Product Specification Sheet

产品规格书

Model Number/型号 : CGB10674172N-29000mAh

Fiction 编制	Review 审核	Approve 批准

Customer Approval 客户批准	Confirmation 确认	Date 日期

Remarks:
1. If the sample is approved, please sign the above form and return it to our company.
2. If the samples fail to meet the standards, please contact our company as much as possible. Thank you!

EDITION RECORDS/版本记录

Revision/版本	Date/日期	Originator/发起人	Description/内容描述
A0	2025-05-14	LU	First Publish （首次发布）

1. Introduction 前言

本规格书用于明确我司所生产的可充电半固态锂电池的产品规格，并需客户承认。
为避免产生疑虑，本规格书不适用于含有该电池的主机设备。

This specification is used to clarify the product specifications of the rechargeable semi solid state lithium battery produced by us and requires customer approval.

To avoid any doubt, this specification does not apply to the host device containing this battery.

2. Model 型号

CGB10674172N-29000mAh-3.6V

3. Specifications 规格

No	Items 项目		Specifications 规格
3.1	Nominal cut-off voltage 标称电压		3.6V
3.2	Battery capacity 电池容量	Nominal Capacity 标称容量	29000mAh 0.33C Discharge
3.3	Cut-off voltage 截止电压	Charge 充电	4.25V
		Discharge 放电	2.75V
3.4	Charge current 充电电流	Standard current 标准电流	14.5A(0.5C)
		Maximum current 最大电流	58A(2C)
3.5	Discharge current 放电电流	Standard current 标准电流	14.5A(0.5C)
		Maximum current 最大电流	145A(5C)
		Instantaneous current 瞬间电流	203A(7C)@30%SOC≤60S 290A(10C)@50%SOC≤10S
3.6	Operating temperature 工作温度	Charging 充电	0~45℃
		Discharging 放电	-20℃~60℃
3.7	电池重量/Weight		311g ±5g
3.8	交流内阻/AC Internal Resistance		1.0±0.4mΩ(30%SOC)
3.9	储存湿度/Storage Humidity		<75%RH
3.10	储存温度/Storage temperature		Short-term(one month): -20℃~45℃ Long-term(six months): -10℃~35℃
3.11	能量密度/Energy Density		≥340Wh/kg(0.5C/0.5C) ≥700Wh/L (0.5C/0.5C)

4. Battery Performance 电池性能

4.1 Electrochemical Characteristics 电化学特性

No	Items 项目	Test conditions 测试条件	Criteria/标准
4.1.1	Capacity 容量	25℃ 0.5C CC(constant current)charge to 4.25V,then CV(constant voltage 4.25V) charge till charge current decline to ≤0.02C ,0.5C/3C/5C and 2.75V discharge cut-off voltage of the discharge capacity 25℃ 0.5C CC（恒流）充电至 4.25V，再 CV（恒压 4.25V）充电直至 充电电流≤0.02C; 后 0.5C/3C/5C 放电至 2.75V 截止电压所放出的容量	Discharge Capacity/ Nominal Capacity ×100% 0.5C≥100% 3C≥95% 5C≥90%
4.1.2	Cycle Life 循环寿命	Conduct 0.5C/3C cycle for 500 times. The discharge capacity shall be measured after 500 cycles. (0.02MPa with fixture) 0.5C/3C 循环 500 次后，测量放电容量（带夹具 0.02MPa）	Capacity ≥ Initial Capacity ×80%
4.1.3	Temperature Characteristics 温度特性	1. According to the charge by 4.1.1 methods. 2. Under different temperature conditions, leave it for 4 hours and then discharge it with a constant current of 0.5C until the cut-off voltage is 2.75V. Calculate the percentage based on the discharge capacity at 23℃. 1.用 4.1.1 方法充电 2.在不同温度条件下搁置 4h，用 0.5C 的电流恒流放电至截止电压 2.75V。以 23℃时放电容量为基准计算百分比。	-20℃≥ 80% 55℃≥95%

4.1.4	Storage Performance 储存性能	Measure initial status and initial capacity. Charge by standard mode and store for 3 months, 6 months and 1 year respectively. Measure the final capacity, then charge and discharge at 0.5C for 3 cycles, and measure the discharge capacity 测量初始状态和初始容量。按标准模式充电，储存 3 次，分别为 1 个月、6 个月和 1 年。测量最终容量，然后充电和 0.5℃放电 3 次，并测量放电容量	Capacity ≥ Nominal Capacity ×100%; 3 months ≥90%; 6 months ≥85%; 12 months ≥80%
4.1.5	Self-discharge 自放电	According to the charge by 4.1.1 methods, storied the cells under the condition 23±5℃ for 30 days, then measured the capacity with 0.5C till 2.75V 按用 4.1.1 方法充电后，在 23±5℃条件下贮存 30 天，再以 0.5C 放电 至 2.75V 所放出的容量。	Residual capacity >90%

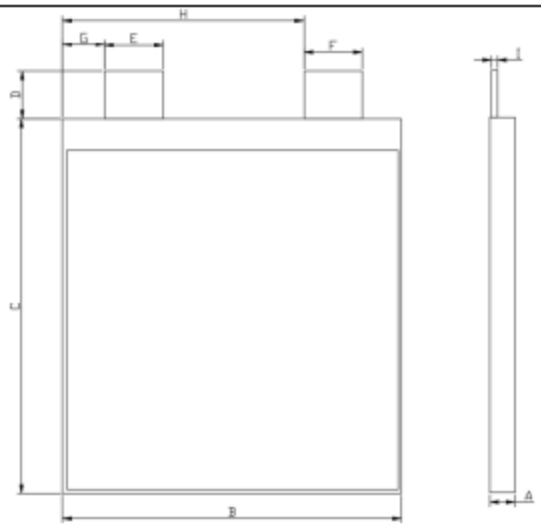
4.2 Safety performance 安全性能

No	Items 项目	Test conditions 测试条件	Criteria/标准
4.2.1	Overcharge 过充	Charge to 4.6V at 1.5C after standard discharge at 0.5C: stop charging if charging duration is over 7h or the surface temperature of battery is 20% lower than the peak value. 以 0.5C 标准放电后，以 1.5C 充电至 4.6V：如果充电时间超过 7 小时或电池表面温度低于峰值的 20%，则停止充电。	No fire No explosion 无火灾，无爆炸
4.2.2	Forced Discharge 过放	Reverse charge at 1C for 90min after standard discharge at 0.5C, then observe for at least 1h. 在以 0.5C 的标准放电后，以 1C 的放电保持 90 分钟，然后观察至少 1 小时。	No fire No explosion No leakage 无火灾、无爆炸、无泄漏
4.2.3	Short Circuit 短路	After standard charge (0.5C, CC-CV), put the battery into a ventilated cabinet and connect the positive and negative terminals directly by a 80±20mΩ wire for 1h at 20±5℃, stop testing when the battery temperature is 20% lower than the peak 标准充电（0.5C，CC-CV）后，将电池放入通风柜中，用一根 80±20mΩ导线将正负极直接连接，在 20±5℃下持续 1 小时，当电池温度低于峰值的 20%时或短路持续时间超过 24 小时，停止试验。	No fire No explosion Tempreture≤ 150℃ 无火灾，无爆炸，温度≤150℃
4.2.4	Low Pressure 低气压	After 0.5C standard constant current and constant voltage(4.2V) charging, put the battery in a 20° C ±5° C empty chamber. Vacuum until the internal pressure drops to 11.6kPa, then keep for 6h. 在 0.5C 标准恒流、恒压（4.2V）充电后，将电池放入 20° C±5° C 的空腔中，抽真空至内部压力降至 11.6kPa，然后保持 6 小时。	No fire No explosion No leakage 无火灾、无爆炸、无泄漏

4.2.5	Temperature Cycling 温度循环	1.The battery is charged according to the standard charging method: 2. Put the battery in a room temperature box, and do the following steps: ——The temperature box was heated up to 75℃ within 30 min and kept for 6h; — The temperature box was cooled down to -40℃ within 30min and kept for 6h. ——Repeat the above steps for 10 times. 1.电池按标准充电方法充电 2.将电池放入常温箱内，按以下步骤操作：——温度箱在 30 分钟内加热至 75℃并保持 6 小时；—温度箱在 30 分钟内冷却至-40℃并保持 6 小时。——重复以上步骤 10 次。	No fire No explosion No leakage 无火灾、无爆炸、无泄漏
4.2.6	Droping 跌落	After the battery is charged at 0.5C with standard constant current and constant voltage, the battery is dropped onto a concrete slab from 1m height. The battery is dropped for 6 times so as to obtain impacts from every surface/side. 用标准恒流和恒压对电池进行 0.5C 充电后，将电池从 1m 的高度掉落到混凝土板上。电池共掉落 6 次，以便获得每个表面/侧面的冲击力。	No fire No explosion No leakage 无火灾、无爆炸、无泄漏
4.2.7	Crushing 挤压	1.The battery shall be charged according to 0.5C standard charging method 2. The crushing method is as follows: The crushing direction is vertical to the plate direction; The size of the plane pressing plate is larger than the battery surface;The crushing pressure is 13±0.78kN; 3. Stop crushing when the pressure reaches the specific value. 1. 电池应按 0.5C 标准充电方法充电 2. 挤压方法如下：挤压方向与板向垂直；平面压板尺寸大于电池表面；挤压压力为 13±0.78kN； 3. 当压力达到特定值时，停止挤压。	No fire No explosion 无火灾，无爆炸

4.2.8	Vibration 震动	After standard charging at 0.5C, the battery is set on the vibrating table under the condition of 20±5℃for 1h. The test equipment is adjusted according to the following vibration frequency and corresponding amplitude. The frequency of vibration in each direction of X.Y and Z is cyclically swept from 10Hz to 55Hz for 30min, and the frequency sweeping rate of 1oct/min: A) Vibration frequency: 10Hz~ 30Hz; Displacement amplitude (single amplitude): 0.38mm; B) Vibration frequency: 30Hz～55Hz; Displacement amplitude (single amplitude): 0.19mm; After frequency scanning, test the final state of the battery and observe the changes of the battery appearance. 完成 0.5C 标准充电后，将电池置于振动台上进行 20±5℃条件下持续 1 小时的测试。根据以下振动频率及对应振幅参数调整测试设备：X、Y、Z 三个方向的振动频率以每分钟 1 个八度的速率循环扫描，从 10Hz 至 55Hz 各持续 30 分钟。具体参数设置为：A）振动频率 10Hz~ 30Hz，单次位移振幅 0.38 毫米；B）振动频率 30Hz～55Hz，单次位移振幅 0.19 毫米。完成频率扫描后，检测电池最终状态并观察其外观变化。	No fire No explosion 无火灾，无爆炸
4.2.9	Thermal Abuse 高温	Rest for 1h at 20±5° C after standard charge (0.5C, CC-CV) of the battery. Then put the battery into an oven and heat from room temperature to 130±2° C at the rate of 5±2° C/min. After keeping the temperature for 30 min, the heating was stopped and then observe for 1h. 电池经过标准充电（0.5C，CC-CV）后，在 20±5° C 下静置 1 小时。然后将电池放入烘箱中，以 5±2° C/min 的速率从室温加热至 130±2° C。保持温度 30 分钟后停止加热，然后静置观察 1 小时。	No fire No explosion 无火灾，无爆炸

5. Schematic diagram of the battery 电池示意图



Code	Item	Size
A	Thickness	10.6±0.3mm
B	Width	74±1mm
C	Length	172±3mm
D	Tab Length	22.5±5mm
E	Tab Width (P)	25±0.5mm
F	Tab Width (N)	25±0.5mm
G	Tab Margin(P)	6.5±2.0mm
H	Tab Margin(N)	42.5±2.0mm
I	Tab Thickness	Positive Electrode: 0.3±0.02mm Negative Electrode: 0.2±0.02mm
Remark	Tab Length(D): The tab length can be bobbed according to requirement	

6. Visual Inspection 目视检查

There shall be no such defects as scratch, flaw, crack, and leakage, which may adversely affect the commercial value of the battery

不应有划痕、缺陷、裂纹、渗漏等影响电池商业价值的缺陷。

7. Standard Environmental Test Condition 标准环境试验条件

Unless otherwise special version, all tests stated in this Product Specification are conducted at below condition:

Temperature:25±3℃

Humidity:≤75%RH

Atmosphere:86KPa~106KPa

除非另有特殊规定，否则本产品规范中所述的所有测试均在以下条件下进行：

温度：25±3℃

湿度：≤75%RH

大气压：86KPa~106KPa

8. Packaging 包装

The packing case shall contain the documents provided with the products:

——Packing list (refers to a batch of multiple boxes);

——Product certificate;

——Product inspection report.

装箱单应包含产品随附的文件：

——装箱单（指多箱一批）；

——产品合格证；

——产品检验报告。

9. Identification 标识

Single battery products shall have the following marks:

——Polarity symbol: +/-

——Product barcode (information includes the product model, batch number and date of production)

单体电池产品应有以下标志：

——极性符号：+/-

——产品条形码（产品型号、批号、生产日期等信息）

Each packing case shall be marked with:

——Product name (semi solid state lithium battery), product model, product batch number, product grade, quantity, material code

——Moisture-proof, no upside-down and other signs

——Manufacturer or trademark

每个包装箱应标有：

——产品名称（半固态锂电池），产品型号，产品批号，产品等级，数量，材料代码

——防潮，不倒置等标志

——制造商或商标

10、Storage 储存

Long Time Storage: If the battery is to be stored for a long time (over 3 months), the battery should be stored in dry and cool place. The battery should be charged and discharged every six month. The battery's storage voltage should be 3.6～3.75V and the battery is to be stored at the condition as NO.7.

长期贮存：若电池要长期贮存（超过 3 个月），应贮存在干燥、阴凉处，每半年充电放电一次，贮存电压为 3.6～3.75V，贮存条件同 7。

11、Warranty Period and Product Liability 保修期和产品责任

(1) Warranty period of this product is 12 months from the production date.

(2)We are not responsible for the troubles caused by mishandling of the battery which clearly against the instructions in this specification. We will notify our customers if there are any changes of the product specification.

（1）本产品保修期为自生产之日起 12 个月。

（2）对于明显违反本说明书规定的电池，因操作不当造成的问题，我司不承担任何责任。如果产品规格有任何变化，我们会通知客户。

12、Validity Period of Documents 文件有效期

(1)The expiration period for this document is 12 months.

(2)If a new document is released, please return or dispose the old one.

(3)This document is still preliminary. The contents are not fixed completely.

（1）本文件有效期为 12 个月。

（2）如发布新文件，请归还或处理旧文件。

（3）本文件仍属初步文件，内容尚未完全确定

13、Confidentiality 机密性

This product specification shall not be disclosed to any third party without the permission of us nor shall it be copied or reproduced

未经我司许可，不得向第三方披露本产品规格，亦不得复制或转载

14、Release Date 发布日期

2025.5.14

15、Warnings and Cautions 警告和注意事项

●Do not put the battery into fire or a heater.

请勿将电池放入火中或加热器中。

●Do not dismantle the battery.

请勿拆卸电池。

●Do not immerse the battery into water or seawater, keep the battery in a cool dry environment if it stands by.

请勿将电池浸入水中或海水中，如果电池处于待机状态，请将其存放在阴凉干燥的环境中。

●Do not use or leave the battery near sources of heat such as fire or heater.
请勿使用电池或将电池放置在火源或加热器等热源附近。
●Use the charger specifical for lithium-ion battery when recharging.
充电时使用锂电池专用充电器。
●Do not reverse the position and negative terminals.
请勿反转正极和负极。
●Do not connect the battery directly to an electrical outle.
请勿将电池直接连接到电源插座。
●Do not short-circuit the battery by directly connecting the positive and negative terminals with metal objects.
禁止用金属物体直接连接正负极，使电池短路
●Do not transport or store the battery together with metal objects such as hairpins, necklaces, etc.
请勿将电池与金属物品（如发夹、项链等）一起运输或存放
●Do not strike, trample or throw the battery, etc.
请勿敲击、踩踏或抛掷电池等
●Do not directly solder the battery and pierce the battery with a nail or other sharp objects.
请勿直接焊接电池，也不要使用钉子或其他尖锐物品刺穿电池
●Do not use or leave the battery at high temperature (for example, in the hot sun or in a hot vehicle). Otherwise, it can overheat, catch fire, or suffer from performance and life degradation
请勿将电池置于高温环境（例如，阳光照射或高温车辆内）或让其在高温环境下放置。否则，可能导致电池过热、起火或性能和寿命降低。
●Do not use the battery in a location with strong electrostatic field or magnetic field. Otherwise, the safety protective device may be damaged, and bring security risks.
请勿将电池放置在静电场或磁场较强的地方，否则可能损坏安全保护装置，带来安全隐患。
If the battery leaks and the electrolyte gets into eyes, do not rub the eyes, instead, rinse the eyes with clean water, and immediately seek medical attention so as not to cause more injury to your eyes
如果电池漏液，电解液进入眼睛，请不要揉眼睛，而要用清水冲洗眼睛，并立即就医，以免对眼睛造成进一步伤害
●If the battery gives off an odor, generates heat, becomes discolored or deformed, or appear abnormal phenomenon in any way during use, recharging or storage, immediately remove it from the device or battery charger and stop using it.
使用、充电或储存过程中，如果电池有异味、发热、变色或变形，或出现任何异常现象，应立即从设备或电池充电器中取出，停止使用
●Be aware that abandoned batteries may cause fire or explosion, tape the battery terminals to insulate them.
注意废弃的电池可能引起火灾或爆炸，用胶带把电池端子包起来绝缘
●If the battery terminals are stained, clean the terminals with a dry cloth before use. Otherwise performance degredation may be caused due to the poor connection.
若电池端子有污渍，使用前用干布擦拭干净，否则可能因连接不良导致性能下降。

16. Remark 备注

Disposal 处置

Battery handling regulations vary by country, please handle according to local regulations
电池处理法规因国家不同而不同，请按当地的法规进行处理。

Others 其他

For items not covered in this specification, the two parties may reach an agreement through mutual negotiation.
此规格书上未涉及的项目，双方可共同协商达成一致。