

1. Scope

This specification governs the performance of the following Nickel-Metal Hydride cylindrical battery.

2. Model: 1.2V SC3000mAh High Temperature Type

3. 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
Nominal Capacity	mAh	3000	Standard charging / discharging
Rated Capacity	mAh	2850	Standard charging / discharging
Standard Charge	mA	300 (0.1C)	Ta = -10~+70°C
	hour	16	
Trickle Charge	mA	150(0.05C)	Ta = -10~+70°C
Discharge Cut-Off Voltage	V	1.0	Less than 1.0C discharge
Maximum Discharging Current(mA)(continuous)	mA	600(0.2C)	Ta = -10~+70°C
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	65.0	Approx.

The batteries must be standard discharged before charging.

Battery test information:

Test	Unit	Specification	Conditions	Remarks
Capacity	mAh	≥2850	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	≤20	Upon fully charge at 1Khz	Unit: cell
Rapid discharge(0.5C)	min	≥114	Standard charge, 30min 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(20°C)	mAh	≥1800(60%)	Standard charge, storage for 28 days at 20°C, standard discharge	
	mAh	≥1800(60%)	After standard charged and stored for 7 days at 40±2°C, standard discharged with 0.2C to battery cell 1.0V	
IEC cycle life test	cycle	≥500	IEC 61951-2 7.4.1.1	

Attention: The object of abuse test is single cell.

Append: IEC61951-2 Endurance in cycles

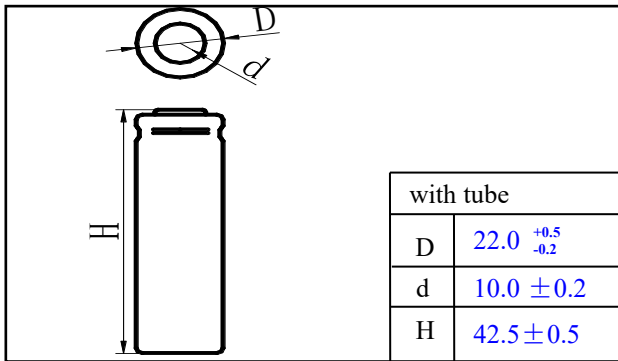
Standard Cycling Test:

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 a 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

Capacity: 3000mAh

Minimum Capacity :2850mAh

Standard Charge: 300mA, 16hours

Quick Charge: 600mA, 420mins

Continuous Discharge: less than 600mA

Discharge Cut-off Voltage: 1.00V

Weight: 65.0g(Approx)

Service Life: ≥ 500cycles

(According to IEC discharge characteristics standard)

Internal Impedance: ≤20mΩ (1KHz)

Ambient Temperature:

Standard charge: -10 ~+70°C

Trickle charge: -10 ~+70°C

Standard discharge: -10 ~+70°C

Storage: 65+20% RH

Less than 30 days: -20 ~+40°C

Less than 90 days: -20 ~+30°C

Less than180 days: -20 ~+25°C

Note:

1.After 0.1C charge for 16hrs and discharge at

0.2C to 1.0V at 25°C.

2. Control required:

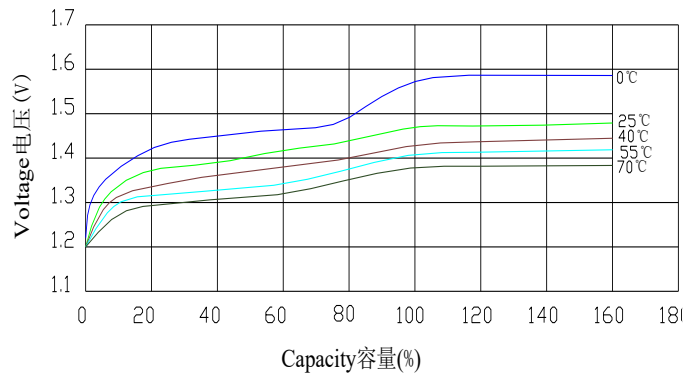
1) -ΔV:5~8 mV

2) dT/ dt: 0.5-1.0°C/ min

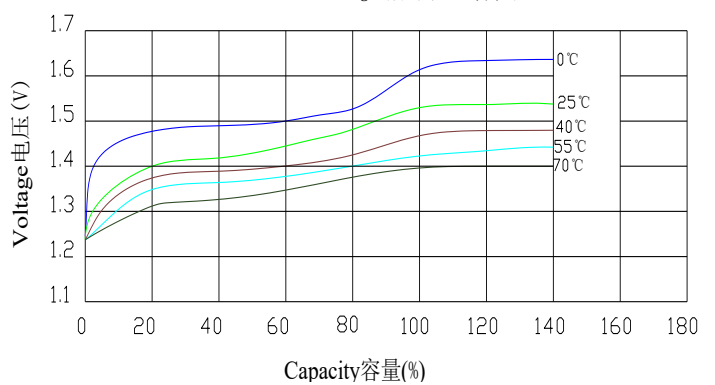
3) Tco: 40~ 50°C

Typical electrical performance

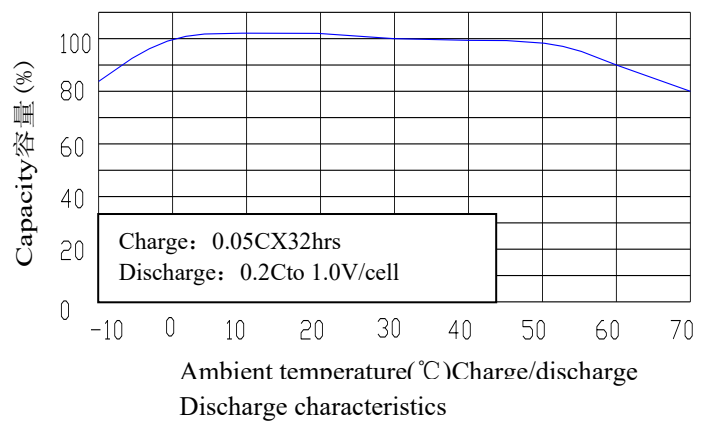
Trickle Charge (涓流充电特征)



Standard Charge (标准充电特征)



Charging Efficiency



Discharge characteristics (放电特征)

