

1. Scope

This specification governs the performance of the following Ni-Cd battery, low temperature type
Model: 1.2V D5000mAh,

2. Ratings

The data involves the nominal voltage and the approximate weight of the battery cell.

Description	Unit	Specification	Conditions
Nominal Voltage	V	1.20	Unit: cell
Typical Capacity	mAh	5000	Standard charging / discharging
Min. Capacity	mAh	4800	Standard charging / discharging
Standard Charge	mA	500 (0.1C)	Ta = 0°C~55°C (see note)
	hour	16	
Trickle Charge	mA	250(0.05C)	Ta = 0°C~+55°C (see note)
Rapid Charge	mA	2500(0.5C)	Ta = 0°C~+55°C, 2.4hrs
Discharge Cut-Off Voltage	V	1.00	Less than 1.0C discharge
Standard Discharge Current	mA	1000(0.2C)	Ta= -40°C~+55°C (see note)
Maximum Discharging Current(mA)(continuous)	mA	2500(0.5C)	Ta= -40°C~+55°C (see note)
Storage Temperature (40-60% charged)	°C	-20~+40	Less than 30 days
		-20~+30	Less than 90 days
		-20~+25	Less than 180 days
	%	65±20RH	Relative humidity
Typical Weight	g	130	Approx.

The batteries must be standard discharged before charging.

Battery test information:

Test	Unit	Specification	Conditions	Remarks
Capacity	mAh	5000	Standard Charge / Discharge	Up to 3 cycles Allowed
Open Circuit Voltage	V	≥1.35	Within 1 hr after standard charge	Unit: cell
Internal Impedance	mΩ	≤10	Upon fully charge at 1Khz	Unit: cell
Rapid discharge (0.5C)	min	≥114	Standard charge, 30mins rest before discharge at 0.5C to 1.0V/cell	Up to 3 cycles Allowed
Over charge test	N/A	No explosion Leakage may occur	Cell is discharged with 0.2C to 1.0V, then 0.1C charged for 48 hours	
Over discharge test	N/A	No explosion	Cell is discharged with 0.2C to 0.00V, then with 1C forced discharged for 1 hour	
Charge Retention 1	mAh	≥3000(60%)	Standard charge, storage for 28 days at 20±5°C, standard discharge	
Charge Retention 2	mAh	≥3000(60%)	Standard charge, storage for 7 days at 40±5°C, standard discharge	
IEC cycle life test	cycle	≥500	IEC61951-1(2003) 7.4.1.1	

Append: IEC61951-2 Endurance in cycles

Standard Cycling Test:

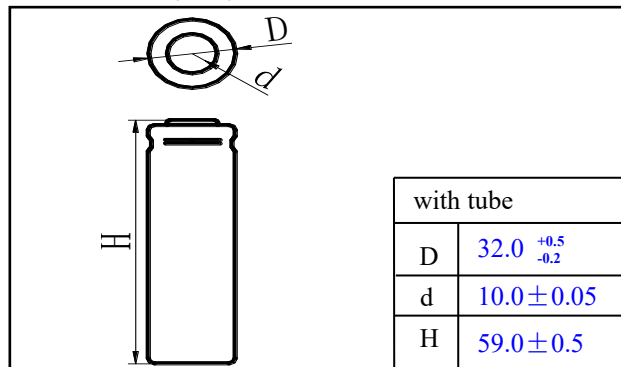
Cycle No.	Charge	Rest	Discharge
1	0.1C × 16hrs	None	0.25C × 2hrs 20mins
2~48	0.25C × 3hrs 10mins	None	0.25C × 2hrs 20mins
49	0.25C × 3hrs 10mins	None	0.25C to 1.00V/cell
50	0.1C × 16hrs	1~4hrs	0.2C to 1.00V/cell

Cycle 1 to 50 shall be repeated until the discharge capacity less than 3hrs

The endurance test is considered complete when two such successive cycles give discharge duration less than 3 hours. The number of cycles obtained when the test is completed shall be not less than 500 times.

Specifications of single cell

Dimensions (mm)



Nominal Voltage: 1.2V

Typical Capacity: 5000mAh

Min. Capacity: 4800mAh

Standard Charge: 500 mA, 16hours

Quick Charge: 2500mA, 144mins

Continuous Discharge: less than 2500mA

Discharge Cut-Off Voltage: 1.0V

Weight: 130g (Approx)

Service Life: ≥ 500 cycles

(according to IEC discharge characteristics standard)

Internal Impedance: ≤ 10mΩ(1KHz)

Ambient Temperature:

Standard charge: 0 ~+55°C

Quick charge: 0 ~+55°C

Standard discharge: -40 ~+55°C

Storage: 65+20% RH

Less than 30 days: -20~+40°C

Less than 90 days: -20~+30°C

Less than 180 days: -20~+25°C

Note:

1. After charge at 0.1C for 16hrs and discharge at 0.2C to 1.0V at 25°C.

2. Control required:

1) -ΔV: 5~8 mV

2) dT/ dt: 0.5-1.0°C/ min

3) Tco: 40~ 50°C

Typical electrical performance

