

3.7V 25Ah 固态电池规格书

Solid State Battery Specifications

型号 Model No.:MS-SSB-H8173173B-25Ah

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1. 范围 Scope

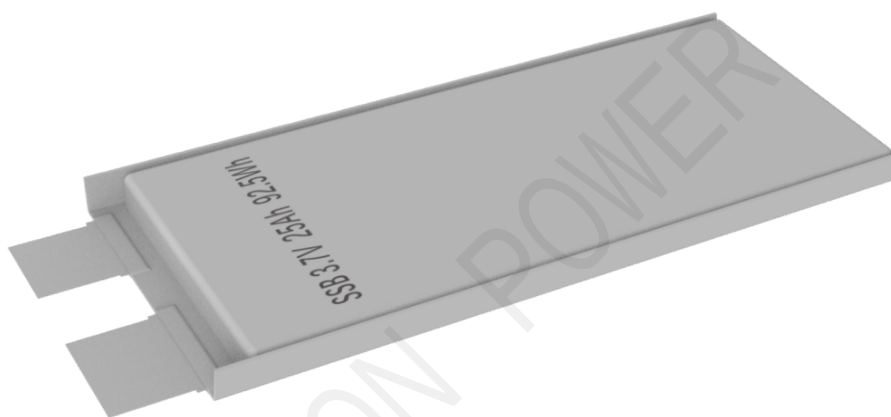
本规格书详细描述了东莞市茂盛新能源科技有限公司提供的 3.7V 25Ah 固态电池的产品性能指标以及产品使用条件及风险警示。

This specification describes in detail the 3.7V 25Ah Solid State battery provided by Dongguan Maosheng New Energy Technology Co., LTD, product performance indicators, product use conditions and risk warning.

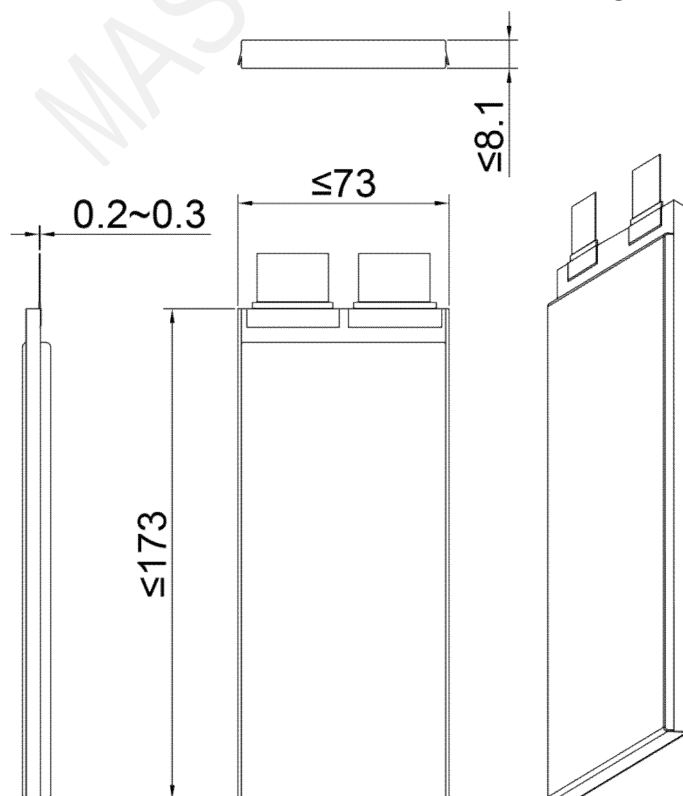
2. 电池重量 Cell Weight: $\leq 248\text{g}$

3. 电池尺寸图 Cell Size Drawing (单位 Units: 毫米 mm)

3.1 效果图或照片 Impression drawing(or photo):



3.2 尺寸 Size: 厚 Thickness ≤ 8.1 ; 宽 Width ≤ 73 ; 长 Length ≤ 173



4. 能量密度 Energy Density: $\geq 400\text{Wh/kg}$

5. 性能参数 Product Specification

序号 No.	参数 Parameter		规格 Specification	备注 Remarks
5.1	标称容量 Nominal Capacity		25Ah	$25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, 0.2C/0.2C
5.2	标称电压 Nominal Voltage		3.7V	
5.3	放电能量 Discharge Energy		92.5Wh	
5.4	充电截止电压 Charge Cut-off Voltage		4.25V	
5.5	放电截止电压 Discharge Cut-off Voltage		2.5V	
5.6	交流内阻 Internal Resistance		$< 2\text{m}\Omega$	AC 1kHz, $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$
5.7	充电温度 Charging Temperature		$0^{\circ}\text{C} \sim 45^{\circ}\text{C}$	
5.8	放电温度 Discharging Temperature		$-20^{\circ}\text{C} \sim 55^{\circ}\text{C}$	
5.9	标准充电电流 Standard Charge Current		0.2C	$25^{\circ}\text{C} \pm 2^{\circ}\text{C}$
	最大持续充电电流 Maximum Continuous Charge Current		1C	
5.10	标准放电电流 Standard Discharge Current		0.2C	$25^{\circ}\text{C} \pm 2^{\circ}\text{C}$
	最大持续放电电流 Maximum Continuous Discharge Current		3C	
	最大脉冲放电电流 Maximum Pulse Discharge Current		5C	$< 15\text{s}$ @ $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$
5.11	循环寿命 Cycle Life		≥ 600 次 cycles	$25^{\circ}\text{C} \pm 2^{\circ}\text{C}$
5.12	存储温度 Storage Temperature		$-20^{\circ}\text{C} \sim 45^{\circ}\text{C}$	< 3 个月 3 months
			$-20^{\circ}\text{C} \sim 35^{\circ}\text{C}$	< 6 个月 6 months
			$-20^{\circ}\text{C} \sim 25^{\circ}\text{C}$	< 1 年 1 year
5.13	存储湿度 Storage Humidity		$< 85\%$ RH	$25^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 新电池 Fresh cell
5.14	高/低温容量 High/Low Temperature Capacity	55 $^{\circ}\text{C}$ /25 $^{\circ}\text{C}$	$\geq 90\%$	55 $^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 0.2C 放电容量 Discharge Capacity
		-20 $^{\circ}\text{C}$ /25 $^{\circ}\text{C}$	$\geq 60\%$	-20 $^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 0.2C 放电容量 Discharge Capacity
	高温存储 High Temperature Storage	荷电保持率 Charge retention rate	$\geq 75\%$	存储 7 天 Stored for 7 days 55 $^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 0.2C/0.2C.
		容量恢复率 Capacity recovery rate	$\geq 80\%$	
	常温存储 Normal Temperature Storage	荷电保持率 Charge retention rate	$\geq 90\%$	存储 28 天 Stored for 28 days 25 $^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 0.2C/0.2C.
		容量恢复率 Capacity recovery rate	$\geq 95\%$	

6. 安全性能 Safety Characteristics

序号 No.	项目 Items	测试方法 Test Methods & Steps	标准 Standard
6.1	振动测试 Vibration Test	标准充电后, 按下列条件进行试验: 振幅 0.8mm; 频率: 10~55Hz(扫描速度:1Hz/min);方向:X/Y/Z 轴振动0~100min. 电池在 X、Y、Z 三个垂直方向进行实验.After standard charge, cells are to be tested as following conditions: amplitude 0.8mm, Frequency: 10~55Hz (sweep: 1Hz/min), Direction: X/Y/Z axis for 90~100min. The battery is to be tested in three mutually perpendicular to each axis.	电池应不漏液、 不起火、不爆炸 No leakage. No fire. No explosion.
6.2	跌落测试 Drop Test	将电池在运输条件(50%充电)下从 1.0m 的高度自由跌落到 5cm 或更厚的水泥地面上, 从 X,Y,Z 三个方向上每个方向跌落一次, 环境温度 25±3℃。 Drop cells in the shipment condition (50% charge) from 1.0m height onto 5cm or thicker concrete with p-tile on it 3 times each of X, Y, and Z directions at 25±3℃.	电池应不起火、 不爆炸 No fire. No explosion.

注: 电池安全测试参考锂电池最新标准。

Notes: Refer to lithium-ion battery standards for battery safety test.

7. 安全防范 Safety Precautions

为避免电芯发生泄漏、发热、燃烧、爆炸等危险, 请注意:

In order to avoid the dangers of leakage, heated, combustion and explosion of cells, please pay attention to:

7.1 严禁将电芯浸入液体中, 贮存不用时, 应放置于阴凉干燥的环境中;

It is strictly forbidden to immerse cells in liquids. When not in use, cells should be stored in a cool and dry environment.

7.2 禁止将电芯置于高温热源旁, 如火、加热器等;

It is forbidden to place cells near high-temperature heat sources, such as fires, heaters, etc.

7.3 充电时请选用锂离子电池专用充电器;

When charging, please choose a special charger for Lithium-ion cells.

7.4 严禁颠倒正负极使用电芯;

It is strictly forbidden to use cells by reversing the positive and negative electrodes.

7.5 禁止用金属直接连接电芯正负极使电芯短路;

It is forbidden to connect the positive and negative electrodes of cells directly with metals to make them short-circuit.

7.6 禁止敲击或抛掷、踩踏和弯折电芯

Striking or throwing, trampling and bending cells are prohibited.

7.7 禁止用钉子或其他利器刺穿电芯

It is forbidden to pierce the cell with nails or other sharp tools.

7.8 禁止在高温下使用电芯;

Cells are prohibited at high temperatures.

7.9 禁止在强静电和强磁场的地方使用电芯；

It is forbidden to use cells in places with strong static and magnetic fields.

7.10 如果电芯发生泄漏，电解液进入眼睛，请不要揉擦，应用清水冲洗眼睛，并立即送医治疗；

If the cell leaks and the electrolyte enter the eyes, please don't rub it. Rinse your eyes with clean water and send to the hospital immediately.

7.11 如果电芯发出异味、发热、变色、变形或使用、贮存、充电过程中出现任何异常，立即将电芯从装置或充电器中移开并停用；

If there is any abnormality in the process of odor, heat, discoloration, deformation or use, storage And charging, remove the cell from the device or charger immediately and stop using it.

7.12 防止电芯包装内产生短路，引线与电芯之间要有足够的绝缘层以保证绝对安全。外壳内不得有任何短路发生，以防止冒烟或着火；

To prevent short circuit in cell packaging, there should be enough insulation between lead and cell to ensure absolute safety. No short circuit shall occur in the enclosure to prevent smoke or fire.

7.13 严禁拆卸电芯，更换电芯时应由电芯供应商或设备供应商完成，用户不得自行更换；

Disassembly of cells is strictly prohibited. Replacement of cells should be completed by cell suppliers or equipment suppliers. Users are not allowed to replace cells by themselves.

7.14 禁止使用已损坏的电芯；

Using damaged cells is prohibited.

7.15 禁止和不同型号，不同品牌的电芯混用；

It is forbidden to mix cells of different models and brands.

7.16 禁止新旧电芯，不同材料的电芯混用。

It is forbidden to mix old and new cells with cells of different materials.

8. 免责声明 Disclaimer

8.1 如果由于产品需求单位不按本说明书中的规定进行使用，造成社会性影响，并对东莞市茂盛新能源科技有限公司的声誉造成影响的，东莞市茂盛新能源科技有限公司将会追究产品需求单位的责任。

If the product demand company is not used according to the regulations in the specification, the social influence is caused, and the reputation of the Dongguan Maosheng New Energy Technology Co., Ltd is influenced, the Dongguan Maosheng New Energy Technology Co., Ltd will be investigated for the responsibility of the requirement unit.

8.2 买方在订购东莞市茂盛新能源科技有限公司产品前，需要与东莞市茂盛新能源科技有限公司提前确认产品的最新状态。

The buyer needs to confirm the latest status of the Dongguan Maosheng New Energy Technology Co., Ltd. in advance before ordering the Dongguan Maosheng New Energy Technology Co., Ltd. product.

9. 安全守则 Hazard Warning

9.1 警示声明 Waring Statement

警告

电池存在潜在的危險，在操作和维护时必须采取适当的防护措施！
不正确地滥用测试实验，可能导致严重的人身伤害和财产损失！
必须使用正确的工具和防护装备操作电池。
电池的维护必须由具有电池专业知识并经过安全培训的人士执行。
不遵守上述警告可能造成多种灾难。

WARNING

CELLS ARE POTENTIALLY DANGEROUS AND PROPER PRECAUTIONS
MUST BE OBSERVED IN HANDLING AND MAINTENANCE.
RUNNING TESTS ON THE CELLS IMPROPERLY MAY RESULT IN SEVERE
PERSONAL BODY INJURY OR PROPERTY DAMAGES.
WORK ON CELLS MUST BE PERFORMED ONLY WITH PROPER TOOLS
AND PROTECTIVE EQUIPMENT MUST BE USED.
CELL MAINTENANCE MUST BE CARRIED OUT BY PERSONNEL
KNOWLEDGEABLE OF CELLS AND TRAINED IN THE SAFETY PRECAUTIONS
INVOLVED. FAILURE TO OBSERVE THE ABOVE MAY CAUSE VARIOUS HAZARDS.

9.2 危險类型 Types of Hazards

客户知悉在电池使用和操作过程中存在以下潜在的危險:

Customer acknowledges the following potential hazards in connection with the usage and handling of the Products:

- 9.2.1 操作者在操作时可能会受到化学品、电击或者电弧的伤害。尽管人体对遭受直流电与交流电的反应不同,但是高于 50V 的直流电压与交流电对人体的伤害是同样严重的, 因此客户必须在操作中采取保守的姿势以避免电流的伤害。

Working with battery can expose the handler to chemical, shock and/or arcing hazards.

Although a person's body might react to contact with direct current voltage differently than From contact with alternate current voltage. Customer shall take a conservative position and consider the risk of shock or electrocution to be the same for both alternate current and direct current exposures greater than 50V.

- 9.2.2 存在来自电池中的电解液的化学风险。

Batteries expose its handler to chemical hazards associated with the electrolyte used in the cell.

- 9.2.3 在操作电池和选择个人防护装备时, 客户及其雇员必须考虑到以上潜在的风险, 防止发生意外短路,造成电弧、爆炸或热失控。

When selecting work practices and personal protective equipment, customer and its employees should consider potential exposure to these hazards and therefore prevent accidental short-circuit that can result in electrical arcing, explosion, and/or "thermal runaway" of the batteries.