





中国认可 国际互认 检测 TESTING CNAS L5473

UN38.3

Report No.: CESUN221205010-M1

检测报告

TEST REPORT

Name of Sam	ple: Rechargeable Li-ion Cell
产品名称 :	锂离子充电电池
Model Specifi	cation:
产品型号:	IFR14500E600
Client:	BST POWER (SHENZHEN) LIMITED
委托单位 :	深圳市电科电源股份有限公司
Classification	of Test: Commission Test
检测类别:	委托检测

先进储能材料国家工程研究中心有限责任公司检测中心

Test Center of National Engineering Research Center of Advanced Energy Storage Materials Co., Ltd.

说明

Marking

1. 报告无"报告专用章"无效。

The test report is invalid without "Special seal for report".

2. 报告无批准人、审核人和主检人签名无效。

The test report is invalid without the signatures of Approver, Reviewer and Testing engineer.

3. 报告涂改无效。

The test report is invalid if altered.

4. 对检测报告若有异议,应于收到报告之日起十五天内向检测单位提出。

Objections to the test report must be submitted to Test Center within 15 days.

5. 报告仅对送检样品负责。

The test report is Valid for the tested samples only.

6. 本报告检测结论中"N/A"表示"不适用", "P"表示"符合标准要求", "F"表示"不符合标准要求"。 As for test result, "N/A" means is "not applicable", "P" means "pass", "F" means "fail".

7. 未经实验室书面批准,不得部分复制本报告书。

The partial replica of this report is prohibited without the written approval of CES.

检测法人单位: 先进储能材料国家工程研究中心有限责任公司

Legal Entity: National Engineering Research Center of Advanced Energy Storage Materials Co., Ltd.

检测单位地址:广东省深圳市宝安区石岩街道天宝路2号新永丰工业园B栋1楼A

Lab Address: A, 1st Floor, Building B, Xinyongfeng Industrial Park, No. 2 Tianbao Road,

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松华於河中田會



TEST REPORT

Name of sample 样品名称	Rechargeable Li-ion Cell 锂离子充电电池							
Model /Type 型号规格	IFR14500 (3.2V 600	DE600 DmAh 1.92Wh)	Size 样品尺寸	49.7mm×14.1mm (H×D)				
Appearance 样品外观	Approxim 绿色近圆	nate Green Cylinder 柱体	Trade mark 商标					
Quantity 样品数量	40 cells 40 个电芯		Mass 样品质量	约/Approx.: 18.5g				
Receiving Date 接样日期	2022-12-	05	Testing Date 测试日期	2022-12-05~2022-12-19				
	Name 名称	BST POWER (SHE 深圳市电科电源股份		ED .				
Client 委托单位	Address 地址	Community, Hengga Guangdong Province	Building C, D&3F Of Building A, No.37 Xinlong Road, Dakang Community, Henggang Street, Longgang District, Shenzhen City, Guangdong Province, P. R. China 深圳市龙岗区横岗街道大康社区新龙路 37 号 A 栋 3 楼 C、D 栋					
Name Hengyang LC Energy Storage Limited 名称								
Manufacturer	Address 地址	No. 2 Huagong Road, Songmu Economic Development Zone, Shigu District, Hengyang City, Hunan Province, P. R. China 湖南省衡阳市石鼓区松木经济开发区化工路 2 号						
生产单位	Tel. 电话	0734-8829000	E-mail 邮箱	csrz@bstbattery.com				
	Website 网址							
Tested standard 测试标准	Test and	8.3 of the Seventh Re Criteria'' (ST/SG/AC.1 试验和标准手册》第十	10/11/Rev.7/Sec					
Test conclusion 检测结论	Edition of (ST/SG/A	the UNITED NATION C.10/11/Rev.7/Section	IS "Manual of T n 38.3)	Section 38.3 of the Seventh Revised fest and Criteria"				
Issue date 签发日期	2023-12-0	05		基本的				
Tested by 主检	邻华	T Reviewed by 审核	34.其主	Approved by 批准				
陈其平 Cherry Ch 朱培华 Mark Zhu:				位验检测专用章				



TEST REPORT

Description and illustration of the sample/样品说明及描述:

报告说明:

本报告为报告 CESUN221205010 修改后报告,原报告的签发日期为 2022-12-26。 修改信息如下: 修改产品名称,由"锂离子电芯"改成"锂离子充电电池"。

自本报告签发之日起,原报告 CESUN221205010 作废。

Report Summary:

The original Test Report No. CESUN221205010, issued on 2022-12-26 was corrected on 2023-12-05. Due to: Change Name of Sample, from "Li-ion Cell" to "Rechargeable Li-ion Cell". This report supersedes the original report after issuance.

The sample is lithium ion cell, and without protective devices, are not subject to the requirements of T7 test.

The sample's status is good /样品为锂离子电芯,无保护装置,无须做 T7 测试。样品状况良好。

测试项目及结论/ Test items and conclusion.

侧风项目及给化/Test items and conclusion	0	
Test item	Sample No.	Verdict
测试项目	样品编号	判定
T.1 Altitude simulation 高度模拟	C1~C5, C6~C10	Р
T.2 Thermal test 温度试验	C1~C5, C6~C10	Р
T.3 Vibration 振动	C1~C5, C6~C10	Р
T.4 Shock 加速度冲击	C1~C5, C6~C10	Р
T.5 External Short Circuit 外部短路	C1~C5, C6~C10	Р
T.6 Impact /Crush 撞击/挤压	C11~C15, C16~C20	Р
T.7 Overcharge 过充电		N/A
T.8 Forced discharge 强制放电	C21~C30, C31#~C40	Р
Sample pretreatment/样品预处理。		

Sample pretreatment/样品预处理:

Cells at first cycle, in fully charged state. C1~C5:....

第1个充放电周期完全充电状态的电芯。

C6~C10:.... Cells after 25th cycle, in fully charged state.

第25个充放电周期后完全充电状态的电芯。

C11~C15:.... Cells at first cycle at 50% of the design rated capacity.

第1个充放电周期充电到设计额定容量的50%的电芯。

C16~C20:.... Cells after 25th cycle at 50% of the design rated capacity.

第25个充放电周期后充电到设计额定容量的50%的电芯。

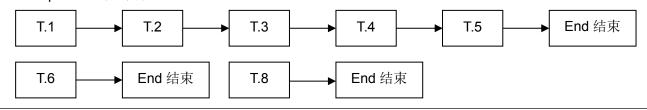
Cells at first cycle, in fully discharged state. C21~C30:....

第1个充放电周期完全放电状态的电芯。

C31~C40:.... Cells after 25th cycles, ending in fully discharged state.

第25个充放电周期完全放电状态的电芯。

Test sequence/试验顺序:

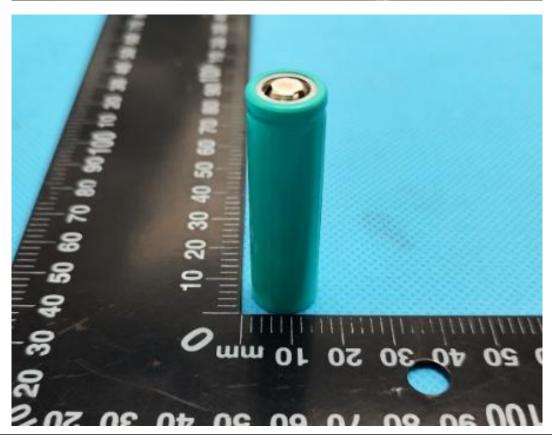




Photos of Samples and Labels/样品照片及标识

Cell /电芯(IFR14500E600 3.2V 600mAh 1.92Wh)







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~ :	ST/SG/AC.10/11/Rev.7/Section 3	Т							
Clause	Requirements	Result	Verdict						
章节	标准要求	测试结果	判定						
38.3.4	Procedure/测试步骤		_						
	Test T.1: Altitude simulation/测试 T.1: 高度模拟								
	Test cells and batteries shall be stored at a pressure of 11.6kPa or less for at least six hour at ambient temperature (20±5℃)/ 将电池和电池组在温度为 20±5℃,压力为不大于 11.6kpa 的环境中贮存不少于 6 个小时。								
	Requirement/标准要求:	The samples C1~C10:							
	1. Cells and batteries Mass loss limit: ≤0.2% /样品质	no leakage, no venting,							
	量损失≤0.2%。	no disassembly, no							
38.3.4.1	2. Open circuit voltage not less than 90%, The	rupture and no fire/样品	Р						
	requirement relating to voltage is not applicable to test	C1~C10: 无渗漏、无排							
	cells and batteries at full discharged states/样品试验	气、无解体、无破裂以							
	后开路电压应不低于试验前开路电压的90%,此要求不	及无着火现象							
	适用于完全放完电的电池和电池组。	The test data see							
	3. No leakage, no venting, no disassembly, no rupture	table1 /测试数据见表1							
	and no fire /样品(电池)应无渗漏、无排气、无解体、								
	无破裂以及无着火现象的发生。								
	Test T.2: Thermal test/测试 T.2: 温度试验								
	Test cells and batteries are to be stored for/电池和电池组存储条件如下:								
	1.one temperature cycle: 72±2℃(6h) —-40±2℃(6h) /一次温度循环为72±2℃								
	(6h)—40±2℃(6h)。								
	2.The maximum time interval between test temperature extremes is 30 minutes/								
	温度转换最大间隔时间为30min。								
	3.This procedure is to be repeated 10 times/重复10次循环。								
	4.after which all test cells and batteries are to be stored	4.after which all test cells and batteries are to be stored for 24 hours at ambient							
	temperature (20±5℃)/循环结束后,电池和电池组在20±5℃的条件下搁置24小								
	时。								
	For large cells and batteries the duration of exposure to	the test temperature							
38.3.4.2	extremes should be at least 12 hours/对于大型电池和电度的时间至少为12小时。	池组,暴露于极端试验温	Р						
	Requirement/标准要求:	The samples C1~C10:							
	1. Cells and batteries Mass loss limit: ≤0.2% /样品质	no leakage, no venting,							
	量损失≤0.2%。	no disassembly, no							
	2. Open circuit voltage not less than 90%, The	rupture and no fire/样品							
	requirement relating to voltage is not applicable to test	C1~C10: 无渗漏、无排							
	cells and batteries at full discharged states/样品试验	气、无解体、无破裂以							
	│ 后开路电压应不低于试验前开路电压的90% 此要求不	1 及							
	后开路电压应不低于试验前开路电压的90%,此要求不 适用于完全放完电的电池和电池组。	及无着火现象 The test data see							
	适用于完全放完电的电池和电池组。	The test data see							



Test T.3: Vibration/测试 T.3: 振动 1. Cells and batteries are firmly secured to the platform of the view 和电池组牢固地安装在振动台(的台面)上。 2. The vibration: a sinusoidal waveform with a logarithmic sweet and 200Hz and back to 7Hz traversed in 15 minutes/振动以正理增加至200Hz,然后再回到7Hz为一个循环,时间跨度为15分钟3. The logarithmic frequency sweep is as follows/对数扫频为: (1)For cells and small batteries: from 7 Hz a peak accelerate maintained until 18 Hz is reached, The amplitude is then mainted (1.6 mm total excursion) and the frequency increased until a per of 8gn occurs (approximately 50Hz), A peak acceleration of 8g maintained until the frequency is increased to 200Hz/对于电池 赫兹开始保持1gn的最大加速度直到频率为18赫兹,然后将振幅信息。	Result Verdict 则试结果 判定 ration machine
38.3.4.3 Test T.3: Vibration/测试 T.3: 振动 1. Cells and batteries are firmly secured to the platform of the view 和电池组牢固地安装在振动台(的台面)上。 2. The vibration :a sinusoidal waveform with a logarithmic sweet and 200Hz and back to 7Hz traversed in 15 minutes/振动以正理增加至200Hz,然后再回到7Hz为一个循环,时间跨度为15分钟3. The logarithmic frequency sweep is as follows/对数扫频为: (1)For cells and small batteries: from 7 Hz a peak accelerate maintained until 18 Hz is reached, The amplitude is then maint (1.6 mm total excursion) and the frequency increased until a per of 8gn occurs (approximately 50Hz), A peak acceleration of 8g maintained until the frequency is increased to 200Hz/对于电池	
1. Cells and batteries are firmly secured to the platform of the view /电池和电池组牢固地安装在振动台(的台面)上。 2. The vibration: a sinusoidal waveform with a logarithmic sweet and 200Hz and back to 7Hz traversed in 15 minutes/振动以正理增加至200Hz,然后再回到7Hz为一个循环,时间跨度为15分钟3. The logarithmic frequency sweep is as follows/对数扫频为: (1)For cells and small batteries: from 7 Hz a peak accelerate maintained until 18 Hz is reached, The amplitude is then maint (1.6 mm total excursion) and the frequency increased until a per of 8gn occurs (approximately 50Hz), A peak acceleration of 8g maintained until the frequency is increased to 200Hz/对于电池	ration machine
偏移1. 6毫米)并增加频率直到最大加速度达到8gn(频率约为5加速度保持在8gn直到频率增加到200赫兹。 (2) For large batteries: from 7Hz to a peak acceleration of maintained until 18Hz is reached. The amplitude is then mainta (1.6 mm total excursion) and the frequency increased until a peof 2gn occurs (approximately 25Hz). A peak acceleration of 2g maintained until the frequency is increased to 200Hz/对于大型开始保持1gn的最大加速度直到频率为18赫兹,然后将振幅保持移1.6毫米)并增加频率直到最大加速度达到2gn(频率约为25基速度保持在2gn直到频率增加到200赫兹。 4. This cycle repeated 12 times for a total of 3 hours for each of perpendicular mounting position of the cell /振动的其中一个方面极性,对每个电池从三个互相垂直的方向上循环12次,每个大小时。 Requirement/标准要求: 1. Cells and batteries Mass loss limit: ≤0.2% /样品质量损失≤0.2%。 2. Open circuit voltage not less than 90%, The requirement relating to voltage is not applicable to test C1~C	between 7Hz 皮形式,以7Hz on of 1gn is ned at 0.8 mm k acceleration s then 小型电池:从7 持在0.8毫米(总 持兹),将最大 gn is ed at 0.8 mm k acceleration s then 池组:从7赫兹 0.8毫米(总 玄),将最大 可能是一个位的。 这种是一个位的。 可以为一个一个位的。 可以为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



	ST/SG/AC.10/11/Rev.7/Section 3	88.3						
Clause	Requirements	Result	Verdict					
章节	标准要求 测试结果							
	Test T.4: Shock/测试 T.4: 加速度冲击							
	1.Test cells and batteries shall be secured to the testing machine/以稳固的托架固定住每个电池和电池组样品的全部配件表面。 2. Each cell shall be subjected to a half-sine shock of peak acceleration of 150gn and pulse duration of 6 milliseconds. Alternatively, large cells may be subjected to a half-sine shock of peak acceleration of 50gn and pulse duration of 11 milliseconds./小型电池须经受峰值为150gn和脉冲持续时间6毫秒的半正弦冲击,大型电池须经受最大加速度50gn和脉冲持续时间11毫秒的半正弦波冲击。3. Small batteries shall be subjected to a half-sine shock of peak acceleration of 150gn (or Acceleration(g _n) = $\sqrt{\frac{100850}{mass}}$, which is smaller)and pulse duration of 6 milliseconds. Large batteries shall be subjected to a half-sine shock of peak acceleration of 50gn (or Acceleration(g _n) = $\sqrt{\frac{30000}{mass}}$, which is smaller)and pulse duration of 50gn (or Acceleration(g _n) = $\sqrt{\frac{30000}{mass}}$, which is smaller)and pulse duration of 11 milliseconds./小型电池须经受峰值为150gn(或与							
38.3.4.4	$\sqrt{\left(\frac{100850}{\textit{mass}}\right)}$ 中的较小值)和脉冲持续6毫秒的半正弦波冲击,大型电池组须经受最大加速度 50gn (或与 $\sqrt{\left(\frac{30000}{\textit{mass}}\right)}$ 中较小值)和脉冲持续时间 11 毫秒的半正弦波							
	冲击。 3 .Each cell or battery shall be subjected to three shocks in the positive direction followed by three shocks in the negative direction of three mutually perpendicular mounting positions of the cell or battery for a total of 18 shocks/每个电池或电池组须在三个互相垂直的电池安装方位的正方向经受三次冲击,接着							
	在反方向经受三次冲击,总共经受18次冲击。 Requirement/标准要求: 1. Cells and batteries Mass loss limit: ≤0.2% /样品质量损失≤0.2%。 2. Open circuit voltage not less than 90%, The requirement relating to voltage is not applicable to test cells and batteries at full discharged states/样品试验后开路电压应不低于试验前开路电压的90%,此要求不适用于完全放完电的电池和电池组。 3. No leakage, no venting, no disassembly, no rupture and no fire /样品(电池)应无渗漏、无排气、无解体、无破裂以及无着火现象的发生。 The samples C1~C10: Acceleration=150gn No leakage, no venting, no disassembly, no rupture and no fire/样品 C1~C1#: 峰值加速度=150gn 无渗漏、无排气、无解体、无破裂以及无着火现象。The test data see table1 /测试数据见表1							



	ST/SG/AC.10/11/Rev.7/Section 3	38.3	
Clause	Requirements	Result	Verdict
章节	标准要求	测试结果	判定
38.3.4.5	Test T.5: External Short Circuit/测试 T.5:外部短路 1. The cell or battery to be tested shall be temperature sexternal case temperature reaches 57±4℃/保持试验更以使电池或电池样品外表温度稳定达到57±4℃。 2. the cell or battery shall be subjected to a short circuit external resistance of less than 0,1 ohm at 57±4℃, This continued for at least one hour after the cell or battery e has returned to 57±4℃, or in the case of the large bath half of the maximum temperature increase observed dubelow that value/将电池或电池正负极用小于0.1Ω的总电电池的外表温度恢复到57±4℃之后保持短路状态1小时外壳温度下降至最大温升的一半即可。 3. the cell or battery must be observed for a further six concluded/对电池或电池必须进一步观察 6 个小时才能可以可以使用的一个一个一个时间,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	s condition with a total s short circuit condition is xternal case temperature teries, has decreased by ring the test and remains 以且回路进行短路,电池或以上,对于大型电池组其 thour for the test to be	P
	Test T.6: Impact / Crush / 测试 T.6: 撞击/挤压		Р
38.3.4.6	Impact (applicable to cylindrical cells not less than 18mm用于直径不小于18毫米的圆柱形电池) 1. This test sample cell or component cell is to be place surface/将试验样品用的电池或组件电池放在一个平坦光2. A 15.8±0.1mm diameter, at least 6 cm long, or the locell, whichever is greater, type 316 stainless bar is to be center of the sample, A 9.1kg mass is to be dropped froat the intersection of the bar and sample in a controlled frictionless, vertical sliding track or channel with minima mass. The vertical track or channel used to guide the faoriented 90 degrees from the horizontal supporting surfe横过电池中部放置,钢棒的直径为15.8毫米±0.1毫米电池最长端的长度,取二者之长着。将一质量为9.1千克2.5厘米的高度落向钢棒与试样的交叉处,使用一个几乎没阻力最小的垂直轨道或管道加以控制。垂直轨道或管道加以控制。垂直轨道或管道加以控制。垂直轨道或管道加以控制。垂直轨道或管道加以控制。垂直轨道或管道加以控制。垂直轨道或管道加以控制。重直轨道或管道加入扩展,15.8元。15.8元。16.	ed on a flat smooth 清別的平面上。 ngest dimension of the e placed across the om a height of 61±2.5cm manner using a near ald drag on the falling alling mass shall be face /将一根316型不锈钢,长度至少为6厘米,或±0.1千克的重锤从61±26有摩擦的、对落体重锤用于引导落锤沿与水平支	N/A



	ST/SG/AC.10/11/Rev.7/Section	38.3						
Clause	Requirements	Result	Verdict					
章节	标准要求	测试结果	判定					
	surface and perpendicular to the longitudinal axis of th	e 15.8 mm ± 0.1mm						
	diameter curved surface lying across the centre of the	test sample. Each sample						
	is to be subjected to only a single impact/接受撞击的词	(样,纵轴应与平坦的表面						
	平行并与横放在试样中心的直径15.8±0.1毫米弯曲表面	f的纵轴垂直。每一个试样						
	只经受一次撞击。	I						
	Requirements/标准要求:							
	1. Cells external temperature not exceed 170℃/电池							
	的最高表面温度应不超过170℃。		NI/A					
	2 .No disassembly, no rupture and no fire within six hours of this test./试验结束后6 个小时之内, 电池应无	_ 	N/A					
	解体和无着火现象发生。							
	所							
	Crush (applicable to prismatic, pouch, coin/button cell	s and cylindrical cells less						
	than 18mm in diameter)/挤压(适用于棱柱形、袋装、							
	18毫米的圆柱形电池)							
	1. A cell or component cell is to be crushed between two flat surfaces. The							
	crushing is to be gradual with a speed of approximately 1.5cm/s at the first point							
	of contact. The crushing is to be continued until the first of the three options							
	below is reached/将电池或元件电池放在两个平面之间挤压,挤压力度逐渐加大,							
	在第一个接触点上的速度大约为1.5 厘米/秒。挤压持续进行,直到出现以下三种							
	情况之一:	1.11.7140 T th : 0.70 T th						
	(a) The applied force reaches 13kN ± 0.78kN /施加的力达到13千牛±0.78千牛 (b) The voltage of the cell drops by at least 100mV/电池的电压下降至少100毫伏							
	(c) The cell is deformed by 50% or more of its original							
38.3.4.6	厚度的50%以上。	IIICKIICSS/电枢文/反应原始	Р					
	2. A prismatic or pouch cell shall be crushed by applying	ng the force to the widest						
	side. A button/coin cell shall be crushed by applying the	e force on its flat surfaces/						
	棱柱形或袋装电池应从最宽的一面施压。纽扣/硬币形电	且池应从其平坦表面施压。						
	圆柱形电池应从与纵轴垂直的方向施压。							
	Requirements/标准要求:	The samples C11~C20:						
	1. Cells external temperature not exceed 170℃/电池	no disassembly and no						
	的最高表面温度应不超过170℃。	fire/样品C11~C20: 无解						
	2.No disassembly, no rupture and no fire within six	体、无着火现象						
	hours of this test/试验结束后6个小时之内,电池应无解体和无着火现象发生。	The test data see table2						
	所	/测试数据见表 2 						
	Test T.7: Overcharge/测试 T.7: 过充电							
	1. The charge current shall be twice the manu	facturer's recommended						
38.3.4.7	maximum continuous charge current/以2倍制造厂推荐	的最大持续充电电流对样	N/A					
	品充电							
	2 .The minimum voltage of the test shall be as follows/	本测试最小电压为:						



	ST/SG/AC.10/11/Rev.7/Section 3	38.3						
Clause	Requirements	Result	Verdict					
章节	标准要求							
38.3.4.7	a) When the manufacturer's recommended charge voltage is not more than 18V, the minimum voltage of the test shall be the lesser of two times the maximum charge voltage of the battery or 22V/如果厂家推荐的充电电压不超过18V,本测试的最小充电电压应是厂家标定最大充电电压的两倍或者是22V之中的较小者。b) When the manufacturer's recommended charge voltage is more than 18V, the minimum voltage of the test shall be1.2 times the maximum charge voltage/如果厂家推荐的充电电压超过18V,本测试的最小充电电压应是厂家标定最大充电电压超过18V,本测试的最小充电电压应是厂家标定最大充电电压的1.2倍。c)Tests are to be conducted at ambient temperature 20±5℃, The duration of the test shall be 24 hours/20±5℃的环境温度下,试验持续24小时。		N/A					
	Requirements/标准要求: No disassembly and no fire within seven days of this test/试验样品在试验中和试验后7天内,应无解体和无着火现象发生。							
	Test T.8: Forced discharge/测试 T.8: 强制放电							
38.3.4.8	Each cell shall be forced discharged at ambient tempe series with a 12 V D.C. power supply at an initial curre discharge current specified by the manufacturer/20±5 电池连接在12V 的直流电源上进行强制放电,此直流电流为制造厂指定的最大放电电流。 The specified discharge current is to be obtained by coof the appropriate size and rating in series with the test forced discharged for a time interval (in hours) equal to by the initial test current (in ampere)/指定的放电电流通适大小和功率的负载来获得,每个电池的强制放电时间初始电流(安培)。	nt equal to the maximum ℃的环境温度下,将单个源提供给每个电池初始电 onnecting a resistive load at cell. Each cell shall be its rated capacity divided 过串联在测试电池上的合	Р					
	Requirements/标准要求: No disassembly and no fire within seven days of this test/试验样品在试验中和试验后7天内,应无解体和无着火现象发生。	The samples C21~C40: no disassembly and no fire /编号为C21~C40无解 体、无着火现象 The test data see table3 /测试数据见表3						



Table1: T.1~T.5 / 表1: T.1~T.5											
Item/	项目	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
OCV pric 试验前		3.388	3.392	3.394	3.387	3.385	3.392	3.389	3.396	3.391	3.394
Mass prid 试验前点		18.442	18.359	18.420	18.485	18.389	18.364	18.462	18.500	18.433	18.285
T.1: Altitude	Mass loss 质量损失 (%)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Simulation 高度模拟	Change ratio 电压比 (%)	100	99.971	99.971	100	100	100	100	99.971	100	100
T.2: Thermal	Mass loss 质量损失 (%)	0.049	0.049	0.043	0.049	0.049	0.033	0.038	0.049	0.027	0.049
test 温度试验	Change ratio 电压比 (%)	99.055	98.997	98.910	99.085	98.996	98.880	98.879	98.940	98.997	99.116
T.3: Vibration	Mass loss 质量损失 (%)	0.000	0.005	0.000	0.005	0.000	0.005	0.005	0.005	0.000	0.005
振动	Change ratio 电压比 (%)	100	100	100	100	99.970	100	100	100	100	99.970
T.4: Shock	Mass loss 质量损失 (%)	0.005	0.005	0.000	0.000	0.005	0.005	0.005	0.000	0.000	0.000
加速度冲击	Change ratio 电压比 (%)	100	99.970	99.970	100	100	99.970	99.970	100	99.970	99.970
T.5: External Short Circuit 外接短路	Temp, (℃) 温度 (℃)	87.6	121.3	105.4	119.6	112.4	118.2	102.9	118.3	109.4	121.3



Table 2: Crush/表 2: 挤压											
	Sample No, 样品号	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20
T.6: Crush/ 挤压	OCV prior to test 试验前电压(V)	3.301	3.300	3.300	3.299	3.298	3.299	3.300	3.300	3.299	3.300
V .,	Temp, (℃) 温度 (℃)	23.5	23.6	23.8	23.9	23.4	23.6	23.8	23.7	23.6	23.8

	Table 3: Forced discharge /表 3: 强制放电											
	Sample No, 样品号	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30	
T.8: Forced	OCV prior to test 试验前电压(V)	2.637	2.593	2.615	2.604	2.634	2.598	2.611	2.643	2.594	2.641	
discharge 强制放电	Sample No, 样品号	C31	C32	C33	C34	C35	C36	C37	C38	C39	C40	
	OCV prior to test 试验前电压(V)	2.608	2.642	2.668	2.631	2.658	2.594	2.674	2.676	2.587	2.618	

⁻⁻ End of Report --