

Doc No. : <u>AMP/JS-SPEC-Bxx-05</u>
Rev.: <u>A1</u> Date : <u>2022-07-21</u>

Page: <u>1</u> of <u>13</u>

Cell Specification Sheet

产品规格书

Cell Model Number/电芯型号: H626078CV

Prepared by	Approved by				
PM	DQE	PM	PD	ENG	QA
王俊磊	黄奇东	李云龙	张明慧	刘江	张智良

Customer Confirmation/客户确认			
Print Name/姓名			
Authorized Signature/签名			
Date/日期			
Company Name/公司名称	通用		
Company Stamp/公司章			



Doc No. : <u>AMP/JS-SPEC-Bxx-05</u>

Rev.: A1 Date: 2022-07-21
Page: 2 of 13

EDITION RECORDS/版本记录

Revision/版本	Date/日期	Originator/发起人	Description/内容描述
A0	2022-4-23	王俊磊	Original Release 初版发行
A1	2022-07-21	王俊磊	Revise the Cell thickness 修订电池厚度



Doc No. : AMP/JS-SPEC-Bxx-05

Rev.: A1 Date: 2022-07-21

Page: <u>3</u> of <u>13</u>

CONTENT/目录

1 Scope/适用范围	4
2 Application/应用	4
3 Model Number/型号	4
4 Standard Environmental Test Conditions/标准测试环境条件	4
5 Cell Specifications/电芯规格	4
6 Cell Performances and Criteria/电芯性能及标准	6
6.1 Electrical Performances/电性能	6
6.2 electrical safety and environmental safety performance/电安全和环境安全性能	7
6.3 Visual Inspection/外观	8
6.4 Warranty Period/保质期	8
7 Cell Drawing/电芯绘图	8
8Technical and Safety Requirements/技术和安全要求	9
8.1 Charge/充电	9
8.2 Discharge/放电	10
8.3 Protection Functions for Batteries and Host Devices/电池和主机的保护功能	10
8.4 Notice for Battery Pack Design/电池 pack 设计建议	11
9 Handling Precautions and User's Guidelines/操作注意和用户指引	12
9.1 Storage of Cells/电芯储存	12
9.2 Handling of Cells/电芯操作	12
9.3 User's Guidelines/用户指引	12
0.4 Others/甘宁東面	12



Doc No. : AMP/JS-SPEC-Bxx-05

Rev.: <u>A1</u> Date : <u>2022-07-21</u>

Page: <u>4</u> of <u>13</u>

1 Scope/适用范围

This document is prepared to specify the specifications of the rechargeable Lithium-ion polymer battery cells, with Amprius's Part Number **H626078CV**, supplied by Amprius (Wuxi) Co. LTD to customers with their confirmation relevant to the cell products. For the avoidance of doubt, the specifications specified herein do not apply to any host device containing the cell products.

本规格书用于明确安普瑞斯(无锡)有限公司所生产的可充电锂离子聚合物电芯 **H626078CV**,的产品规格,并需客户之承认。为避免产生疑虑,本规格书不适用于含有该电芯的主机设备。

2 Application/应用

Power Bank / 移动电源

3 Model Number/型号

H626078CV

4 Standard Environmental Test Conditions/标准测试环境条件

1) Unless otherwise specified, all tests stated in this Cell Specification are conducted with below temperature and humidity conditions.

Temperature condition: 25 ± 3 °C

Humidity condition: $60 \pm 20\%$ RH

除非特别说明,本电芯规格书中测试均按以下温度、湿度和环境大气压条件进行:

温度: 25 ± 3°C

湿度: 60 ± 20% RH

2) In this specification, items with superscript "*" mean these items are only applicable to unused fresh cells within 40 days after manufacture.

本规格书中,带有上标"*"的项目只适用于未经使用的新鲜电芯,且电芯生产时间在40天以内。

5 Cell Specifications/电芯规格

No.	Items/项目	Specifications/规格
5.1	Charge Cut-off Voltage 充电截止电压	$4.35V \pm 0.04V$
5.2	Nominal Voltage 标称电压	3.70V
5.3	Discharge Cut-off Voltage 放电截止电压	3.0V
5.4	*Typical Capacity	5100mAh (refer to 6.1.1 for test method/参照6.1.1测试方法)



Doc No. : <u>AMP/JS-SPEC-Bxx-05</u>
Rev.: <u>A1</u> Date : <u>2022-07-21</u>

Page: <u>5</u> of <u>13</u>

	*典型容量						
5.5	*Minimal Capacity (C _{min}) *最低容量	5000 mAh (r	5000 mAh (refer to 6.1.1 for test method/参照6.1.1测试方法)				
5.6	Standard charge 标准充电		0.2C Charge to 4.35V then CV to 0.05C 0.2C 充电至4.35V 然后恒压充电至0.05C				
5.7	Standard discharge 标准放电	0.2C Discharg 0.2C放电到3.0		V			
		Cell Temp. 电芯表面温度	-		t and \ 流和电		
	Max Charge Condition	0°C <t≤15°c< td=""><td>С</td><td>` ′</td><td></td><td></td><td>hen CV to 0.05 C 然后恒压至0.05C</td></t≤15°c<>	С	` ′			hen CV to 0.05 C 然后恒压至0.05C
5.8	最大充电条件	15°C <t≤4:< td=""><td>5°C</td><td>`</td><td>,</td><td></td><td>, then CV to 0.05 C , 然后恒压至0.05C</td></t≤4:<>	5°C	`	,		, then CV to 0.05 C , 然后恒压至0.05C
		45°C <t≤5< td=""><td>5°C</td><td></td><td></td><td></td><td>, then CV to 0.05 C , 然后恒压至0.05C</td></t≤5<>	5°C				, then CV to 0.05 C , 然后恒压至0.05C
5.9	Max Discharge Condition 最大放电条件	Discharge/放电最大1.0C (15.		. ,			20°C ~60°C
		0.2C discharge	e @-20	0°C		% C _{min}	
		0.2C discharge @-10°C		≥70	% C _{min}		
5.10	不同温度放电能力(base on	0.2C discharge @0°C		≥80% C _{min}			
	Standard charge@ 0.2C RT)	0.2C discharge @25°C		≥100% C _{min}			
		0.2C discharge @55°C		≥98% C _{min}			
		0.2C discharge @25°C		≥100% C _{min}			
5.11	不同倍率放电能力(base on	0.5C discharge	0.5C discharge @25°C		≥95% C _{min}		
	Standard charge@ 0.2C RT)	1.0C discharge @25°C		≥90% C _{min}			
5.12	Storage condition 储存条件	-20°C~ 45°C less than 3 months at shipping status 出货状态下在-20°C~ 45°C不超过3个月 15°C~25°C less than 12 months at shipping status 出货状态下在15°C~25°C不超过12个月 Over 3 months the cell shall be charged periodically to maintain voltabetween 3.6V and 3.95V. 存储超过3个月后,应该定期充电使其电压保持在3.6V到3.95V之间。					
	RT storage performance for the fresh cells, start from the manufacturing completion date. 新鲜电芯的常温存储性能,从制造完成的时期开始。						
5.13	Item 项目 1	Month 1个月	3 Mo	nth 3个月	6 Month 6	个月	12 Month 12个月
3.13	Voltage 电压/V	≥3.70		≥3.62	≥3.57		≥3.52
	1	≥98.0% Cmin	≥97.	0% Cmin	≥96.0% C	min	≥93.0% Cmin
	Capacity test refer to 6.1.1 容量测	划试参考6.1.1节					
5.14	Cell Weight/电芯重量	65 ± 10 g (for F	Refer to	only/仅供参			



Doc No. : <u>AMP/JS-SPEC-Bxx-05</u>
Rev.: <u>A1</u> Date : <u>2022-07-21</u>

Page: <u>6</u> of <u>13</u>

5.15	*Shipping Voltage/出货电压	3.70~3.85V (Non-air transport); 非空运运输 3.60~3.70V (Air transport) ;空运运输
5.16	*Initial Impedance/初始内阻	≤60 mΩ (measure at 1KHz AC/在1KHz交流电下测试)

6 Cell Performances and Criteria/电芯性能及标准

6.1 Electrical Performances/电性能

No.	Items/项目	Test Method and Condition/测试方法及条件	Criteria/标准
6.1.1	*Cell Capacity *电芯容量	Test temperature: 25℃±3℃ Charge method: charge with constant current 0.2 C to Charge Cut-off Voltage, then charge with constant voltage till the charge current decreases to 0.05 C. Discharge method: discharge with 0.2 C to Discharge Cut-off Voltage. 测试温度: 25℃±3℃ 充电方法: 0.2C恒流充电至充电截止电压,然后恒压充电至电流降到0.05℃。 放电方法: 0.2C恒流放电到放电截止电压。	≥ C _{min}
6.1.2	*RT Cycle Life *室温循环寿命	Charge cell with constant current 0.6C to Charge Cut-off Voltage, then charge with constant voltage till the charge current decreases to 0.05 C and discharge cell with 1.0C until cell voltage reaches Discharge Cut-off Voltage. Repeat 300 cycles, and record the discharge capacity and thickness of 300 th cycle. 以最大电流0.6C恒流恒压充电至充电截止电压0.05C截止,然后用1.0C恒流放电至放电截止电压。重复以上充/放电300次,并记录第300次的放电容量。	Cap Retention≥80% C _{initial} 容量保持≥80%C _{initial} Thickness≤6.78mm 厚度≤6.78mm
6.1.3	*Cap. Retention Performance *荷电保持性能	At 25±3°C, a sample cell is standard charged and stored for 28 days, and then discharged with 0.2C to 3.0V after the storage. 电芯在25±3°C下按照标准充电方法满充并静置28天,然后用0.2C恒流放电至3.0V并记录放电容量。	Capactiy≥90% C _{min} 容量≥90% C _{min}
6.1.4	*RT Capacity Retention 室温荷电保持能 力及恢复容量	The RT capacity on 0.2C discharge shall be measured after standard charge and then storage at 25±2°C & 45%-75%RH for 28 days. 电芯储存前给电芯充入40%-45%的容量,然后在温度25±2°C,相对湿度45%-75%的环境中储存28天。然后再按规定满充电芯,在25±2°C温度环境下以0.2C电流放电至中止电压。	' '



Doc No. : <u>AMP/JS-SPEC-Bxx-05</u>
Rev.: <u>A1</u> Date : <u>2022-07-21</u>

Page: <u>7</u> of <u>13</u>

6.1.5	Storage Performance	A sample cell is stored for 12 months at 40-45% SOC under the condition of 20±5°C and 45-75% RH. Then standardly charge the cell at 25±2°C and discharge with 0.2 C to 3.0V. Repeat the charge and discharge 5 times. 电芯在40-45%SOC下于25±5°C和45-75% RH的环境下保存12个月。然后在25±2℃用标准方法满充并用后0.2C恒流放电至3.0V。可以重复以上充放电循环5次。	≥80% C _{min}
0.1.5	储存性能	A sample cell is stored for 7 days at fully charged state under the condition of 60±2°C, and rest for 2 hrs at room temperature, recording the cool thickness, then discharged with 0.2C to 3.0V at room temperature. Repeat the charge and discharge 5 times. 电芯在满充状态下于60±2°C的环境下保存7天,然后在室温下冷却2小时,测试电芯冷态厚度,然后用0.2C恒流放电至3.0V并记录放电剩余容量。可以重复以上充放电循环5次,记录恢复容量。	Residual Capacity≥80%C _{min} Recoverable Capacity≥90%C _{min} Swelling≤10% 残余容量≥80%C _{min} 恢复容量≥90%C _{min} 膨胀率≤10%

6.2 Electrical safety and environmental safety performance/电安全和环境安全性能

No.	Items/项目	Test Method and Condition/测试方法及条件	Criteria/标准
6.2.1	*RT External Short Test *室温外短路测试	Refer to GB 31241-2014 section 6.1 参考GB 31241-2014 第6.1节	C1/C2/C3
6.2.2	*HT External Short Test *高温外短路测试	Refer to GB 31241-2014 section 6.2 参考GB 31241-2014 第6.2节	C1/C2/C3
6.2.3	*Over Charge Test *过充测试	Refer to GB 31241-2014 section 6.3 参考GB 31241-2014 第6.3节	C1/C2
6.2.4	*Forced-discharge Test *强制放电测试	Refer to GB 31241-2014 section 6.4 参考GB 31241-2014 第6.4节	C1/C2
6.2.5	Low Pressure Test 低气压测试	Refer to GB 31241-2014 section 7.1 参考GB 31241-2014 第7.1节	C1/C2/C4
6.2.6	Temp. Cycling Test 温度循环	Refer to GB 31241-2014 section 7.2 参考GB 31241-2014 第7.2节	C1/C2/C4
6.2.7	Vibration Test 振动测试	Refer to GB 31241-2014 section 7.3 参考GB 31241-2014 第7.3节	C1/C2/C4
6.2.8	Shock Test 冲击测试	Refer to GB 31241-2014 section 7.4 参考GB 31241-2014 第7.4节	C1/C2/C4
6.2.9	Drop Test	Refer to GB 31241-2014 section 7.5	C1/C2



Doc No. : <u>AMP/JS-SPEC-Bxx-05</u>
Rev.: <u>A1</u> Date : _2022-07-21

Page: <u>8</u> of <u>13</u>

	跌落测试	参考GB 31241-2014 第7.5节	
6.2.10	Crush Test 挤压测试	Refer to GB 31241-2014 section 7.6 参考GB 31241-2014 第7.6节	C1/C2
6.2.11	*Hot Box Test *热滥用测试	Refer to GB 31241-2014 section 7.8 参考GB 31241-2014 第7.8节	C1/C2

Criteria/标准

- C1 No fire 不起火
- C2 No explosion 不爆炸
- C3 Cell temperature less than 150°C 电芯温度不超过150°C
- C4 No leakage 不漏液
- C5 No Cracking 不破裂

6.4 Visual Inspection/外观

Cell appearance standard refer to 《appearance inspection and shipment standard》 of Amprius (Wuxi) Co., LTD. When the customer has the appearance standard, the standard shall be subject to the discussion with the customer and signed back.

电芯外观标准参考安普瑞斯(无锡)有限公司《外观检验出货标准》。 当客户有外观标准时,以和客户协商讨论并回签的标准为准。

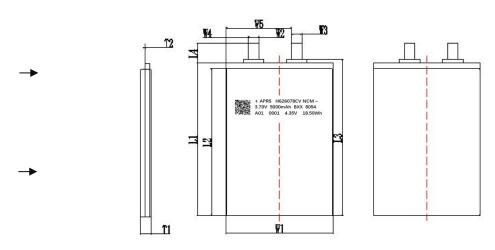
6.5 Warranty Period/保质期

The warranty period of cell is 12 months after the manufacture.

电芯保质期为电芯制造后12个月。

7 Cell Drawing/电芯绘图

(Unit/单位: mm)



Items/项目	Description/描述	Dimension/尺寸	
*T1	Cell thickness (Fresh Cell) 600g PPG		
*T1	电芯厚度(新鲜电芯)/600g PPG	6.28mm max	
T.1	Cell thickness (after cycling test) 600g PPG	C 70	
T1	电芯厚度(完成循环后)/600g PPG	6.78mm max	



Doc No. : AMP/JS-SPEC-Bxx-05

Rev.: A1 Date: 2022-07-21

Page: <u>9</u> of <u>13</u>

	1	T
*W1	Cell width/电芯宽度	60.3 mm max
L1	Cell length/电芯长度	78.3 mm Max
L2	Cell body length/电芯本体长度(参考)	76.3 mm Max
L4	Tab length /极耳长度	11.0±1 mm
W2/W3	Tab width/极耳宽度	6.0±0.1 mm
L1-L2	Top sealing width/顶封宽度	2.5±0.5mm
L3-L1	Sealant length/极耳胶长	0.2~2.0mm
W4	+ Tab position/+极耳边距	$13.3 \pm 1.0 \text{ mm}$
W5	- Tab position/-极耳边距	45.0 ±1.0 mm
T2	Tab thickness/极耳厚度	0.08±0.01 mm
	Double Side fold/双折边	是
	Cathode tab is Al and anode tab is Ni	是
	正极耳为铝极耳,负极耳为镍极耳	疋
	Barcode dimension/喷码尺寸	(5±1)mm高度 居中对称
	+ APRS H626078CV NCM - 3.70V 5000mAh BXX 8054 A01 0001 4.35V 18.50Wh	
	code description: "APRS" is the cell manufacturer code, "H6 26078CV" is the cell model, "NCM" is the cell cathode mate rial system, "3.70V" is the platform voltage, "5000mAh" is the minimum capacity, "BXX" is the model code, "8054" stand s for Thursday, the 5nd Week of 2018, "A01" is the batch number, 0001 is the serial number, 4.35V is the upper limit t charging voltage, and 18.50Wh is the rated energy. 「以下的人,我们可以不是一个一个专家的,我们可以不是一个一个专家的,我们可以不是一个一个专家的,我们可以不是一个一个专家的,我们可以不是一个一个专家的。我们可以不是一个一个专家的。我们可以不是一个一个一个专家的。我们可以不是一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个	
	产日期2018年5周周四, "A01"为批次号,0001为流水号,4.35V 为充电上限电压,18.50Wh为额定能量。	

8 Technical and Safety Requirements/技术和安全要求

Statement 1) Customers are required to apply the cells under the conditions described in this Cell Specification. Otherwise, customers are requested to consult Amprius to evaluate the risk to use the cells in other application conditions.

声明1):用户需在本电芯规格书规定的使用环境下使用电芯。如需在规定之外的环境下使用,用户需向安普瑞斯(无锡)有限公司咨询评估风险。

Statement 2) Amprius will take no responsibility for any accident when the cell is used under other conditions than those described in this Cell Specification.

声明2): 在本规格书规定环境之外使用电芯发生的意外,本公司不承担责任。

8.1 Charge/充电

8.1.1 Charge Current /充电电流

Charge current for a single cell should be less than the maximum charge current specified in this Cell Specification.



Doc No. : <u>AMP/JS-SPEC-Bxx-05</u>
Rev.: <u>A1</u> Date : <u>2022-07-21</u>

Page: <u>10</u> of <u>13</u>

单电芯的充电电流应该小于本规格书所标明的最大充电电流。

8.1.2 Charge Voltage /充电电压

Charge voltage for a single cell shall be less than that specified in this Cell Specification. Higher charge voltage must be strictly prohibited. The charger and protection circuit of battery pack shall be designed to comply with this voltage limitation.

单电芯的充电电压必须低于本规格书所标明的充电截止电压。超过规定充电电压必须被严格禁止。充电器和电池pack的设计也必须严格遵守充电电压的限制。

8.1.3 Charge Temperature/充电温度

Cells shall be charged according to the Temperature Condition specified in this Cell Specification. Charging at temperature lower or higher than the specified temperature windows shall be prohibited.

电芯的充电温度必须严格遵守本规格书规定之温度,在高于或低于规定的温度区间充电都必须禁止。

8.1.4 Prohibition of Reverse Charge /禁止反向充电

Reverse charge is prohibited. Reverse charge will damage the cells' chemical system, and may lead to gassing, overheat, fast capacity degradation, and even catching fire.

禁止反向充电。反向充电会破坏电芯的化学体系,并可能导致产气、过热、快速容量衰减甚至着火。

8.1.5 Prohibition of Charge to 0V Cells /禁止0V充电

Cell is prohibited to be charged when its voltage is 0V.

当电芯电压降至0V时,禁止对电芯充电。

8.2 Discharge/放电

8.2.1 Discharge Current/放电电流

Discharge current shall be not over the maximum discharge current specified in this Cell Specification. Higher discharging current may cause cell over-heat and fast capacity degradation.

放电电流不能超过本规格书规定的最大放电电流。过大的放电电流会导致电芯过热和快速容量衰减。

8.2.2 Discharge Temperature/放电温度

Cells shall be discharged according to the Temperature Condition specified in this Cell Specification.

电芯放电温度必须遵守本规格书所规定的电芯放电温度条件。

8.2.3 Over-discharge/过放

Cells could be in an over-discharge status due to self-discharge in long time storage. So cells shall be charged periodically to keep the voltage between the recommended range refer to The storage conditions in Section 5 to prevent over-discharge. Over-discharge may cause fast capacity degradation and gassing.

由于电芯的自放电,长期储存的电芯可能会处于过放电状态。因此长期储存的电芯应定期充电,保证电压处于第5节中的存储条件建议范围内,防止电芯过放电。过放电会导致电芯产气以及快速容量衰减。

8.3 Protection Functions for Batteries and Host Devices/电池和主机的保护功能

Below protection functions are required for battery packs and host devices to keep the cells under safe usage conditions: over charge protection, over discharge protection, over current protection, over heat protection, and short circuit protection.

电池pack或主机应具备以下保护功能,以保证电芯处于安全的使用环境:过充保护、过放保护、过流保护、过热保护以及短路保护。

8.3.1 Over charge Protection/过充保护

Overcharge protection shall be triggered and stop charging if the cell voltage reaches Charge Cut-off Voltage. The host devices and battery pack shall be designed to indefinitely withstand the maximum voltage from the adapter, under a single fault condition, to prevent a cascading failure through the system to the battery pack and/or Cell.

当电芯电压达到充电截止电压时,过充保护功能可以触发并停止充电。电池pack和主机应能承受来自充



Doc No. : <u>AMP/JS-SPEC-Bxx-05</u>
Rev.: <u>A1</u> Date : <u>2022-07-21</u>

Page: _11_ of _13_

电器的最大电压以防止因系统传到而导致电池pack或电芯失效。

8.3.2 Over discharge Protection/过放保护

Over-discharge protection shall be triggered and stop discharging if the cell voltage is lower than the threshold of over-discharge cut-off voltage.

当电芯电压低于过放截止电压的阈值时,过放保护功能可以触发并停止放电。

8.3.3 Over Current Protection/过流保护

Over current protection shall be triggered and stop charging when the charge current is higher than the specified current limitation. The battery pack or host device shall have at least one over current protection function designed to prevent the cell to be charged with higher current than the specified charge current.

当充电电流高于规定的充电上限电流时,过流保护能可以触发并停止充电。电池pack或主机至少具备一重过流保护功能,以防止电流超过规格进行充电。

8.3.4 Over Heat Protection /过热保护

At least one thermal protection device or mechanism is required for the battery pack or host device. For a thermistor type temperature protection circuit, all packs of the same model shall have the same voltage to temperature translation (acceptable tolerance no more than $\pm 10\%$), with consideration for any temperature lag over time.

During charge and discharge, the temperature of the cell shall be monitored. When temperature limitations are exceeded, action shall be taken to mitigate hazards. Action should include shutdown, or disabling of charging, or other protective action. The action may be took by the battery pack and/or host.

电池pack或主机至少具备一种热保护装置或机制。对于热敏电阻类温度保护电路,所有的pack应该具有相同的电压温度转换系数,可以接受的公差范围为±10%,同时应考虑温度的时间滞后效应。在充放电过程中,应监测电池的温度。当超过温度限制时,应采取措施减轻危害。动作应包括关闭,或禁用充电,或其他保护动作。该动作可能由电池组和/或主机采取。

8.3.5 The Limitation of Charge Time/充电时间限制

In order to prevent abnormal cells or battery packs, charging time shall be limited. When time limitation is reached, the host device or the battery pack should stop charge.

为防止异常电芯或pack,应设定充电上限时间。当充电时间达到上限时间时,主机或pack应停止充电。8.3.6 Pre-charge Function/预充电功能

The system shall not initiate normal charging if the battery voltage is below the over-discharge protection voltage. In this case, the system may support a pre-charging function to increase the battery voltage above the specified threshold. The pre-charge method is shown below:

Cell is charged with a small current (≤ 0.02 Cmin A) for approximately 30 minutes. When the voltage reaches 3.0V, cell can be charged with normal current. In case the (individual) cell voltage cannot rise to 3V within the pre-charging time, then the system shall have functions to stop further charging and display the cell/pack is at abnormal state.

如果电池电压低于过放保护电压,系统应该禁止常规充电,而启动预充电模式将电池电压提升至标准电压区间。预充电方法如下:

用小电流(≤ 0.02 Cmin A)对电池进行充电,充电时间约为30分钟。当电压达到3.0V时,启动常规充电方式。如果电池在预充模式下无法充电至3V,系统应停止充电并显示电池/pack处于异常状态。

8.4 Notice for Battery Pack Design/电池 pack 设计建议

- 8.4.1 Tab Welding/极耳焊接
- 1) Ultrasonic welding, laser welding or spot welding is recommended to connect Cells with PCM or other parts.
- 1) 建议使用超声焊接、激光焊接以及点焊方法来焊接电芯和PCM或其它部件。
- 2) Manual soldering method is not allowed.



Doc No. : AMP/JS-SPEC-Bxx-05 Rev.: <u>A1</u> Date : <u>2022-07-21</u>

Page: 12 of 13

2) 禁止使用手动焊接。

8.4.2 Cell Fixing/电芯固定

- 1) Cells are not allowed to be movable in the battery pack.
- 1) 电芯在pack中不允许有移动现象。
- 2) Short circuit of cell in a battery pack or host device are not allowed. Insulation layers between wiring and the cell are required to prevent short circuit. The battery pack or host device shall be structured without any potential short circuit.
- 2) 禁止电芯在电池pack或主机中出现短路,电芯和线路间要有绝缘层防止短路,电池pack和主机要从结 构上做防短路设计。

9 Handling Precautions and User's Guidelines/操作注意和用户指引

9.1 Storage of Cells/电芯储存

Cells shall be stored at the Temperature Condition and the Humidity Condition specified in this Cell Specification always. The voltage for long time storage shall be Refer to The storage conditions in Section 5 are within the recommended range

电芯应在本规格书规定的温度和湿度条件下储存。长期储存的电芯电压应保持参考第5节中存储条件的

9.2 Handling of Cells/电芯操作

- 9.2.1 The aluminum-polymer packing foil can be damaged by sharp stuffs such as Ni-tabs, pins and needles or other tooling and fixtures.
- 1) Do not scratch or touch cells with any sharp stuff.
- 2) Wear gloves before taking cells.
- 3) Clean worktable to make sure that there is no sharp particle.

铝塑包装膜易受尖锐物(如Ni极耳、大头针或其它工装夹具)损伤,

- 1)请勿用尖锐物体接触或刮擦电芯。
- 2)拿取电芯前需戴手套。
- 3)工作台确保无尖锐颗粒。
- 9.2.2 Do not bend or fold the top sealing section. It will damage the top sealing and cause leakage.

请勿弯折电芯顶封处,易造成顶封破损漏液。

9.2.3 Don't unfold the side sealing edge. Or the Aluminum layer of the packing foil will be damaged, which will lead to leakage.

请勿展开侧封边,否则铝塑包装膜中铝层会受损并引起漏液。

- 9.2.4 Don't fold or bend cell tabs. Tabs are fragile and may be broken after folding or bending. 请勿弯折电芯极耳。
- 9.2.5 Do not drop or bend cell.

请勿弯折或跌落电芯。

9.3 User's Guidelines/用户指引

- 9.3.1 Below user's guidelines shall be made available to the battery users with the cell inside through one or more of the following methods properly: printed on the battery label, printed on the host device label, printed in the user's manual, or posted in a help file or Internet website:
- 1) Do not disassemble or open, crush, bend or deform, puncture, or shred cells, which may cause cell internal short circuit and lead to firing.
- 2) Do not modify or remanufacture, attempt to insert foreign objects into the battery cell,



Doc No. : <u>AMP/JS-SPEC-Bxx-05</u>
Rev.: <u>A1</u> Date : <u>2022-07-21</u>

Page: 13 of 13

3) Do not immerse or expose to water or other liquids, or expose to fire, explosion, or other hazard.

- 4) Only use the battery for the system for which it was designed.
- 5) Only use the battery with a charging system that has been qualified with the system per standard. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazards.
- 6) Do not short circuit a battery or allow metallic or conductive objects to contact the battery terminals.
- 7) Replace the battery only with another battery that has been qualified with the system. Use of an unqualified battery may have a risk of fire, explosion, leakage, or other hazards.
- 8) Promptly dispose of used batteries in accordance with applicable local regulations.
- 9) Battery usage by children should be supervised.
- 10) Avoid dropping the device or battery. If the device or battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.
- 11) Improper battery use may result in a fire, explosion, or other hazard.
- 12) In the event of a battery leak, do not allow the liquid to come in contact with the skin or eyes. If contact has been made, wash the affected area with large amounts of water and seek medical advice.
- 13) Seek medical advice immediately if a battery has been swallowed.
- 以下用户指引应通过电池标签、主机标签、印刷用户手册、帮助文件或网站等形式提供给用户:
- 1) 请勿拆解或打开、挤压、弯折或扭曲或剪切电芯。上述行为会导致电芯内短路并导致起火。
- 2) 不要改变或改造电芯,不要尝试把异物插入电芯。
- 3) 不要置电芯于水或其它液体中,或暴露在火、爆炸或其它危险环境中。
- 4) 只在为其所设计的体统中使用该电芯。
- 5) 只使用经过认证合格的充电系统充电,使用未经认证的充电器会导致起火、爆炸、漏液等危险。
- 6) 请勿短路电池或允许导电金属物接触电池的正负极端子。
- 7) 使用进过系统认证合格的电池取代现有电池,使用未经认证的电池会有起火、爆炸、漏液等危险。
- 8) 合理处置废旧电池或遵照本地规范处置。
- 9) 儿童应在大人监管下使用电池。
- 10) 避免跌落主机或电池,如主机或电池发生跌落,尤其跌落在坚硬地面上,用户担心电池发生损伤的,应到售后服务点做进步检查。
- 11) 不合理地使用电池有导致起火、爆炸等危险。
- 12) 电池发生泄漏时,请勿让电池液体接触到皮肤或眼睛。如不幸发生,应立即用大量水冲洗,并寻求医生帮助。
- 13) 如发生吞咽电池,应立即寻求医生帮助。

9.4 Others/其它事项

9.4.1 Never incinerate nor dispose the cell in fire. It may cause cell explosion.

请勿焚烧电池或置电池于火中,可能会导致爆炸。

9.4.2 Never try to replace the battery. The battery replacement can only be done by the technicians with professional training.

请勿尝试置换电池。电池置换只能由经过专业培训的人员进行。

9.4.3 Prohibition to use damaged Cells

The cells might be damaged during shipping. If any abnormal phenomenon is found, such as deformation of the cell package, smelling of electrolyte, electrolyte leakage and others, the cells shall never be used any more.

禁止使用破损电芯

电芯在运输过程中可能会受到损伤,如电芯发现任何异常现象,如电芯包装变形,闻到电解液气味,电解液泄漏等,电芯应立即报废不得使用。