



惠州亿纬锂能股份有限公司
EVE Energy Co., Ltd.

文件编号
File NO.

RD-MB-0027-Z-S-01A-LF

产品型号
Product Model

MB-0027

技术状态
Technical Status

Design A Sample B Sample C Sample D Sample SOP

版本
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A

文件名称
File Name

产品规格书
Product Specification

页次
Page

封面
Cover

产品规格书

Product Specification

(8 Page)

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文件名称
File Name

产品规格书
Product Specification

页次
Page

II

目录

1	产品法律法规要求 Law and regulation requirement of product	3
2	单体电芯参数 Specification of cell	3
3	单体电池检验规则 Test regulation of cell.....	4
4	电芯尺寸外形标准 Outline standard of cell.....	7
4.1	电芯尺寸图 Outline of cell.....	7
4.2	电芯加焊支架成品尺寸图 Outline of cell and welding support.....	8
5	包装准则 Packaging guidelines.....	9
6	装箱、封箱、贴纸与堆放要求 Packing, sealing, labeling and stacking requirements.....	9



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产品规格书
Product Specification

页次
Page

3

1 产品法律法规要求 Law and regulation requirement of product

该项目客户有害物质管控要求低于公司有害物质管控标准，按照 EVE 有害物质管控要求进行管控，需要要求原材料供应商提供第三方 RoHS 测试报告，完成产品有害物质宣告。(该项目客户有害物质管控要求高于公司有害物质管控标准，按打样确认的物料要求做有害物质管控，需要要求原材料供应商提供第三方 RoHS、HF、REACH 测试报告，完成产品有害物质宣告。)

The customer's hazardous substance control requirements for this project are lower than the company's hazardous substance control standards. To comply with the EVE hazardous substance control requirements, the raw material supplier is required to provide a third-party RoHS test report to complete the product hazardous substance declaration. (The customer's hazardous substance control requirements for this project are higher than the company's hazardous substance control standards. To do hazardous substance control according to the material requirements confirmed by proofing, the raw material supplier is required to provide third-party RoHS, HF, and REACH test reports to complete the product hazardous substance declaration.)

客户无 HSF 要求，电芯满足电池指令要求即可。

The customer does not have HSF requirements, and the batteries can meet the requirements of the battery directive.

2 单体电芯参数 Specification of cell

序号 No.	项目 Item	指标 Index	备注 Remark
1	电池类型 Cell type	磷酸铁锂电池	
2	单体电池规格 Cell specification	LF 280K	宽 173.7±0.5mm，高 207.5±0.5mm，厚 72±0.5mm (300±20kgf 下，30%-40%SOC，包蓝膜)
3	单体额定电压/容量 Rated voltage / Capacity of cell	3.2V/280Ah	温度：25±5℃，标准充放电
4	单体电池电压范围 Voltage range of cell	2.5V~3.65V	
5	单体电池交流内阻 Internal resistance of cell	≤0.25mΩ	AC 1KHZ
6	单体电池重量 Weight	5.42±0.3kg	
7	单体电池能量密度 Energy density	169.7Wh/kg	



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File Name

产品规格书
Product Specification

页次
Page

4

序号 No.	项目 Item	指标 Index	备注 Remark
8	工作温度 Working temperature	放电: -20℃~55℃ 充电: 0℃~55℃	
9	存储温度 (存储湿度≤90% RH) Storage temperature (storage humidity≤70% RH)	-20℃ - 45℃	≤ 1个月
		0℃ - 35℃;	≤ 1年
10	循环次数 Number of cycle	≥6000 次@0.5C/0.5C	25±2℃, 电池在 300kgf 夹具下: 以 0.5C (A) 恒流恒压充电至 3.65V, 截止电流 0.05C (A), 搁置 30min, 以 0.5C (A) 恒流放电至 2.5V, 搁置 30min, 再进行下一循环, 至容量衰减为标称容量的 80%止。

2.2 电芯分选标准 (30%SOC)

2.2.1 来料电芯配档标准:

2.2.1.1 电压≥3.285V, 极差 5mV, 30%SOC, 分一个档;

2.2.1.2 内阻≤0.25mΩ, 极差 0.05mΩ, 分一个档;

2.2.1.3 最小容量≥280Ah, 均值容量≥282Ah, 极差 5Ah, 分一个档;

2.2.2 投入标准:

2.2.2.1 电压≥3.285V, 极差 5mV 为一档;

2.2.2.2 内阻≤0.25mΩ, 内阻极差 0.1mΩ 为一档;

2.2.2.3 最小容量≥280Ah, 均值容量≥282Ah, 容量极差 5Ah 为一档;

2.2.2.4 每 10 个为同一档位电芯 (10pcs LF280K 电芯);

3 单体电池检验规则 Test regulation of cell

序号 NO.	检验分类 Test type	检验项目 Test item	检验方法参考标准 Test specification	检验要求 Test requirement	样品数量 Sample size	检验周期 Test duration
1	出厂检验 Factory inspection	外观 Appearance	GB/T 31486-2015-6.2.1	外观不得变形及裂纹, 表面无毛刺、干燥、无外伤、无污物, 且有清晰、明确的标示。 The appearance shall be free of deformation and crack. The surface shall be free of burr, dryness, trauma and dirt, with clear and right marks		
2		极性 Polarity	GB/T 31486-2015-6.2.2	端子极性标识应正确、清晰。 Terminal polarity identification shall be correct and clear.		



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产品规格书
Product Specification

页次
Page

5

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3		外形尺寸和质量 Boundary dimension and weight	GB/T 31486-2015-6.2.3	产品外形尺寸、质量应符合企业提供的产品技术条件。 The boundary dimension and weight of products shall meet the technical conditions of products provided by the enterprise.		
4		室温放电容量和能量 Discharge capacity and energy room temperature	GB/T 31486-2015-6.2.5	放电容量应不低于额定容量，并且不超过额定容量的110%，同时所有测试样品初始容量极差不大于初始容量平均值的5%。 The discharge capacity shall not be lower than the rated capacity and shall not exceed 110% of the rated capacity, and the range of initial capacity of all test samples shall not be greater than 5% of the average value of initial capacity.		
5	型式检验 Type inspection	标准循环寿命 Standard cycle life	GB/T 31484-2015-6.4	循环次数达到500次时放电容量不低于初始容量的90%，或者循环次数达到1000次时，放电容量不低于初始容量的80%。 When the number of cycles reaches 500, the discharge capacity shall not be less than 90% of the initial capacity, or when the number of cycles reaches 1000, the discharge capacity shall not be less than 80% of the initial capacity.		
6		安全性 Safety	过放电 Over discharge	GB/T 31485-2015-6.2.2	过放电试验时，不爆炸、不起火、不漏液。 During the over discharge test, there is no explosion, fire and liquid leakage.	



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Design A Sample B Sample C Sample D Sample SOP

版本
Version

A

文件名称
File Name

产品规格书
Product Specification

页次
Page

6

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7		过充电 Over charge	GB/T 31485-2015-6.2.3	过充电试验时，不爆炸、不起火。 During the over charge test, there is no explosion, no fire.		
8		短路 Short circuit	GB/T 31485-2015-6.2.4	短路试验时，不爆炸、不起火。 During the over short circuit test, there is no explosion, no fire.		
9		跌落 Drop	GB/T 31485-2015-6.2.5	跌落试验时，不爆炸、不起火。 During the drop test, there is no explosion, no fire.		
10		加热 Heat	GB/T 31485-2015-6.2.6	加热试验时，不爆炸、不起火。 During the heating test, there is no explosion, no fire.		
11		挤压 Extrusion	GB/T 31485-2015-6.2.7	挤压试验时，不爆炸、不起火。 During the extrusion test, there is no explosion, no fire.		
12		针刺 Needling	GB/T 31485-2015-6.2.8	针刺试验时，不爆炸、不起火。 During the seawater immersion test, there is no explosion, no fire.		
13		海水浸泡 Seawater immersion	GB/T 31485-2015-6.2.9	海水浸泡时，不爆炸、不起火。 During the seawater immersion test, there is no explosion, no fire.		
14		温度循环 Temperature cycle	GB/T 31485-2015-6.2.10	温度循环时，不爆炸、不起火、不漏液。 During the temperature cycle test, there is no explosion, fire and liquid leakage.		
15		低气压 Low atmospheric pressure	GB/T 31485-2015-6.2.11	低气压试验时，不爆炸、不起火、不漏液。 During the low atmospheric test, there is no explosion, fire and liquid leakage.		

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Technical Status

Design A Sample B Sample C Sample D Sample SOP

版本
Version

A

文件名称
File Name

产品规格书
Product Specification

页次
Page

7

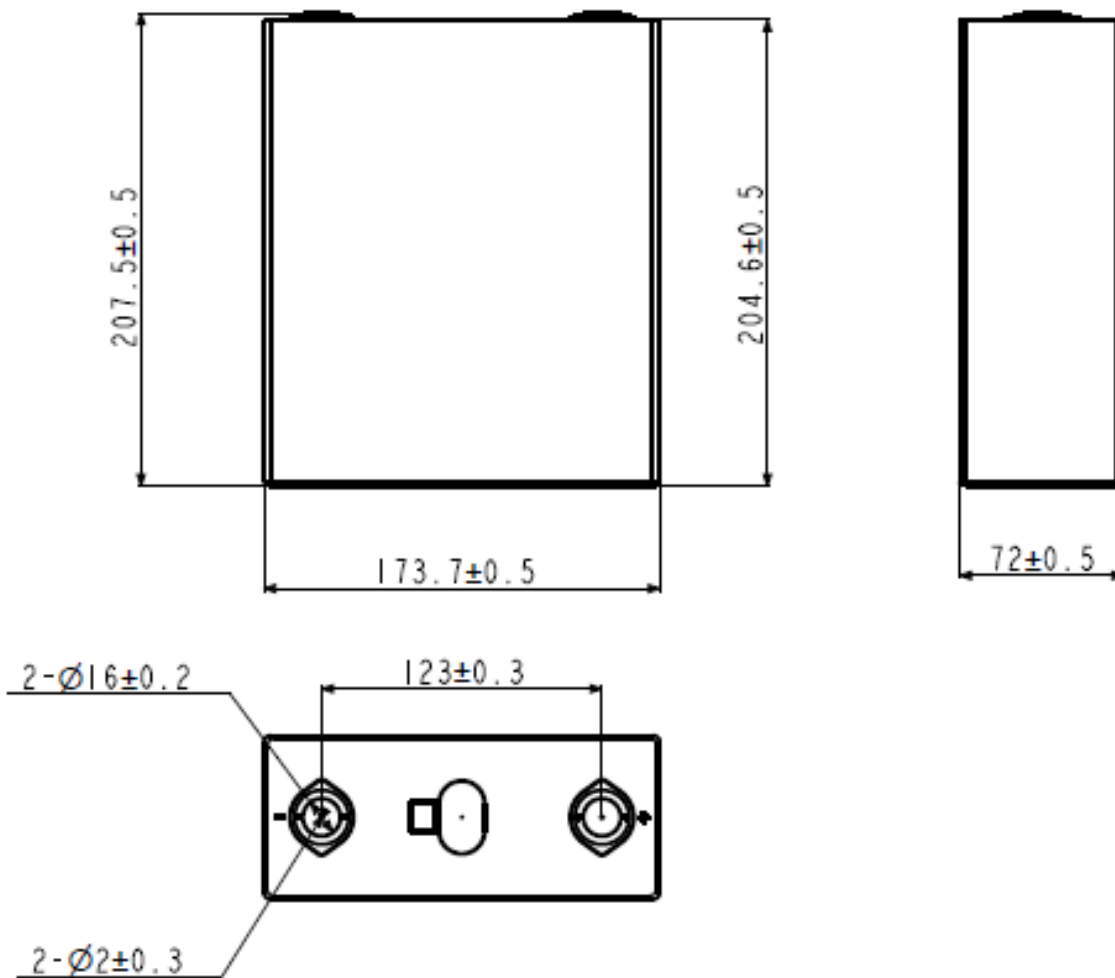
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注：另需备份单体电池 4 只，建议测试样品为 3 个月以内的样品。

Remark: 4 other cell sample should be stored as backup. Suggested test samples are those produced within 3 months.

4 电芯尺寸外形标准 Outline standard of cell

4.1 电芯尺寸图 Outline of cell



技术状态
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Design A Sample B Sample C Sample D Sample SOP

版本
Version

A

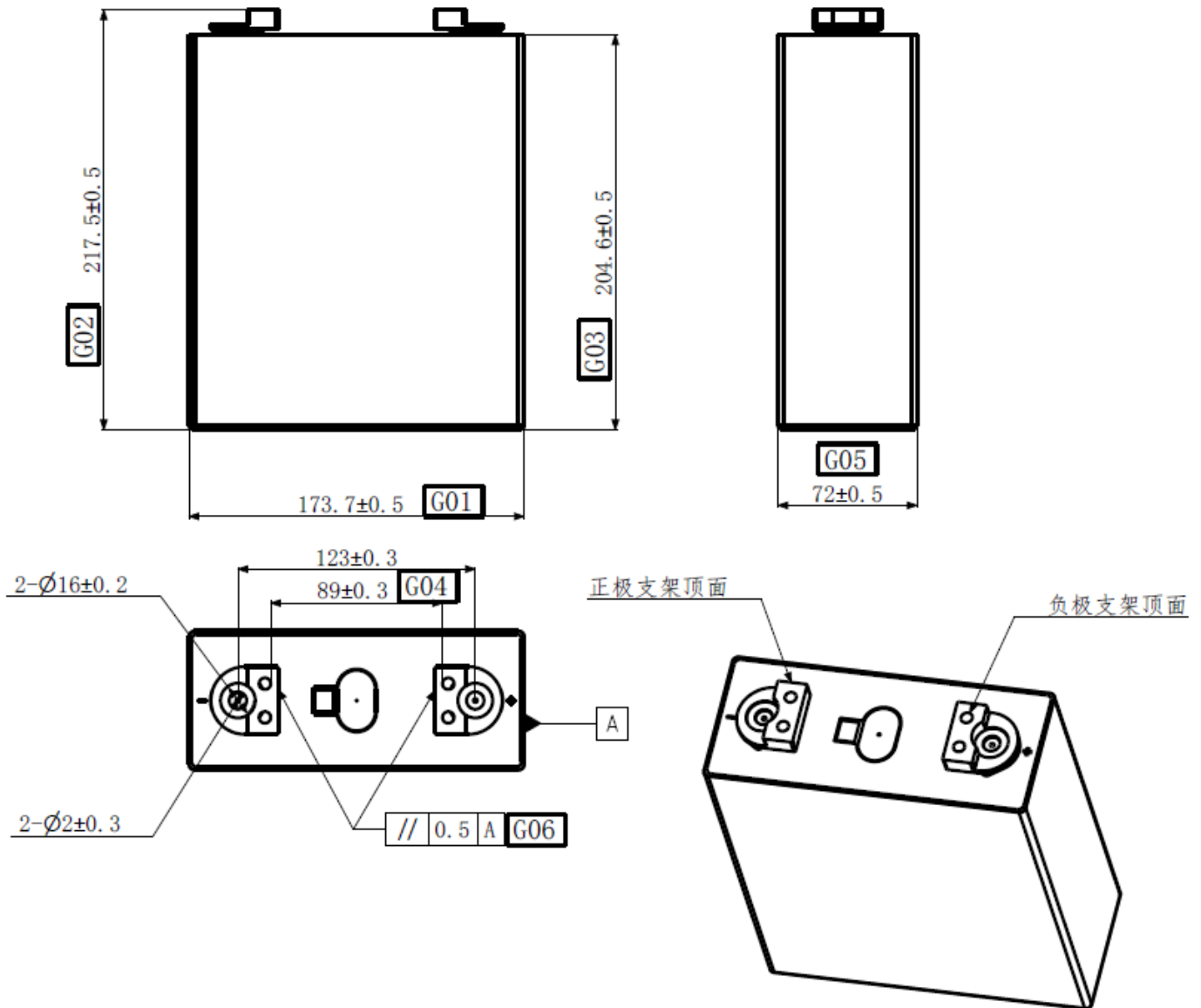
文件名称
File Name

产品规格书
Product Specification

页次
Page

8

4.2 电芯加焊支架成品尺寸图 Outline of cell and welding support



LF280K电芯加焊支架装配图

4.2.1 外观光滑美观、不得变形、表面无毛刺、干燥、无外伤、无污物；

Appearance is smooth and beautiful、no deformation, surface without burr, dry, no trauma, no dirt;

4.2.2 端子极性标识应正确、清晰；

The polarity of terminal should be correct and clear;

4.2.3 支架焊接后拉力要求大于 (80±20kg.f) ；

Support after welding tension is greater than (80±20kg.f) ；

4.2.4 支架焊接后，位置方向严格按照图示方向执行。



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产品规格书
Product Specification

页次
Page

9

After the support is welded, the position direction must be consistent with the direction shown.

5 包装准则 Packaging guidelines

参考《包装标准和规范》

Refer to "Packaging Standards and Specifications"

6 装箱、封箱、贴纸与堆放要求 Packing, sealing, labeling and stacking requirements

参考《包装标准和规范》

Refer to "Packaging Standards and Specifications"