



Specification Approval Sheet

Name: NiMH Sub-C 4200mAh

Model: SC4200mAh

SPEC: SC 1.2V 4200mAh

Approved By	Checkup	Make

Customer Confirmation	Signature	Date
	Company Name :	
	Stamp :	

436 Kato Terrace, Fremont, CA 94539 U.S.A.

Tel: 510.687.0388 Fax: 510.687-0328

www.TenergyBattery.com



1. Battery Model: SC 4200

2. Nominal Specification

Type		Sealed Rechargeable Ni-MH
Model		UTH-SC4200
Size		SC
Nominal Voltage (V)		1.2
Nominal Capacity (mAh)		4200
Dimension	MAX Height (mm)	44.0
	MAX Width(mm)	23.0
Standard Charge	Current (mA)	420 (0.1C ₅)
	Time (h)	16
Quick Charge	Current (mA)	2100(0.5C ₅)
	Time (h)	2.4
Rapid Charge	Current (mA)	4200
	Time	-ΔV10mV
Operation Temperature(°C)	Standard Charge	0~45
	Rapid Charge	10~40
	Discharge	-20~65
Storage Temperature(°C)	≤12 months	-20~35
	≤3 months	-20~45
	≤1 month	-20~55
Trickle Charge (mA)		126~210
Maximum Discharge (mA)(continuous)		21000
Internal Impedance (mΩ)		≤8
Charge Retention(20°C)		≥70%
Cycle Life (Times)		≥500

3. Test Report

Tests are carried out within one month of delivery under the following conditions:

Room Temperature 20±5 °C

Relative Humidity 65%±20%

And all the test standards are conformed to GB/T22084.2-2008 (IEC61951-2: 2003,IDT) standards.

Items	Test conditions	Required results
Open Circuit Voltage (OCV)	After the battery is fully charged, within 4 hour, the OCV is measured	≥1.30V
Internal Impedance	After the battery is fully charged, within 4 hour, the impedance is tested by 1000Hz AC source.	≤8 mΩ
Discharge Characteristics	Discharging at 0.2C ₅ A to1.00V/ pack. Charging at 0.1C ₅ A for 16 hours, Discharging at 0.2C ₅ A to 1.00V/ pack. Measuring the discharge time	≥300min ≥4200mAh

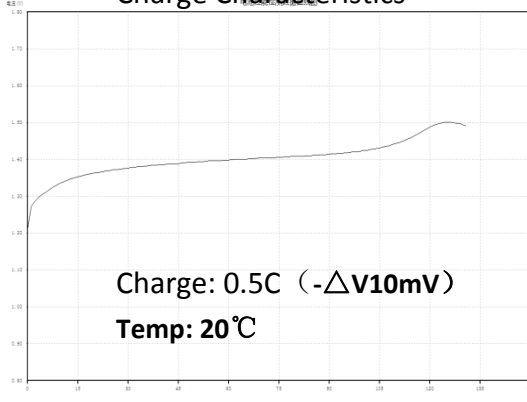


Capacity (Standard Charge)	Discharging at 0.2C ₅ A to 1.00V/ pack. Charging at 0.5C ₅ A for 2.4 hours, Discharging at 1C ₅ A to 1.0V/ pack. Measuring the discharge time				≥57min ≥3990mAh
Capacity (Quick Charge)	Discharging at 0.2C ₅ A to 1.00V/ pack. Charging at 4200 for -□V10mV , Discharging at 21A to 0.9V/ pack. Measuring the discharge time				≥10.0min ≥3500mAh
Charge Retention	The fully charged battery is held under temperature of 20±2°C for 28 days, the capacity is measured at 0.2C ₅ A discharging rate				≥210min ≥2940mAh
Cycle Life	The cycle life test is carried out according to the following table. Cycles 1 to 50 shall be repeated until the discharge duration on any 50th cycle become less than 240min. At this stage, a repeat capacity measurement as specified for cycle 50 shall be carried out. The test is complete when two successive capacity measurement cycles give a discharge duration of less than 240min. The number of cycles is obtained when the test is finished.				≥500
	Cycle No	Charge	Stand Time	Discharge	
	1	0.1C ₅ A for 16h	No	0.25C ₅ A for 2h 20min	
	2~48	0.25C ₅ A for 3h 10min	No	0.25C ₅ A for 2h 20min	
	49	0.25C ₅ A for 3h 10min	No	0.25C ₅ A to 1.0V	
50	0.1C ₅ A for 16h	1h~4h	0.2C ₅ A to 1.0V		
Overcharge test	The cell is charged continuously for 28 days at 0.1C ₅ A				No functional change No leakage
Short circuit test	The is fully charged cell is shorted for 1 hour with a load or lighter with its resistance less than 100mΩ. This test must be carried out in a protective chamber				Operation of safety valve No explosion Leakage may occur
Bump test	The bump test is carried out under the following conditions: Peak acceleration: 98m/s ² Corresponding duration of pulse: 16ms Corresponding velocity change: 1.00m/s Number of bumps: 1000times				No functional change No leakage

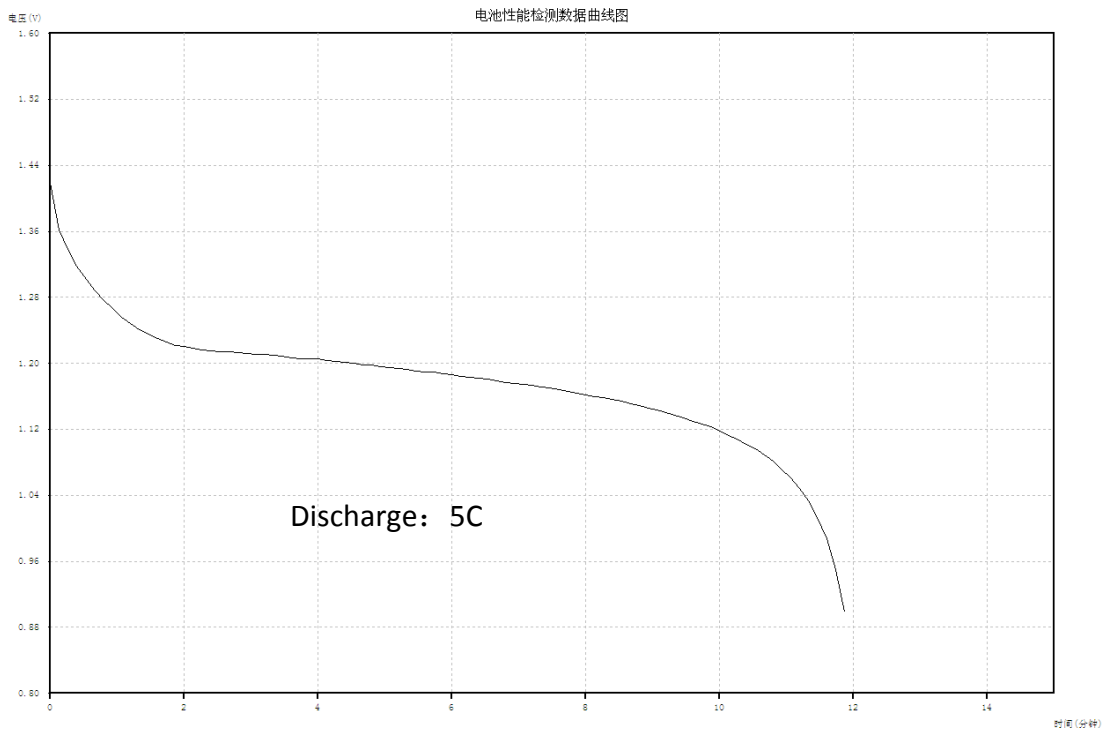
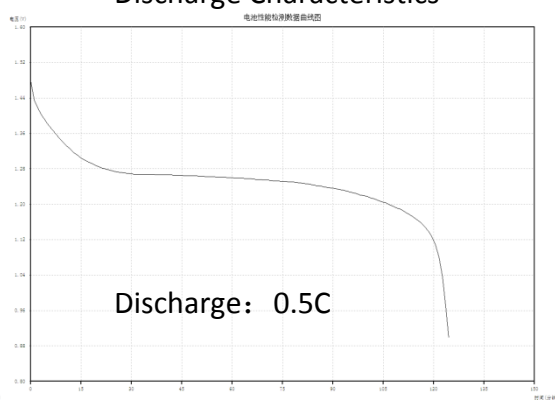


4. General Characteristics

Charge Characteristics



Discharge Characteristics





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5. Precautions:

1. Batteries should be charged prior to use.
2. Do not short circuit a battery.
3. Do not solder anything directly on a battery.
4. Avoid using old and new batteries together. Also avoid using Ni-MH batteries together with other kinds of batteries.
5. Avoid overcharging or reverse charging a battery.
6. Do not dispose of a battery in fire.
7. Batteries cycle life may be reduced if they are not used properly.
8. Please contact U&T before conducting those destructive tests.