

电池规格书



深圳市凤凰锂能科技有限公司

SHENZHEN PHENIX JLN TECHNOLOGY CO.,LTD

TEL:(0752)3535208 FAX:(0752)3761580

Tape: 4L

REV

Date: 2023-6-7

Specification Approval Sheet

产品规格承认书

Customer 客户名称: 域拓

Model 产品型号: 4L

Type 产品类型: Li-ion battery

Specification 产品规格: 1400mAH

signed by client 客户签名	
Confirmed 确认:	
Checked 审核:	
Approved 批准:	

signed by manufacturer 生产商签名	
Prepared 制定:	肖泽建
Checked 审核:	
Approved 批准:	丁明谊

AMENDMENT RECORDS



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1 .Battery type and scope 电池型号和适用范围

This Specification Approval Sheet is for rechargeable Li-polymer battery provided by Shirui Battery Co., LTD.

This product is according with the national standard of PRC. 'GB/T18287 - 2000' . 'General specification of lithium-ion battery for cellular phone' .

本规格书为时瑞电池有限公司提供的可充电式锂离子电池规格.

此产品符合中华人民共和国国家标准 'GB/T18287-2000' 蜂窝用锂离子电池总规范.

1 . : model 产品型号: 4L

2 . Basic character and compose of battery 电池的基本特性及组成

2 . 1: fundamental performance parameter of battery 电池基本性能参数:

S/N 序号	Details 内容	parameters 参数	remarks 备注
1	Rated voltage 额定电压		
2	Rated capacity 额定容量	1400mAH	discharge with 0.2C to after Complete charge within 1h, measuring the discharge power 完全充电后 1 小时内,用 0.2C 放电至,测量其放电电量.
	截止电压		
	charge voltage 充电限制电压		



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4	internal resistance 内阻	$\leq 150m\Omega$		
5	charge mode 充电方式	恒流/恒压方式		恒流/恒压
6	Charge time 充电时间	6H		Standard charging 0.2C 280mA 标准充电 0.2C (280mA)
				1C (280mA)
7	Max Charge Current 最大充电电流	1400mA		
9	Max discharge current 最大放电电流	Lasting 持续: 1400mA Transient peak 瞬间峰值: 2800mA		
10	Working temperature 工作温度	charging 充电时	0~45°C	
		discharging 放电时	-20~60°C	
11	Storage temperature 贮存温度	1 Month 一个月	-20~60°C	Charge to 40%~50% of capacity when storage 贮存时应充电至容量的40%~50%
		6 months 六个月	-20~30°C	
12	Storage humidity 贮存湿度	Relative humidity 65 ± 20%RH		relative humidity 相对湿度
13	weight 重量	约 32g		
14	Self-discharging 自放电	When the battery pack is without load, certain operational current is consumed since the cell protects the circuit, thus leading to the bringing down of pack voltage. For long storing time, please supplement the charging and note the "seventh. Special notice"		
	Pack before shipping 出货标准	Charged with about 25-35% power and the voltage is V being shipping.		
15	Identify resistance ID 识别电阻	68KΩ		To ground
16	Cycle life 循环寿命	300 times 300 循环次		capacity $\geq 60\%$ 容量 $\geq 60\%$



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If you need the battery protection parameters, please refer to PAGE 11.

如需参考电池保护参数,请参阅第 11 页.

2 . 2: Main components and parts 主要零部件

Materials 材料	model 型号规格	quantity 数量	related technical parameters 相关技术参数	manufacturer 厂商
li-ion battery cell 锂离子电池芯	484461AR	1PCS	Please refer to the battery cell specification 请参照电芯规格书	/
protection board 保护板	XHY-FHLN-4L	1PCS	/	/

2 . 3: Regular performance and unfailing performance 产品常规性能和可靠性能

S/N 序号	inspect ion item 检验项目	Standard 标准	Testing Method 测试方法



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1	<p>high temperature property 高温性能</p>	<p>discharge with 0.5C₅ A not less than 100mins under 55 ± 2 °C,the appearance without distortion and crack. 电池在 55±2°C,用 0.5C₅ A放电时间不少于 102min, 电池外观无变形、无爆裂.</p>	<p>set the battery 2h in the environment with 55 ±2°C after Complete charge, then discharge with 0.5C₅ A 完全充电后置于 55±2°C,2h 用 0.5C₅ A 放电</p>
2	<p>Low temperature property 低温性能</p>	<p>discharge with 0.2C₅ A not less than 3h under -20 ±2°C,the appearance without distortion and crack. 电池在-20±2°C,用 0.2C₅ A放电时间不少于 3h, 电池外观无变形、无爆裂.</p>	<p>set the battery 16-24h in the environment with -20 ±2°C after Complete charge, then discharge with 0.5C₅ A,then set the battery in 20 ±5°C, 2h later observe the battery appearance 完全充电后置于-20±2°C,16-24h 用放电,结束后将电池置于 20±5°C条件下搁置 2h, 观察电池外观.</p>
		<p>discharge with 0.2C₅ A not less than under -10 ± 2°C,the appearance without distortion and crack 在-10±2°C,用 0.2C₅ A 放电时间不少于, 电池外观无变形、无爆裂.</p>	<p>set the battery 16-24h in the environment with -10 ±2°C after Complete charge, then discharge with 0.5C₅ A,then set the battery in 20 ±5°C, 2h later observe the battery appearance 完全充电后置于-10±2°C,16-24h 用 0.2C₅ A 放电,结束后将电池置于 20±5°C条件下搁置 2h, 观察电池外观.</p>



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3	<p>Capabil ity of keeping electri city 荷电保 持能力</p>	<p>Discharge not less than 放电时间不少于</p>	<p>Open circuit 28d under the environment with $20 \pm 5^{\circ}\text{C}$ after complete charge, then discharge with $0.2C_5$ A 完全充电后,在 $20 \pm 5^{\circ}\text{C}$ 条件下,将电开路搁 置 28d,再 $0.2C_5$ A 放电.</p>
4	<p>Constan t damp and hot propert y 恒定湿 热性能</p>	<p>Battery appearance should have no obvious deformation, rust, smoke or explosion, discharge time not less than 36min 电池外观应无明显变 形、锈蚀、冒烟或 爆炸,放电时间不低 于 36min.</p>	<p>After complete charge, shelve the battery in the condition of $40 \pm 2^{\circ}\text{C}$ Relative humidity is 90% - 95% with constant temperature and humidity, 48h later, shelve it in $20 \pm 5^{\circ}\text{C}$ 2h, then discharge with $1C_5$ A 完全充电后,在 $40 \pm 2^{\circ}\text{C}$, 相对湿度为 90%-95% 的恒温恒湿条件下搁置 48h 后,再取出放在 $20 \pm 5^{\circ}\text{C}$ 条件下搁置 2h 再以 $1C_5$ A 放电.</p>
5	<p>shake 振动</p>	<p>Battery appearance should have no obvious deformation, rust, smoke or explosion, voltage not less than 电池外观应无明显变 形、冒烟或爆炸,电 池电压不低于.</p>	<p>After fully charged with 0.38 mm amplitude, make 10Hz ~ 30Hz resonant frequency, batteries installed in vibration bench, set up three direction from swept-frequency rate for 1oct/min, circular sweep frequency vibration 30min 完全充电后,以 0.38mm 振幅作谐振 10Hz~55Hz 的频率,将电池安装在振动台上, 设置好三个方向上从扫频速率为 1oct/min, 循环扫频振动 30min</p>



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6	Free Drop Test 自由跌落	Battery appearance should have no leakage, no smoke or explosion, but allowed slight deformation 电池允许轻微变形,但应不漏液,不冒烟,不爆炸.	After crash test, the sample batteries are dropped on the 18-20mm hardwood of the concert floor from 1000mm height according to positive and negative 6 direction of X,Y,Z. Each direction should test one time. 碰撞试验结束后,将样品电池从 1000mm高处自由跌落于水泥地面上的 18-20mm厚的硬木板上,从 X,Y,Z 正负六个方向每个方向 1 次.
7	Performance of overcharge protection 过充电保护性能	Batteries should be no explosion, no fire, no smoke or leakage 电池应不爆炸,不起火,不冒烟或漏液.	After the battery is fully charged, the battery should be loaded 8h with constant current source. The constant current source sets to 2 times nominal voltage and current sets 2CA. 电池完全充电结束后,用恒流恒压源给电池加载 8h,恒流恒源设定为 2 倍标称电压,电流设定为 2CA ₅
8	Performance of over-discharge protection 过放电保护性能	Batteries should be no explosion, no fire, no smoke or leakage. 电池应不爆炸,不起火,不冒烟或漏液.	Under the conditions of an ambient temperature 20 ±5°C,the battery discharge in the conditions of 0.2C ₅ until voltage is termination. And then, battery discharge 24h with connecting a 30 Ω load resistance. 电池在环境温度 20±5°C的条件下,以 0.2C ₅ A 放电至终止电压后,外接 30 Ω 负载电阻放电 24h.



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9	<p>Perform ance of short- circuit protect ion 短路保 护性能</p>	<p>Batteries should be no explosion, no fire, no smoke or leakage; batteries voltage is not less than N after instantaneous charge. 电池应不爆炸, 不起火, 不冒烟或漏液; 瞬时充电后电池电压不低于 N.</p>	<p>After battery is fully charge, positive and negative electrode should be circuit 1h with Ω. And, battery should be charged 5S instantaneous with $1C_5$ after positive and negative electrode are cut off. 电池完全充电后, 将正负极用 Ω 电阻短路 1h, 将正负极断开后, 电池以 $1C_5$ 电流瞬时充电 5S.</p>
10	<p>Short- circuit Test 短路</p>	<p>No fire, No explosion The outside temperature of battery is not higher 150 °C. 不起火, 不爆炸, 电池外部温度不高于 150°C.</p>	<p>Keep the connected electric couple battery in a fume hood and make positive and negative short circuit(the total resistance should be less than 50mΩ). Tester should monitor temperature changes. If the temperature of battery drops to about 10°C lower than the max temperature, test is finished. 本项试验将接有电热偶的电池置于通风橱中, 短路其正负极(线路总电阻不大于 50mΩ), 监视温度变化, 当电池温度下降到比峰值低约 10°C 时, 试验结束.</p>

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