

聚合物锂离子电池  
Polymer Lithium Battery  
规格书 SPECIFICATION

规格 Type	12-25-FP
草拟 Prepared	
审核 Checked	
批准 Approved	

客户确认 Customer Confirmation	
审核 Checked/Date	批准 Approved/Date

## 1 总体说明 Scope

本规格书针对聚合物锂离子电池进行规定。请采用本规格书中推荐的测试方法，请首先仔细阅读其中的注意事项。如有疑问，请与供应商联系。

This product specification describes polymer lithium-ion battery. Please use the test methods that recommended in this specification. If you have any query, please contact us. Please read the cautions mentioned in the specifications carefully at first.

如果电池用于规格书中没有规定的情况，请先与当地供应商联系并取得许可。

If the cells should be used at the environment that not preferred in this document, please contact our local supplier for help and get permission.

如果由于错误使用（规格书中没有规定）导致意外与损失，供应商免责。

It is claimed that we are free of any responsibility with the contingency and loss due to the cells' wrong usage (not preferred in the product specification)

为保证更稳定的性能与更好的安全性，两只（含）以上电池组串联使用时，必须使用平衡充电方式。

For the reason of stable performance and better safety, battery pack with more than 2 cells connected in serial way should be charged with a balance charger.

## 2 产品规格 Specification

### 2-1 主要参数 General

No	条目 Item	规格 Specifications	备注 Remark	
1	标称容量 Nominal Capacity	25Ah $\pm$ 5%	25 $^{\circ}$ C,20h 率容量 0.05C <sub>20</sub> A discharge, 25 $^{\circ}$ C	
2	标称电压 Nominal Voltage	12V	开路电压 OCV	
3	充电电流 Charge Current	标准充电 0.2C <sub>20</sub> A, 最大 0.5C <sub>20</sub> A Standard: 0.2 C <sub>20</sub> A; Max: 0.5C <sub>20</sub> A	工作温度: 0~45 $^{\circ}$ C Working temperature: 0~45 $^{\circ}$ C	
4	充电截止电压 Charge cut-off Voltage	15.2 $\pm$ 0.05V	恒压充电电压	
5	标准放电电流 Discharge Current	标准: 0.05C <sub>5</sub> A, 最大: 2 C <sub>5</sub> A Standard: 0.05 C <sub>5</sub> A; Max: 2 C <sub>5</sub> A	工作温度: -10~60 $^{\circ}$ C Working temperature:-10~60 $^{\circ}$ C	
6	放电截止电压 Discharge cut-off Voltage	9.6V		
7	出厂电压 Voltage	12.8~13.6V	出货电压范围 Shipment status	
8	标称内阻 Impedance	$\leq$ 100m $\Omega$	25 $^{\circ}$ C时 50%荷电态 50% SOC at 25 $^{\circ}$ C	
9	重量 Weight	Approx:3188g		
10	外形尺寸 ( $\pm$ 2mm) Dimension ( $\pm$ 2mm)	<u>170.0mm<math>\times</math>77.0mm<math>\times</math>181.0mm</u>	大致数据 Approx	
11	贮存温度 Storage Temperature	$\leq$ 1 个月	-10~40 $^{\circ}$ C	长期贮存温度:20 $\pm$ 5 $^{\circ}$ C (推荐) Best 20 $\pm$ 5 $^{\circ}$ C for long-time storage
		$\leq$ 3 个月	0~30 $^{\circ}$ C	
		$\leq$ 6 个月	15~25 $^{\circ}$ C	
12	贮存湿度 Storage Temperature	65 $\pm$ 20%RH		

## 2-2 主要性能 General Performance

### 标准充电方式 Standard charge:

电池组必须用专用充电进行充电, 0.2 C<sub>20</sub>A 恒流恒压方式充电到 15.2V。

Charge battery pack with specific charger, 0.2 C<sub>20</sub>A constant Current/constant voltage to 15.2V.

充电环境温度 Environment temperature: 23±2℃

相对湿度 Relative Humidity: 65±20%RH 大气压

力 Pressure: 86kPa~106kPa。

项目 Item		测试方法 Test Methods	指标 Performance
1	容量 Capacity	标准充电后, 静置 0.5 小时, 然后以 20h 率电流放电到 9.6V 的放电时间。 After standard charging, laying the battery 0.5h, then discharging at 0.05C <sub>20</sub> A to voltage 9.6V, recording the discharging time.	≥19h
2	1C 容量 1C Capacity	标准充电后, 静置 0.5 小时, 然后以 1 C <sub>20</sub> A 放电到 9.6V 的放电时间。 After standard charging, laying the battery 0.5h, then discharging at 1C <sub>20</sub> A to voltage 9.6V, recording the discharging time.	≥51min
3	-10℃ 容量 -10℃ Capacity	标准充电后, 在 -10℃ 环境中静置 4 小时以上, 然后以 0.05C 放电到 8.0V 的放电时间。 After standard charging, laying the battery in -10℃ more than 4h, then discharging at 0.05C <sub>20</sub> A to voltage 8.0V recording the discharging time.	≥12h

## 2-3 保护板参数 PCM Parameter

项 目 Item	特 征 值 Specifications	型号 Model
过充保护电压 Over charged Protect Voltage	<u>3.90</u> ± <u>0.025</u> V	保护板 WMDC-4S-2-50
过充保护延迟时间 Over charged Protect Delay time	<u>0.5S</u> - <u>1.5S</u>	
过充保护解除电压 Over charged Protect Relieve Voltage	<u>3.80</u> ± <u>0.05</u> V	
过放保护电压 Over Discharged Protect Voltage	<u>2.0</u> ± <u>0.05</u> V	
过放保护延迟时间 Over Discharged Protect Delay time	<u>50mS</u> - <u>150mS</u>	
持续放电电流 Continuous discharge current	≤ <u>50A</u>	
过流保护电流 Over Current Protect	<u>150</u> ± <u>15A</u>	
过流保护延迟时间 Over Current Protect Delay	<u>20</u> mS	
过放保护解除条件 Over discharge release conditions	≥ <u>2.3</u> V	
保护板静态功耗 Protection plate static power consumption	< <u>50</u> μA	

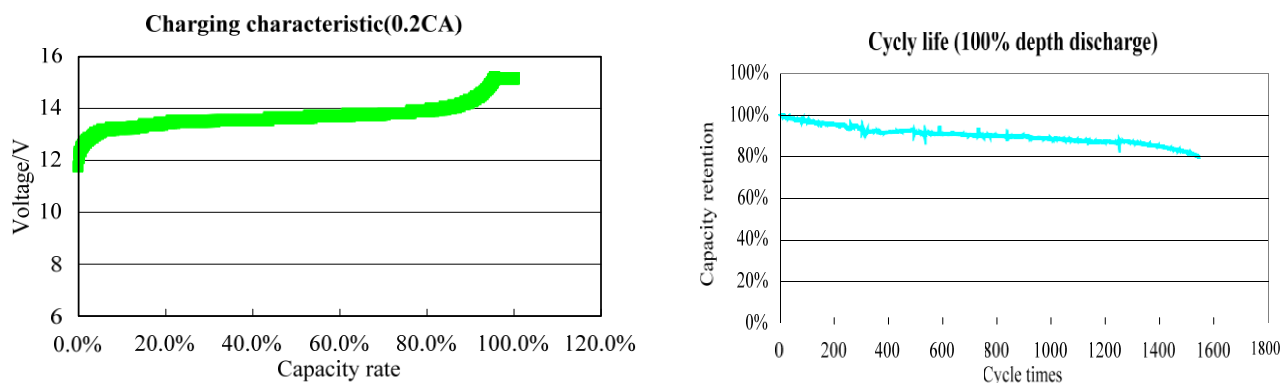


图1 性能曲线图

Fig.1 Performance curves

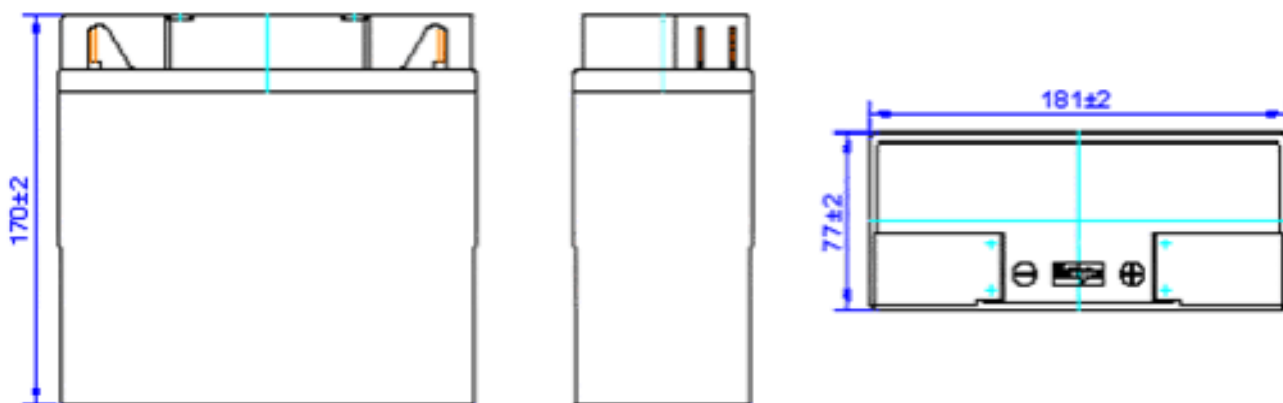


图2 外形示意图

Fig.2 Outline drawing

### 3 注意事项 Caution

- 勿将电池投入水中或将其弄湿！
- Do not immerse the battery in water or allow it to get wet.
- 禁止在火源或极热条件下给电池充电！勿在热源（如火或加热器）附近使用或贮存电池！如果电池泄漏或发出异味，应立即将其从接近明火处移开；
- Do not use any chargers other than those recommended by WM.
- 勿将正负极接反！
- Do not reverse the positive(+) and negative(-) terminals.
- 勿将电池直接连接到墙上插座或车载点烟式插座上！
- Do not connect the battery directly to wall outlets or car cigarette-lighter sockets.
- 勿将电池投入火中或给电池加热！
- Do not put the battery into a fire or apply direct heat to it.
- 禁止用导线或其它金属物体将电池正负极短路，禁止将电池与项链、发夹或其它金属物体一起运输或贮存！
- Do not short-circuit the battery by connecting wires or other metal objects to the positive(+) and negative(-) terminals.
- 禁止用钉子或其它尖锐物体刺穿电池壳体，禁止锤击或脚踏电池！
- Do not pierce the battery casing with a nail or other sharp object, break it open with a hammer, or step on
- 禁止撞击、投掷或者使电池受到机械震动

- Do not strike, throw or subject the battery to sever physical shock.
- 禁止直接焊接电池端子！
- Do not directly solder the battery terminals.
- 禁止以任何方式分解电池！
- Do not place the battery in a microwave oven or pressurized container.
- 禁止与一次电池（如干电池）或不同容量、型号、品种电池组合使用！
- Do not use the battery in combination with primary batteries(such as dry-cell batteries) or batteries of different capacity, type or brand.
- 如果电池发出异味、发热、变形、变色或出现其它任何异常现象时不得使用；如果电池正在使用或充电，应立即从用电器中或充电器上取出并停止使用！
- Do not use the battery if it gives off an odor, generates heat, becomes discolored or deformed, or appears abnormal in any way. If the battery is in use or being recharged, remove it from the device or charger immediately and discontinue use.