

Lithium iron Battery Technology Specification

Customer _____

Part name Lithium iron Battery

Model No FR14505 5800mAh 9V+
 FR14505 2900mAh 3V(AC306040)

Serial No _____

Produce No _____

Approved by		Drafted by	WenFei Liang
Checked by		Signed by	Xiaojun nie
Prepared by		Date	2023-06-13

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Product Modified Record List

Revision	Date	Modified Content	Corrected person
A1	2023-06-13		
A2	2024-09-03	插头改为XH-2P正向	Wenfei liang

Title	Model	Description	Page
Product Specification	FR AA	Lithium/Iron Disulfide (Li/FeS2)	1
1. Preface			
<p>The purpose of this product specification is to provide technical information for the Lithium/Iron Disulfide (Li/FeS2) Lithium battery FR AA, manufactured and supplied by pkcell battery Co., Ltd.</p>			
2. Description and Model			
2.1 Description		Lithium/Iron Disulfide (Li/FeS2)	
2.2 Model		FR AA	
3. Specification			
3.1 Rated Capacity		5800mAh	
3.2 Average Weight			
3.3 Nominal Voltage		9V	
3.4 Work Voltage		7.80V at Constant current 200mA discharge	
3.5 Cut-off Discharge Voltage		4.80V	
3.6 Max. Discharge Current		2000mA	
3.7 Volume		8.0 cubic centimeters (0.5 cubic inch)	
3.8 Lithium Content		Less than 1 gram (0.04 oz.) per cell	
3.9 Ambient Temperature			
for Discharge		-40°C~60°C	
3.10 Storage			
for within the temperature		-20°C~40°C	
for within the humidity		≤75%	
3.11 Energy Density			
Wh/L			
Wh/Kg			
3.12 Shelf Life		More than 10years	
3.13 Charge State Internal Impedance			
4. Appearance			
<p>Appearance shall be free from any remarkable scratch, flaws, rust, discoloration or electrolyte leakage (visible or by smell)</p>			
5. Standard Test condition			
5.1 Environment Conditions			
<p>Unless otherwise specified, all test stated in this Product Specification are conducted</p> <p> within the temperature 15~25°C and the humidity 45~85%RH.</p>			
5.2 Test Equipment			
(1) Impedance meter			
<p>The impedance meter with AC 1kHz should be used</p>			

Title	Model	Description	Page
Product Specification	FR AA	Lithium/Iron Disulfide (Li/FeS ₂)	2
6. Test Procedure and Its Standard			
Item	Measureing Procedure		Standard
6.1 Appearance	Visual		No Defect and Leak
6.2 Dimension	Caliper		As item 8
6.3 Weight	Scale		As item 3.12
6.4 Max. Discharge Current	Until final discharge voltage		2000mA
6.5 Open Circuit Voltage	Measure open circuit voltage		≥10.2V
6.6 Internal Impedance	Measure the battery with 1kHz AC		
6.7 Discharge Capacity	The battery discharge until final discharge voltage 4.8V, at 0.2C mA and measure the capacity		>5400mAh
6.8 Leakage Proof	The battery shall be stored at 40±2°C and humidity 80±5%for 21 days		No leakage should be observed by visual inspection

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Title	Model	Description	Page
Product Specification	FR AA	Lithium/Iron Disulfide (Li/FeS ₂)	1
1. Preface			
<p>The purpose of this product specification is to provide technical information for the Lithium/Iron Disulfide (Li/FeS₂) Lithium battery FR AA, manufactured and supplied by pkcell battery Co., Ltd.</p>			
2. Description and Model			
2.1 Description	Lithium/Iron Disulfide (Li/FeS ₂)		
2.2 Model	FR AA		
3. Specification			
3.1 Rated Capacity	2900mAh		
3.2 Average Weight			
3.3 Nominal Voltage	3V		
3.4 Work Voltage	2.60V at Constant current 200mA discharge		
3.5 Cut-off Discharge Voltage	1.6V		
3.6 Max. Discharge Current	2000mA		
3.7 Volume	8.0 cubic centimeters (0.5 cubic inch)		
3.8 Lithium Content	Less than 1 gram (0.04 oz.) per cell		

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If manufacturer want to modify the product technology specification, we won't inform you additionally)

- 3.9 Ambient Temperature
for Discharge -40°C~60°C
- 3.10 Storage
for within the temperature -20°C~40°C
for within the humidity ≤75%
- 3.11 Energy Density
Wh/L
Wh/Kg
More than 10years
- 3.12 Shelf Life
- 3.13 Charge State Internal Impedance

4. Appearance

Appearance shall be free from any remarkable scratch, flaws, rust, discoloration or electrolyte leakage (visible or by smell)

5. Standard Test condition

5.1 Environment Conditions

Unless otherwise specified, all test stated in this Product Specification are conducted

within the temperature 15~25°C and the humidity 45~85%RH.

5.2 Test Equipment

(2) Impedance meter

The impedance meter with AC 1kHz should be used

Title	Model	Description	- 5 - Page
Product Specification	FR AA	Lithium/Iron Disulfide (Li/FeS ₂)	2

6. Test Procedure and Its Standard

Item	Measureing Procedure	Standard
6.1 Appearance	Visual	No Defect and Leak
6.2 Dimension	Caliper	As item 8
6.3 Weight	Scale	As item 3.12
6.4 Max. Discharge Current	Until final discharge voltage	2000mA
6.5 Open Circuit Voltage	Measure open circuit voltage	≥3.4V
6.6 Internal Impedance	Measure the battery with 1kHz AC	
6.7 Discharge Capacity	The battery discharge until final discharge voltage 1.6V, at 0.2C mA and measure the capacity	>2700mAh
6.8 Leakage Proof	The battery shall be stored at 40±2°C and humidity 80±5%for 21 days	No leakage should be observed by visual inspection

9. Cautions in use

To ensure proper use of the battery please read the manual carefully before using it.

- Handling
 - Do not expose to, dispose of the battery in fire.
 - Do not put the battery in a charger or equipment with wrong terminals connected.
 - Avoid shorting the battery
 - Avoid excessive physical shock or vibration.
 - Do not disassemble or deform the battery.
 - Do not immerse in water.
 - Do not use the battery mixed with used or other different make, type, model batteries.
 - Keep out of the reach of children.
- Storage
 - Store the battery in a cool, dry and well-ventilated area.
 - Disposal Regulations vary for different countries.
 - Dispose of in accordance with local regulations.

10. Battery operation instruction

10.1 Discharging current

The discharging current does not have to surpass this specification book stipulation the biggest discharging current, the over sized electric current electric discharge can cause the battery capacity play to reduce and to cause the battery heat.

10.2 Electric discharge temperature

The battery discharge must carry on in the ambient temperature scope which this specification book stipulated.

10.3 Storing the Batteries

The battery should store in the product specification book stipulation temperature range. If has surpasses above for six months the long time storage, the discharge capacity will decrease sharply

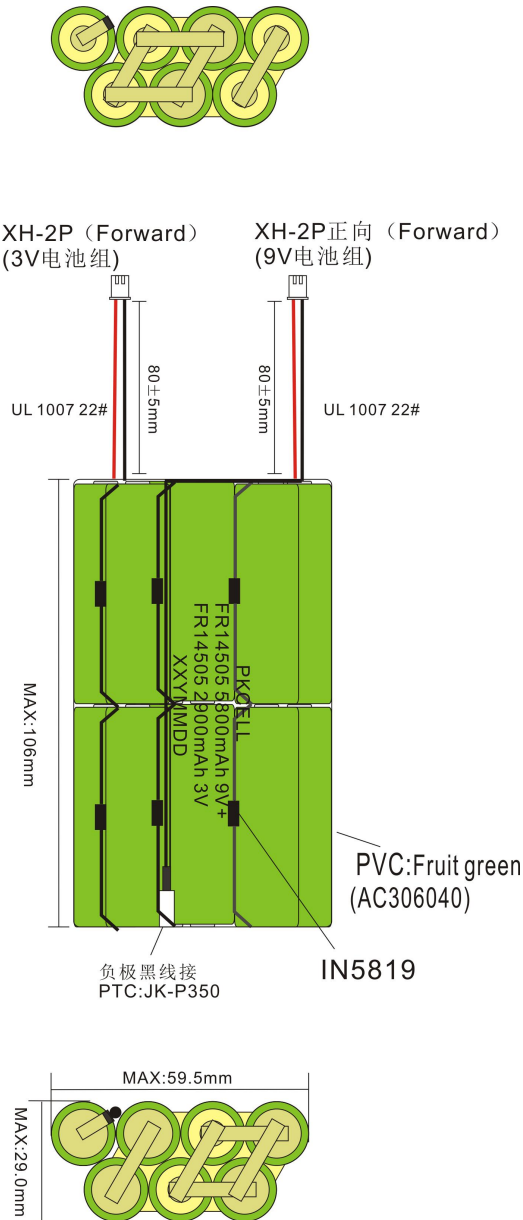
11. Other Chemical Reaction

Because batteries utilize a chemical reaction, battery performance will deteriorate over time even if stored for a long period of time without being used. In addition, if the various usage conditions such as discharge, ambient temperature, are not maintained within the specified ranges the life expectancy of the battery may be shortened or the device in which the battery is used may be damaged by electrolyte leakage. Please change the battery in time.

12. Note

Any other items which are not covered in this specification shall be agreed by both parties.

13. Dimension (Bare cell) mm



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