

文件名称:	储能 C15FKSD 电芯产品规格书（含包膜）			项目编号（可选）	
文件编号:		版本:	3	页 码:	1 / 10

电芯产品规格书

Cell Product Specification

电芯型号 Cell Model: C15FKSD

电芯容量 Cell Capacity: 340Ah

电芯能量 Cell Energy: 1088Wh

版 本 Version: 3.0

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文件名称：	储能 C15FKSD 电芯产品规格书（含包膜）			项目编号（可选）	
文件编号：		版本：	3	页 码：	2 / 10

变更履历 (revision history)

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1	2024/10/10	首版发行 First issue	Hong Zhong	Lei Youyi
2	2024/11/13	1.新增电芯充放电限流map。 Added the current limit map table of cell.	Hong Zhong	Tan Mingfeng
3	2025/02/05	电芯容量调整为340Ah	Hong Zhong	Tan Mingfeng

文件名称:	储能 C15FKSD 电芯产品规格书（含包膜）			项目编号（可选）	
文件编号:		版本:	3	页 码:	3 / 10

目 录 (Contents)

1 适用范围 Scope of application	4
2 保密 Confidentiality	4
3 电芯基本信息描述 Cell basic information	4
3.1 电芯基本信息表 Cell basic information	4
3.2 持续充电条件 Continuous charging condition:	6
3.3 持续放电条件 Continuous discharging Condition:	6
4 电芯尺寸 Cell dimension	7
5 电池使用安全使用规范及注意事项 Cell usage safety precautions	7
5.1 电芯使用安全规范 Cell usage safety precautions	7
5.2 电池使用注意事项 Cell usage precautions	9
6 电池使用安全警告 Cell usage safety warnings	9
7 免责声明 Disclaimer	10

文件名称:	储能 C15FKSD 电芯产品规格书（含包膜）			项目编号（可选）	
文件编号:		版本:	3	页 码:	4 / 10

1 适用范围 Scope of application

本规格书介绍由比亚迪锂电池有限公司研发、装配及提供售后保障的可充电锂离子电池的相关信息，包括主要产品特性与适用方法。本产品主要适用于储能。

This specification describes the main properties and operation instructions of rechargeable lithium ion batteries designed and manufactured by BYD Lithium Battery (BYD) Co., Ltd. This product can be used in energy storage systems.

2 保密 Confidentiality

本规格书包含内容仅为了向比亚迪签署协议的相关客户（个人或团体）提供技术说明，包含涉及比亚迪内部保密及隐私信息。禁止对本文件内容的泄露、复印、传播及一切相关行为，此类行为构成侵权且违法。

The contents contained in this specification are only intended to provide technical instructions to the relevant customers (individuals or groups) who have signed the agreement with BYD. The contents also contain information related to internal confidentiality and privacy of BYD. Disclosure, copying, dissemination of the contents of this document and all related activities are prohibited, which constitute infringement.

3 电芯基本信息描述 Cell basic information

3.1 电芯基本信息表 Cell basic information

类型 Type	项目 Items	参数 Parameters	条件 Conditions
体系 System	产品材料体系 Product Material System	LiFePO ₄ +Graphite	/
标称参数 Nominal Parameters	额定电压 Rated Voltage	3.2V	25°C, 0.5C, Fresh State
	标称容量 Nominal Capacity	340Ah	25°C, 0.5C, 2.0~3.8V, Fresh State
	标称能量 Nominal Energy	1088Wh	25°C, 0.5C, Fresh State
	标称能量密度 Nominal Energy Density	310Wh/L	25°C, 0.5C, Fresh State
	电芯尺寸(长*宽*厚) Cell Dimensions	416.0 (-1.5, +1) * 145.95 (-0.5, +1) * 57.8 ±0.5mm	含极柱和包膜 With Pole and Package
	电芯重量 Cell Weight	6.6±0.2 Kg	/

文件名称:	储能 C15FKSD 电芯产品规格书 (含包膜)			项目编号 (可选)	
文件编号:		版本:	3	页 码:	5 / 10
标准放电模式 Standard Discharge Mode	放电方式 Standard Discharging Protocol	恒流放电 (CC) 恒功率放电 (CP)		/	
	放电截止电压 Discharging Cutoff Voltage	2.00V		/	
	标准放电电流 Standard Discharging Current	170A		25°C	
	最大放电电流 Max. Discharging Current	400A		25°C, 1min	
标准充电模式 Standard Charge Mode	标准充电方式 Standard Charging Protocol	恒流充电 (CC) 恒功率充电 (CP)		/	
	标准充电电流 Standard Charging Current	170A		25°C	
	最大充电电流 Max. Charging Current	400A		25°C, 1min	
	充电截止电压 Charging Cutoff Voltage	3.80V		/	
出货态参数 Shipping Parameters	出货态电压 Shipping OCV	3.25V~3.30V		20%~60%SOC	
	自放电 Self Discharge	-3mV≤SD≤2mV		25°C, 25%SOC, 5D	
	直流内阻 DCIR	0.5±0.2mΩ		300A, 10s, 25%SOC	
电池工作&储存环境 Cell working & storage environment	充电环境温度 Charging Ambient Temperature	0~+50°C			
	放电环境温度 Discharging Ambient Temperature	-20~+55°C			
	存储湿度 Storage Humidity	5%~95%		/	
	循环寿命 Cycle Life	8000cycles@70% EOL		Charge: 0.5CP/CC、3.65V; Discharge: 0.5CP/CC、2.5V 25°C	
	海拔 Altitude Requirement	≤4000m		/	

文件名称:	储能 C15FKSD 电芯产品规格书 (含包膜)				项目编号 (可选)	
文件编号:		版本:	3	页 码:	6 / 10	

3.2 持续充电条件 Continuous charging condition:

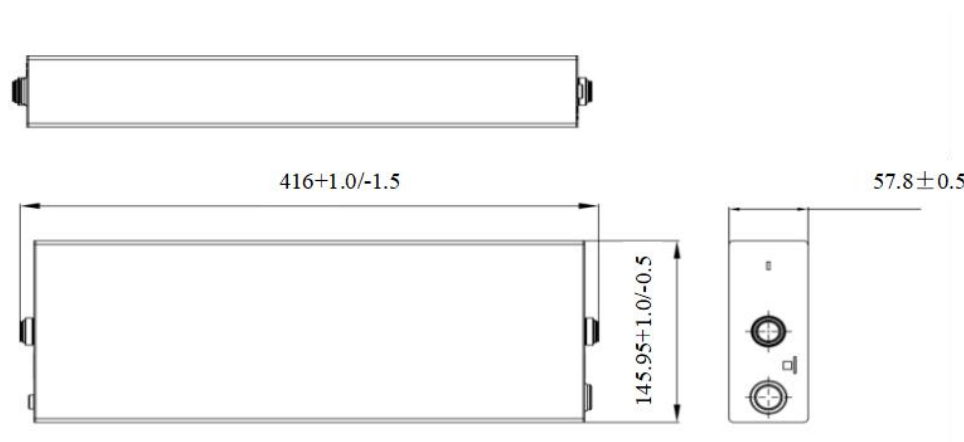
SOC 温度/°C	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
$0 < T < 5$	0.15C	0.15C	0.15C	0.15C	0.15C	0.15C	0.15C	0.1C	0.1C	0.1C
$5 \leq T < 10$	0.2C	0.2C	0.2C	0.2C	0.2C	0.2C	0.2C	0.1C	0.1C	0.1C
$10 \leq T < 15$	0.3C	0.3C	0.3C	0.3C	0.3C	0.3C	0.3C	0.2C	0.2C	0.2C
$15 \leq T < 20$	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.4C	0.4C
$20 \leq T < 45$	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.4C
$45 \leq T < 50$	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.4C

3.3 持续放电条件 Continuous discharging Condition:

SOC 温度/°C	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
$-20 \leq T < 0$	0.1C	0.1C	0.1C	0.3C	0.3C	0.3C	0.3C	0.5C	0.5C	0.5C
$0 \leq T < 10$	0.3C	0.3C	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C
$10 \leq T < 55$	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C	0.5C

文件名称:	储能 C15FKSD 电芯产品规格书 (含包膜)			项目编号 (可选)	
文件编号:		版本:	3	页 码:	7 / 10

4 电芯尺寸 Cell dimension



备注:

- 1、该电芯测试时请保持侧面立放或平放。
Please keep the side stand or during the cell test.

5 电池使用安全使用规范及注意事项 Cell usage safety precautions

5.1 电芯使用安全规范 Cell usage safety precautions

为保证电池寿命及使用安全，客户应当确保严格遵守以下与电池相关的应用条件：

To maintain the cell life span and safety, the following application conditions should be strictly obeyed:

- 1、客户应配置电池管理系统，严密监控、管理与保护每个电池。

The cells shall be running under the control of special battery management system(BMS) to strictly monitor, manage and protect each cell.

- 2、客户应向比亚迪提供电池管理系统详细的设计方案、系统特点、框架、系统数据、格式等相关信息，以供比亚迪对该系统进行设计评估，并建立电池管理档案。

Customer shall provide detailed information of the BMS system, including but not limited to its design, features, setting, and data file format to BYD for design evaluation and record.

- 3、客户应保存完整的电池运转的监测数据。

Customer shall keep relevant records of the BMS monitoring data throughout the entire service life of every cells.

- 4、电池管理系统需满足以下最基本的检测和控制要求。

The BMS shall include the following monitoring and control features as a minimum requirement.

序号 Number	参数 Parameters	条件 Condition
5.1.1	充电截止电压 Charge cut-off voltage	3.80V/Cell
5.1.2	放电截止电压 Discharge cut-off voltage	2.00V/Cell

文件名称:	储能 C15FKSD 电芯产品规格书 (含包膜)			项目编号 (可选)	
文件编号:		版本:	3	页 码:	8 / 10
5.1.3	一级过充保护电压 First-level overcharge voltage protection			4.00V/Cell	
5.1.4	二级过充保护电压 Second-level overcharge voltage protection			3.90V/Cell	
5.1.5	三级过充保护电压 Third-level overcharge voltage protection			3.85V/Cell	
5.1.6	一级过放保护电压 First-level over-discharge voltage protection			1.80V/Cell	
5.1.7	二级过放保护电压 Second-level discharge voltage protection			1.85V/Cell	
5.1.8	三级过放保护电压 Third-level discharge voltage protection			1.90V/Cell	
5.1.9	一级过热报警 First-level overheat alarm			70°C	
5.1.10	二级过热报警 Second-level overheat alarm			68°C	
5.1.11	三级过热报警 Third-level overheat alarm			66°C	

以上为警示条款, 提请客户注意: 当电池达到上述任何一项条款描述的指标和参数状态时, 意味着电池已超出本技术协议规定的使用条件, 客户需依“保护动作”及本技术协议其他相关规定对电池采取保护措施, 同时, 比亚迪声明对上述使用状态的电池质量不承担任何保证责任, 并对因此而导致的客户及第三方的任何损失不予赔偿。

The above are the warning clause to draw the attention of customers: When the cell reaches any of the terms described in the above, this means the cell has been used beyond its specifications. The customer shall take protective measures on the cell in accordance with the "protection action" and other relevant provisions of this specification. At the same time, FinDreams Batteries shall not take any responsibility for the damage in connection therewith.

5、避免电池到达过放状态。电池电压低于 1.8V 时, 电池内部可能会遭到永久性的损坏, 此时比亚迪的产品质量保证责任失效。当放电截止电压低于 2.5V 时, 电池能耗降低到 0。客户需要培训使用者在最短的时间内重新充电, 防止电池进入过放状态。

Avoid over-discharge of the cell. When the cell voltage is lower than 1.8V, the cell internal structures may be irreversibly damaged and BYD's responsibility for product quality will become void automatically. When the cell voltage is lower than 2.5V, the cell usable energy will drop to zero. Cell users shall be trained by the customers to recharge the cell within the shortest time to prevent the cell from reaching over-discharge state.

6、电箱设计中应充分考虑电芯的散热问题, 由于电箱散热设计问题导致的电芯或电池过热损坏, 比亚迪不承担质量保证责任。

The design of the electric box must fully consider the heat dissipation of the cell. BYD does not take the responsibility for the cell or batteries overheat caused by the thermal design problem of the electric box.

7、电箱设计中应充分考虑电芯的防水、防尘问题, 电箱必须满足 UL 和 IEC 有关标准规定的防水、防尘等级。由于防水、防尘问题而导致的电芯或电池的损坏 (如腐蚀、生锈等), 比亚迪不承担质量保证责任。

The design of the electric box must fully consider the waterproof and dust-proof for the cells. The waterproof and dust-proof grade of the electric box must meet the requirement of the relevant UL and IEC national standards. BYD will not

文件名称:	储能 C15FKSD 电芯产品规格书（含包膜）			项目编号（可选）	
文件编号:		版本:	3	页 码:	9 / 10

take the responsibility of the cell or batteries damage(such as corrosion,rust,etc.) caused by water and dust.

5.2 电池使用注意事项 Cell usage precautions

1、使用电池前，请仔细阅读使用说明书和注意电池的表面标识。

Please read the instruction manual carefully before using the cells and pay attention to the labels on the cells.

2、使用过程中应远离热源、火源、避免儿童玩弄电池，勿摔打电池、禁止坠落、冲击电池。

Keep the cells away from heat or fire sources. Child shall be avoided from playing with cells. Avoid beating, tossing or punching the cells.

3、本电池需用满足国标要求的充电器充电。

The cells should be charged with certified chargers that passed national standards.

4、废弃电池需妥善安全处理。

Discarded cells shall be handled safely, following national and local regulations.

6 电池使用安全警告 Cell usage safety warnings

1、请勿将电池投入火中或其他方式对电池加热。

Never toss batteries into fire or heat batteries using other methods other than the methods provided by the manufacturer.

2、请勿短接或不正确极性的安装，避免机械或电滥用。

Do not disassemble or short circuit the cells. Avoid mechanical or electrical misuse.

3、请勿将不同厂家或不同型号的电池混用。

Avoid using cells with different models or from different manufacturers together.

4、请勿拆解或改变电池的外部结构，勿用外力对电池进行撞击或穿刺。

Do not disassemble or change the external structure of the cells. Avoid hitting or penetrate the cell with external forces.

5、请勿将电池放入水、海水、强酸性、强碱性等物质。

In compatible products: Conductive materials, water, sea-water, strong oxidizers and strong acids.

6、避免阳光直射，避免高温高湿（温度 $\leq 65^{\circ}\text{C}$ ，湿度 $\leq 95\%$ ）。

Avoid direct sunlight, high temperature, and high humidity (temperature $\leq 65^{\circ}\text{C}$,humidity $\leq 95\%$).

7、在对电池进行操作时，需要佩戴橡胶或胶皮手套。

Wear neoprene or nature rubber gloves for handling the cell.

8、对电池进行充放电时，应确保电池具备电压、电流、温度监控及保护。

Cells can only be charged or discharged with necessary current, voltage, temperature monitoring and protection.

9、电池发生漏液、冒烟或破损事故时，应立即停止使用，并联系我司处理。

In case of smoking or electrolyte spilled, smoking, or cell damaged, stop using the cell immediately and contact BYD for cell dispose.

文件名称:	储能 C15FKSD 电芯产品规格书（含包膜）			项目编号（可选）	
文件编号:		版本:	3	页 码:	10 / 10

7 免责声明 Disclaimer

1、如果由于产品需求单位不按本说明书中的规定进行使用，比亚迪将不承担任何保证责任，若对比亚迪声誉造成影响的，比亚迪有权追究相关单位的责任。

If a product requirement unit does not use the product according to the provisions of this manual, BYD will not bear any warranty liability. If this misuse damaged the reputation of BYD, BYD has the right to investigate the responsibility of the relevant units.

2、本产品规格书最终解释权归比亚迪所有，比亚迪保留对产品的规格及性能参数修改的权利。买方在订购产品前，需要提前确认产品的最新状态。

BYD reserves the right of final interpretation of the product specifications ,and to modify the product specifications and performance parameters. Before ordering BYD products, the buyer needs to confirm the latest status of products with BYD in advance.