Specification Approval Sheet

Name： Li-FePo4 Battery

Model： AKYGA IFR26650-30M

SPEC：3.2V / 3000mAh

Specification Modification Records

Modification Time	Descriptions	Issued Date	Approved By
	Release 1	2024-07-18	

Content

1. Preface

This Specification only applies to IFR26650E3.0Ah cell supplied by Akyga Battery

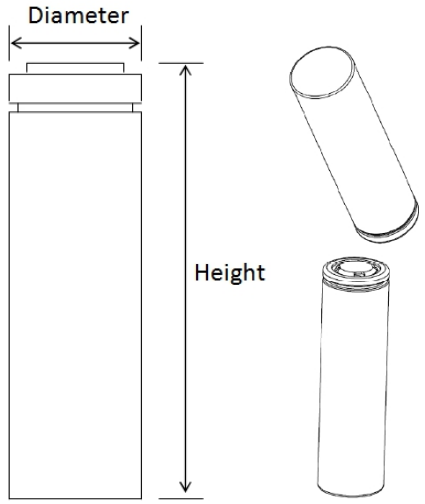
.

2. Description and model

2.1 description: Cylindrical Li-ion battery

2.2 model: IFR26650E3.0Ah

2.3 Dimension:



No.	Item	Specification
1	Height	Max. 65.9mm
2	Diameter	Max. 26.3mm

3. Definition

3.1

Rated capacity:Cap=30000mAh.under 25±2℃,It means the capacitay value of being discharged by 5-hours rate to end voltage 2.00V,which is signed Cap ,the unit is mAh.

3.2

Under 25±2℃,it can be charged to 3.65V with constant current of 0.5C,and then,charged continuously with constant voltage of 3.65V until the charged current is 0.05C.

3.3

Under 25±2℃,it can be discharged to 2.00V with constant current of 1C.

4. Nominal Specification

Item		Specification	
Nominal capacity		3000mAh@0.2C	
Minimum capacity		3000mAh@0.2C	
Nominal voltage		3.2V	
Energy density		115Wh/kg	
Min. discharging voltage		2.00V	
Max. charging voltage		3.65±0.03V	
Std. charging current		$0.5C_5A$	
Std. discharging current		$1.0C_5A$	
Max. charging current		$0.5C_5A$	
Max. discharging current		$3.0C_5A$	
Operating temperature range		Charge: 0～60℃ Discharge: -20～60℃	
Internal Impedance		≤25mΩ AC Impedance,1kHZ）	
Weight		≈83g	
Cell dimension		max. height: 65.9mm max. diameter: 26.3mm	
Cell storage and transportation environment and temperature ranges	<1 month	-20～+35℃； <75%RH*	Cell 50% SOC, the capacity lost during shipment < 20%. Capacity recover rate >80%
	<3 months	-20～+30℃； <75%RH*	
	<12 months	-20～+25℃； <75%RH*	

5. Electrical Characteristics

Discharge rate capability	Temperature: 25±2℃ Charger: CC/CV 0.5C 3.65V; End current: 0.05c Discharger: CC Tect current; End voltage: 2.00V $\frac{\text{discharge capability at 0.5C}}{\text{discharge capability at 0.2C}} \geq 95\%$ $\frac{\text{discharge capability at 1.0C}}{\text{discharge capability at 0.2C}} \geq 92\%$ $\frac{\text{discharge capability at 3.0C}}{\text{discharge capability at 0.2C}} \geq 90\%$
Cycle life	Temperature:25±2℃ Charger: CC/CV 0.2C 3.65V; End current: 0.05c; Rest time: 0.5 h Discharger: CC 0.2C; 电 End voltage: 2.00V; Rest time: 0.5 h $\frac{\text{discharge capability of 2001th cycle}}{\text{Original discharge capacity}} \geq 80\%$
Different temperature discharge performance	Charger: CC/CV 0.5C 3.65V; End current 0.05c Discharger: CC 0.2C; End voltage: 2.00V $\frac{\text{discharge capability at } -10℃}{\text{discharge capability at } 25℃} \geq 70\%$ $\frac{\text{discharge capability at } 0℃}{\text{discharge capability at } 25℃} \geq 80\%$ $\frac{\text{discharge capability at } 60℃}{\text{discharge capability at } 25℃} \geq 98\%$
Storage performance	A cell is charge in accordance with 3.2, and stored in an ambient temperature of 25±2℃ for 28d, then discharged to cut-off voltage at a constant current of 0.2C. $\frac{\text{残余容量}}{\text{首次放电容量}} \geq 90\%$ $\frac{\text{residual capacity}}{\text{Original discharge capacity}} \geq 90\%$

6. Environmental characteristics

Item	Test Method	Criterion
Vibration	A cell is charge in accordance with 3.2, then installed onto the vibration desk with clamps, Equipment parameters of frequency and amplitude are as follow(the frequency is to be varied at the rate of 1 oct/min between 10 and 55 herts, and repet vibration for 30 min. The cell is to be tested in three mutually perpendicular directions); Frequency: 10Hz~30Hz amplitude:0.38mm Frequency: 30Hz~55Hz amplitude:0.19mm	1) NO scratch, no leckage, no fire, no explosion, no vent; 2) The voltage is not less than 3.0V.
Temperature Test	A cell is charge in accordance with 3.2, then heated the cell to be in a oven. Then the temperature of the oven is to be raised to the temperature of 65±3℃ and remain for 4 h at that temperature,then the temperature of the oven is to be dropped to the temperature of 20±3℃ and remain for 4 h at that temperature, then the temperature of the oven is to be dropped to the temperature of - 20±3℃and remain for 4 h at that temperature, repeat this for another 9 cycles,after that put the cell in room temperature for at least 24 hrs, then chack cell's appearance.	No leakage, no fire, no explosion, no vent

7. 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 stored for 1~4h, then dropped from a height of 1000mm to a wooden board(18-20mm thick) which is placed on the concrete ground. Cells shall be dropped from top, bottom and diameter side. Each side drop 3 and repeat two times.	No leakage, no smoking, no fire, no explosion
Remarks	All above safety tests will be conducted at 25℃±5℃ except where specified differently. Use proper ventilation with protective equipment.	

8. 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!

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

Caution!

- Don’t use or leave the cell at very high temperature conditions (for exampie, strong direct or a vehicle in extremely ho t conditions).
- 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.
- 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.

9. Warranty

Akyga Battery . will be responsible for replacing the cell against defects or poor workmanship for 1year 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 witch is not related to manufacturing of the cell.