HAIDI

Specification of Lithium-ion Battery

1. Preface

This Specification only applies to HDCNR26650-5000mAh-3.7V cell supplied by Haidi Energy Technology Co., Ltd.

2. Description and model

2.1 Description: Cylindrical Li-ion battery cell 2.2 Model: HDCNR26650-5000mAh-3.7V

3. Definition

3.1 Rated capacity

Cap=5000mAh，25±2℃，2.75V，Cap

Rated capacity: Cap=5000mAh.under 25±2℃,It means the capacity value of being discharged by 5-hours rate to end voltage 2.75V,which is signed Cap ,the unit is mAh.

3.2 Standard charge method

Under 25±2℃,it can be charged to 4.20V with constant current of 0.5C,and then, charged continuously with constant voltage of 4.20V until the charged current is 0.01C.

3.3 Standard discharge method

Under 25±2℃,it can be discharged to 2.75V with constant current of 1C.

4. Nominal Specification

Item		Specification	
Nominal capacity		5000mAh@0.2C	
minimum capacity		4900mAh@0.2C	
nominal voltage		3.7V	
energy density		190Wh/kg	
min. discharging voltage		2.75V	
max. charging voltage		4.20±0.03V	
std. charging current		0.5C5A	
std. discharging current		1.0C5A	
max. charging current		1.0C5A	
max. discharging current		3.0C5A	
max. recommended charge and discharge cell surface temperature		Charge: 0 ～ 45 ℃ Discharge: -20 ～ 60 ℃ ≤20mΩ	
Internal Impedance		≤20mΩ	
weight		95g About 95g	
Cell dimension		max. height: 65.7mm max. diameter: 26.4mm	
Cell storage and transportation environment and temperature ranges	<1 month	-20～+60℃； <75%RH*	Initial status of cell 3.6V and 50% of charge, the capacity lost during shipment < 20%. Capacity recover rate > 80%
	<3 months	-20～+45℃； <75%RH*	
	<12 months	-20～+25℃； <75%RH*	

5. Electrical Characteristics

Discharge rate capability	Temperature: 25±2℃ Charger: CC/CV 0.5C 4.20V; End current: 0.01c Discharger: CC Test current; End voltage: 2.75V ≥97% ≥97% ≥95% ≥95% ≥90% ≥90%
Cycle life	Temperation:25±2℃ Charger: CC/CV 0.5C 4.20V; End current: 0.01c; Rest time: 0.5 h Discharger: CC 1C; End voltage: 2.75V; Rest time: 0.5 h
temperature discharge performance	Charger: CC/CV 0.5C 4.20V; End current 0.01c Discharger: CC 0.2C; End voltage: 2.75V ≥70% ≥70% ≥80% ≥100%
Storage performance	A cell is charge in accordance with 3.2, and stored in an ambient temperature of 2 for 28d, then discharged to cut-off voltage at a constant current of 0.2C.

6. Safety Characteristics

Item	Test Method	Criterion
Short Circuit	A cell is to be short-circuited by connecting the positive and negative terminals of the battery with an external load of less than 50 mΩ until the surface temperature decrease 10 degree from the highest point.	No fire, no explosion
Over charge	A cell is discharged to cut-off voltage at CC of 0.2C.then it is to be subjected to CC/CV power by connecting its positive & negative terminal, then set the current as 10A,the voltage as 10V,after that, Charge the cell up to 10V at CC of 10A ,until that last 7h at the voltage of 10V.	No fire, no explosion
Forced-Discharge	A cell is discharged to voltage 0V at a constant current of 1C.	No fire, no explosion
Heating	A cell is to be heated in a circulating air oven. The temperature of the oven is to be raised at a rate of 5℃±2℃ per minute to a temperature of 130℃±2℃ and remain for 30min at that temperature before the test is discontinued.	No fire, no explosion
Drop	A cell is charged in accordance to standard charge method and No leakage, stored for 1~4h, then dropped from a height of 1000mm to a no smoking, no fire, wooden board(18-20mm thick) which is placed on the concrete no explosion ground. Cells shall be dropped from top, bottom and diameter side. Each side drop 3 and repeat two times.	
Remarks	All above safety tests will be conducted at 25℃±5℃ except where specified differently. Use proper ventilation with protective equipment.	

7. Warning and cautions in handling the lithium-ion cell

To prevent the possibility of the cell from leaking, heating, explosion, please observe the following precautions:

Warning!

- Ø Don’t immerse the cell in water.
- Ø Don’t use and leave the cell near a heat source such as fire or heater.
- Ø When charging, use a cell charge specifically for that purpose.
- Ø Don’t reverse the positive and negative terminals.
- Ø Don’t connect the cell to an electrical outlet directly.
- Ø Don’t discard the cell in fire or heater.
- Ø Don’t connect the positive and negative terminal directly with metal objects.
- Ø Don’t transport and store the cell together with metal objects such as necklaces, hairpins.
- Ø Don’t strike, throw or trample the cell.
- Ø Don’t pierce the cell with a nail or other sharp object.

Caution!

- Ø
- Ø Don’t use or leave the cell at very high temperature conditions (for example, strong direct or a vehicle in extremely ho t conditions).
- Ø If the cell leaks and the electrolyte get into your eyes, don’t wipe eyes, instead, thoroughly rinse the eyes with clean running water for at least 15 minutes, and immediately seek medical attention. Otherwise, eyes injury an result.
- Ø If the cell gives off an odor, generates heat, becomes discolored or deformed, or in any way appear abnormal during usage, recharging or storage, immediately remove it from the device or cell charger and stop using it.

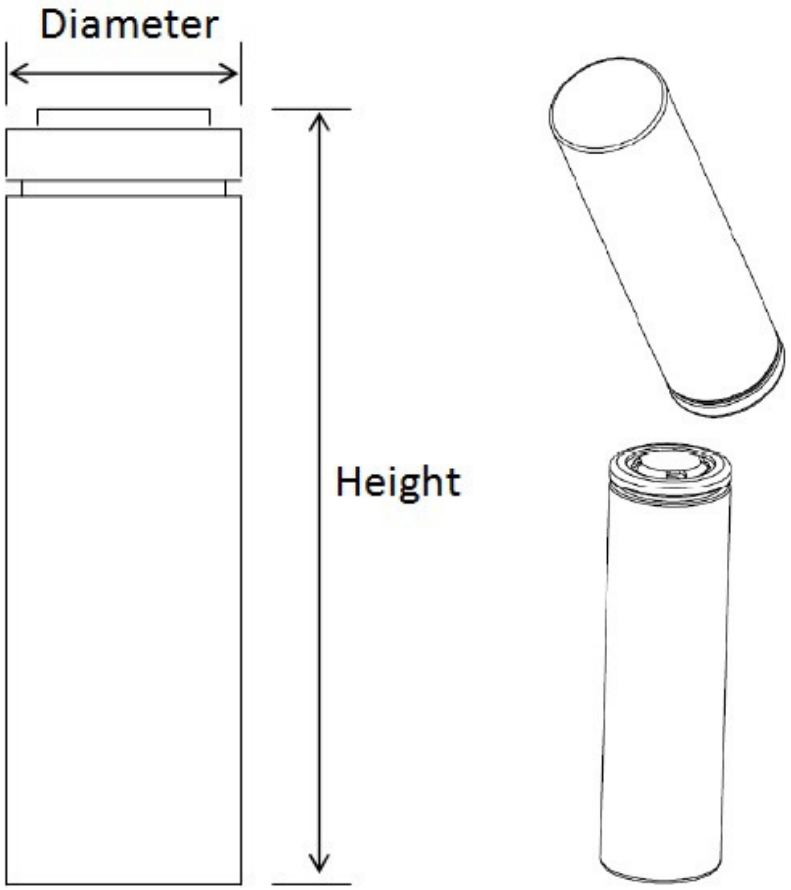
In case the terminals get dirty, clean the terminals with a dry cloth before use.

If the cell beyond the useful-life, please fully discharge, sticks the cell with insulating tape, then put the cell to the specialized recycle bin.

8. Warranty

Haidi Energy Technology Co., Ltd. will be responsible for replacing the cell against defects or poor workmanship for 1 year from the date of shipping. Any other problems caused by malfunction of the equipment or unsuitable use of the cell are not under this warranty. The warranty set forth in proper use, handing conditions described above, and excludes in the case of a defect which is not related to manufacturing of the cell.

Cell sketch map



No.	Item	Specification
1	Height	Max. 65.7mm
2	Diameter	Max. 26.6mm

Characteristic curve

Following charts are actual measurement curves by testing product, so it is for your reference only, not for as inspection standard.