowspan="5">Capacity retention ≥60% after 500 cycles</td></tr>
<tr><td>Cycle life</td><td>Charge</td><td>Rest</td><td>Discharge</td></tr>
<tr><td>1</td><td>0.1C for 16h</td><td>0</td><td>0.25C for 2h20min</td></tr>
<tr><td>2-48</td><td>0.25C for 3h10min</td><td>0</td><td>0.25C for 2h20min</td></tr>
<tr><td>49</td><td>0.25C for 3h10min</td><td>0</td><td>0.2C to 1.0V</td></tr>
<tr><td>50</td><td>0.1C for 16h</td><td>1-4h</td><td>0.2C to 1.0V</td></tr>
</table>

Note: Typical values relative to cells stored for one year or less at + 30℃ max.

6, Dimensions



7. External appearance

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

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.

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(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.