





中国认可 国际互认 检测 TESTING CNAS L5138

Rep.No.:TSZ22070277-P12-R01

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检测报告 UN38.3

lame of sample:	Lithium ion Battery Pack	
产品名称:	程离子电池组 ³⁴	天说 Tians
Model/型号规格:	YD12100	天闸
Client:	Dongguan YingDa Electronics Co., Ltd	7100
委托单位:	东莞英达电子有限公司	
Classification:	Commission Test	7,00
检测类别:	Min	Pian Su

Shenzhen Tiansu Calibration and Testing Co.,Ltd

深圳天溯计量检测股份有限公司

Shenzhen Tiansu Calibration and Testing Co.,Ltd 深圳天溯计量检测股份有限公司

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UN38.3



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Rep. No.: ISZ22070277-P12-R01	Page 2 / 16 Pages
Name of samples: Lithium ion Battery Pack 样品名称: 锂离子电池组	Trade mark: - 7tax 5 7
Commissioned by: Dongguan YingDa Electronics Co., Ltd 委托单位: 东莞英达电子有限公司	Commissioner address: No. 70, Hexi 1st Road, Changping Town, Dongguan City, Guangdong Province 委托单位地址: 广东省东莞市常平镇常平沿河西一路 70 号
Manufacturer by: Dongguan YingDa Electronics Co., Ltd 制造单位: 东莞英达电子有限公司	Manufacturer address: No. 70, Hexi 1st Road, Changping Town, Dongguan City, Guangdong Province 制造单位地址: 广东省东莞市常平镇常平沿河西一路 70 号
Manufacturer's Contact Information 制造商联系信息: Phone: 15217738208 Email: YYHyingdadianzi@outlook.com	Manufacturer's Web Site 制造商网址:
Type/Model	Shape: Approximate Cuboid
型号规格: YD12100	样品形状: 近长方体
Appearance color: Black	Sample size
样品颜色: 黑色	样品尺寸:L(332.8mm)*W(176.8mm)*H(220.3mm)
Rated info.	Cell quantity
额定信息: 12.8V/100Ah/1280Wh	组成电芯数量: 4PCS
Quantity of sample: 30cells+16batteries	Cell model
样品数量: 30 个电芯+16 个电池	电芯型号: 30135227
Limited charge voltage	Cut-off voltage
充电限制电压: 14.6V	放电截止电压: 10V
Standard charge current	Max continuous charge current
标准充电电流: 20A	最大持续充电电流: 50A
Standard discharge current	Max continuous discharge current
标准放电电流:20A	最大持续放电电流: 100A
Receiving date	Sample identification
接样日期: 2022-08-12	样品标识序号: B01#~B16#,C01#~C30#
Completing date	Test item: 8 items
完成日期: 2022-08-21	测试项目: 8 项
Toot conclusion:	7 VIII 40 7/100 5"

Test conclusion:

检测结论:

The Lithium ion Battery Pack submitted by Dongguan YingDa Electronics Co., Ltd are tested according to Section 38.3 of The Seventh Revised Edition of the United Nations Recommendations on the Transport of Dangelous Goods, Manual of Test and Criteria (ST/SG/AC.10/11/Rev.7/Section38.3). The test results comply with the relevant requirements of the standard.

由东莞英达电子有限公司送检的锂离子电池组,依据联合国《关于危险货物运输的建议书》试验,准手期为第二修订版第38.3 节进行检测,测试结果符合标准相关要求。

Date of issue:Aug. 25,2022 签发日期:2022.68.25

批准 Approved by

段江涛

审核 Reviewed by



主检 Tested by 徐志龙

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Description and illustration of the sample:

样品说明及描述:

	PP 00 11 00 11 00	5.6 37.11		
	Test item 测试项目	Sample No. 样品编号	大州 State パープロルライ イロルライ 状态 デロルラル	Remark 备注
	T.1~T.5	B01#~B04#	at first cycle in fully charged states; 在第一个循环完全充电;	Battery
}. 7a	1.1~1.5	B05#~B08#	after 25 cycles ending in fully charged states; 在第二十五个循环完全充电;	电池
e l		C01#~C05#	at first cycle at 50% of the design rated capacity; 在第一个循环充电 50%的额定容量;	Cell
d	T.6	C06#~C10#	after 25 cycles ending in fully charged at 50% of the design rated capacity; 在第二十五个循环充电 50%的额定容量;	电芯
	7100 51	B09#~B12#	at first cycle in fully charged states; 在第一个循环完全充电;	Battery
ネラ	T.7 B13#~B16#		after 25 cycles ending in fully charged states; 在第二十五个循环完全充电;	电池
6	T.8	C11#~C20#	at first cycle in fully discharged states; 在第一个循环完全放电;	Cell
	1.0	C21#~C30#	after 25 cycles ending in fully discharged states; 在第二十五个循环完全放电;	电芯

Description of the sampling procedur	dure:	proced	ling	samp	the	of	ption	Descri	С
--------------------------------------	-------	--------	------	------	-----	----	-------	--------	---

取样程序的说明:

Description of report revision:

报告修订的说明:

Remarks:

备注:

The Lithium ion Battery Pack submitted by Dongguan YingDa Electronics Co., Ltd are small batteries.

由东莞英达电子有限公司所送的锂离子电池组是小电池。

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Photos of Battery\电池图片







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型号: YD12100

电压: 12.8V

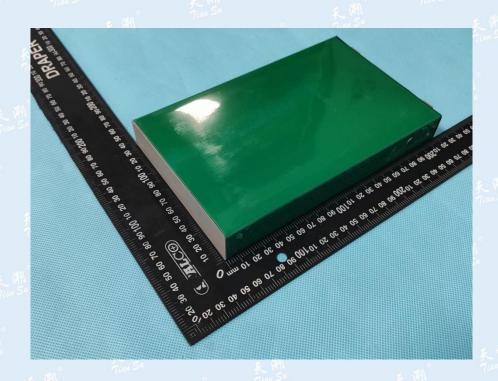
容量: 100Ah

瓦时: 1280Wh



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Photos of Cell\电芯图片





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38.3.4	Procedure/测记	式步骤					ian Su—	
- *40	Test 1: Altitud	de simulation/	测试 1: 高度模	拟	A SAS	大 (All Tian Su	3	
	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℃). 将电芯和电池在温度为 20±5℃,大气压力为不大于 11.6kpa 的环境中贮存不少于 6 个小时。							
	Requirement/标准要求:							
	7		oss limit: ≤0.1%	TA Sa			×40 -	
38.3.4.1	样品质量损	失≤0.1%。					L VIII P	
\$ WA	applicable to	test cells and	batteries at ful	l discharged sta	relating to voltagates. 要求不适用于完全	Time of the	.	
	和电芯。	7100 3	0 202 107 1 7 1	Tion Su	X 1 - 1 - 2/11 1 / 20 - 3	H.	×8.0	
			- fiar	no rupture and i 、无破裂以及无	no fire. 着火现象的发生。	· · 天徽	K Wis Tian S	
A S	Result 测试结果	美術	A Tian	S* € ∰	美瀬 Tian Sii	0	天衛 Tian Su	
Sample No.	5//	Before Test 测试前		After Test 测试后		Residual OCV	Test result	
样品编号	Mass 样品质量 (kg)	Voltage 开路电压(V)	Mass 样品质量(kg)	Voltage 开路电压(V)	质量损失(%)	剩余电压(%)	测试结果	
B01#	9.952	13.787	9.952	13.773	0.00	99.90	Р	
B02#	9.955	13.843	9.955	13.837	0.00	99.96	Р	
B03#	9.941	13.742	9.941	13.732	0.00	99.93	Р	
B04#	9.957	13.626	9.957	13.622	0.00	99.97	Р	
	9.941	13.732	9.941	13.717	0.00	99.89	Р	
B05#	3.341					140		
B05#	9.946	13.808	9.946	13.801	0.00	99.95	Р	
ian -		13.808 13.763	9.946 9.952	13.801 13.759	0.00	99.95 99.97	P P	

Other supplements: Test result "P" decides that the test item passes.

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38.3.4	Procedure/测	试步骤					iaa Su—
, o	Test 2: Thern	nal test/测试 2	: 温度测试	Tian 5"	×40	Tean Su	3
	72±2℃, follow The maximum procedure is t batteries are t 将电芯和电池 贮存不少于 6	ved by storage n time interval I to be repeated to be stored for 在温度为 72±2 个小时,两个	for at least six between test tel until 10 total cy 24 hours at an ℃的条件下贮存	hours at a test mperature extr cles are compl nbient tempera 不少于 6 个小 长为 30min,重	时,然后,在温息	al to -40±2°C, tes, This all test cells and	天湖 Tian Su Ian Su
38.3.4.2	Requirement/		oss limit: ≤0.1%	· M	天 州 7ina Su	Tian S" 天衛 Tian S	Р
	applicable t	t voltage not le to test cells and	d batteries at ful	II discharged st	t relating to volta tates. 医求不适用于完	美潮	天湖 Tian Si
	3.No leakage,	d.	o disassembly, r 无排气、无解体	1.0			Tian Su
	Result	支術	9100 2"	0	Plan Su	·	1
Tian Su	Result 测试结果	K M 71as Sa	7 int 3"	天 傑 71011 511	Trace 5"	* Tian	D Sa
Sample	6		Mint D	· Test	Mass loss	Residual OCV	Test
Sample No. 样品编号	测试结果 Before		Mint D	Test	7 in 52 不 7 in 52	来说 Tian- Tian-	Test result 测试结果
No.	测试结果 Befor 测证 Mass	式前 Voltage	测 i Mass	Test 式后	Mass loss	Residual OCV	result
No. 样品编号	测试结果 Before 测证 Mass 样品质量 (kg)	式前 Voltage 开路电压(V)	测记 Mass 样品质量(kg)	Test 式后 Voltage 开路电压(V)	Mass loss 质量损失(%)	Residual OCV 剩余电压(%)	result 测试结身
No. 样品编号 B01#	测试结果 Before 测证 Mass 样品质量 (kg) 9.952	式前 Voltage 开路电压(V) 13.773	测i Mass 样品质量(kg) 9.952	Test 式后 Voltage 开路电压(V)	Mass loss 质量损失(%)	Residual OCV 剩余电压(%) 99.49	result 测试结界 P
No. 样品编号 B01# B02#	测试结果 Before 测证 Mass 样品质量 (kg) 9.952	Voltage 开路电压(V) 13.773 13.837	测i Mass 样品质量(kg) 9.952 9.955	Test 式后 Voltage 开路电压(V) 13.703	Mass loss 质量损失(%) 0.00	Residual OCV 剩余电压(%) 99.49 99.53	result 测试结界 P
No. 样品编号 B01# B02# B03#	测试结果 Before 测证 Mass 样品质量 (kg) 9.952 9.955	Voltage 开路电压(V) 13.773 13.837	测i Mass 样品质量(kg) 9.952 9.955 9.941	Test 式后 Voltage 开路电压(V) 13.703 13.772	Mass loss 质量损失(%) 0.00 0.00	Residual OCV 剩余电压(%) 99.49 99.53	result 测试结界 P P
No. 样品编号 B01# B02# B03# B04#	测试结果 Before 测试 Mass 样品质量 (kg) 9.952 9.955 9.941 9.957	Voltage 开路电压(V) 13.773 13.837 13.732 13.622	测i Mass 样品质量(kg) 9.952 9.955 9.941 9.957	Test 式后 Voltage 开路电压(V) 13.703 13.772 13.662 13.557	Mass loss 质量损失(%) 0.00 0.00 0.00	Residual OCV 剩余电压(%) 99.49 99.53 99.49 99.52	P P P
No. 样品编号 B01# B02# B03# B04# B05#	测试结果 Before 测试 Mass 样品质量 (kg) 9.952 9.955 9.941 9.957 9.941	Voltage 开路电压(V) 13.773 13.837 13.732 13.622	测i Mass 样品质量(kg) 9.952 9.955 9.941 9.957	Test 式后 Voltage 开路电压(V) 13.703 13.772 13.662 13.557	Mass loss 质量损失(%) 0.00 0.00 0.00 0.00	Residual OCV 剩余电压(%) 99.49 99.53 99.49 99.52 99.45	P P P

 $\label{thm:continuous} \textbf{Other supplements} \ : \ \mbox{Test result "P" decides that the test item passes}.$

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38.3.4	Procedure/测	试步骤					ian Su—
, MA	Test 3: Vibra	tion/测试 3:振	动文件	gian 5"	. ×k	F MI Tian Su	3
	distorting the be a sinusoid Hz traversed each of three 将电芯和电池加至 200Hz,	cells in such a al wave form wi in 15 minutes, mutually perpe 牢固地安装在提 然后再减少回到	manner as to fa ith a logarithmic This cycle shall Indicular mounti 表动台的台面上,	ithfully transmi sweep betwee be repeated 12 ng position of t 然后开始振动 环,一个循环却	en 7 Hz and 200 l 2 times for a total	ne vibration shall Hz and back to 7 of 3 hours for 形式,以 7Hz 增	天 開 7ian Si M can Si
38.3.4.3	Requirement	0	Tian 5"	0	Z VIII 7iau Su	天衛	Р
	(A) (A) (A)	atteries Mass Io 员失≤0.1%.	oss limit: ≤0.1%.				2 選
	2.Open circui	t voltage not les	ss than 90%, Th I batteries at full	2.7	relating to voltag	e is not	Fint S
	SAA			5.6	要求不适用于完全	全放完电的电池	天衛 Tian Su
	3.No leakage, no venting, no disassembly, no rupture and no fire. 样品(电池)应无漏液、无排气、无解体、无破裂以及无着火现象的发生。						
7ian 2	Result 测试结果	7ian Su	* M	天湖 Tian Su	**************************************	Al Tian S	d
	A4 MA-1-1-	Before Test 测试前 After Test 测试后					
Sample	Befor	200	7		Mass loss	Residual OCV	Test
Sample No. 样品编号	Befor	200	7		Mass loss 质量损失(%)	Residual OCV 剩余电压(%)	result
No.	Befor 测i Mass	武前 Voltage	测i Mass	大后 Voltage			result
No. 样品编号	Befor 测i Mass 样品质量 (kg)	试前 Voltage 开路电压(V)	测i Mass 样品质量(kg)	大后 Voltage 开路电压(V)	质量损失(%)	剩余电压(%)	result 测试结身
No. 样品编号 B01#	Befor 测i Mass 样品质量 (kg) 9.952	式前 Voltage 开路电压(V) 13.703	测i Mass 样品质量(kg) 9.952	Voltage 开路电压(V) 13.695	质量损失(%)	剩余电压(%)	result 测试结身 P
No. 样品编号 B01# B02#	Befor 测i Mass 样品质量 (kg) 9.952	以前 Voltage 开路电压(V) 13.703	测i Mass 样品质量(kg) 9.952 9.955	Voltage 开路电压(V) 13.695 13.761	质量损失(%) 0.00 0.00	剩余电压(%) 99.94 99.92	result 测试结界 P
No. 样品编号 B01# B02# B03#	Befor 测i Mass 样品质量 (kg) 9.952 9.955 9.941	以前 Voltage 开路电压(V) 13.703 13.772 13.662	测i Mass 样品质量(kg) 9.952 9.955 9.941	Voltage 开路电压(V) 13.695 13.761 13.647	质量损失(%) 0.00 0.00 0.00	剩余电压(%) 99.94 99.92 99.89	result 测试结界 P P
No. 样品编号 B01# B02# B03# B04#	Befor 测i Mass 样品质量 (kg) 9.952 9.955 9.941 9.957	以前 Voltage 开路电压(V) 13.703 13.772 13.662	测io Mass 样品质量(kg) 9.952 9.955 9.941 9.957	Voltage 开路电压(V) 13.695 13.761 13.647 13.553	质量损失(%) 0.00 0.00 0.00 0.00	剩余电压(%) 99.94 99.92 99.89 99.97	result 测试结果 P P P

Other supplements: Test result "P" decides that the test item passes.

13.867

9.947

13.861

0.00

99.96

Ρ

其他补充:测试结果"P"代表判定该测试项目通过。

9.947

B08#

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38.3.4	Procedure/测	试步骤					ian Su —
evin	Test 4: Shoc	k/测试 4: 冲击	美棚	Jean 5"		Fran Su	手
7:an 54 7:an 54 38.3.4.4	to a half-sine smaller) and subjected to a smaller) and three shocks three mutually 以稳固的托架(或与《100850)须经受最大加每个电池或电	shock of peak a pulse duration of a half-sine of peopulse duration of in the positive of y perpendicular 固定住每个电芯 中的较小值)的 速度 50gn(或	acceleration of of 6 millisecond eak acceleration of 11 millisecond direction follower mounting position to the mounting position of 12 millisecond to 12 millisecond t	150gn (or Access, large cells arn of 50gn (or Access, Each cell or ed by three shootions of the cell of 全部配件表面。双度撞击,脉冲持约小值)和脉冲持	leration(gn)= d large batteries celeration(gn)= battery shall be cks in the negation battery for a to batt	shall be \(\square\) (mass), which is subjected to we direction of otal of 18 shocks. U以峰值为 150gn 已池和大型电池组	天湖 Tian Su Ian Su P
	Requirement/标准要求: 1.Cells and batteries Mass loss limit: ≤0.1%. 样品质量损失≤0.1%. 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芯。 3.No leakage, no venting, no disassembly, no rupture and no fire.						大湖 Tian Su Tian Su
	样品试验后 和电芯。 3.No leakage	开路电压应不值 , no venting, no	低于试验前开路 o disassembly, r	电压的 90%,此 no rupture and r	要求不适用于完全		
	样品试验后 和电芯。 3.No leakage	开路电压应不信 , no venting, no) 应无漏液、升	低于试验前开路 o disassembly, r	电压的 90%,此 no rupture and r	要求不适用于完全		· Fil
Sample No.	样品试验后和电芯。 3.No leakage样品(电池 Result/测试结	开路电压应不信 , no venting, no) 应无漏液、升	成于试验前开路 o disassembly, r 元排气、无解体、 Afte	电压的 90%,此 no rupture and r	要求不适用于完全		Test result
Sample No. 样品编号	样品试验后和电芯。 3.No leakage样品(电池 Result/测试结	开路电压应不信 , no venting, no) 应无漏液、无 告果 re Test	成于试验前开路 o disassembly, r 元排气、无解体、 Afte	电压的 90%,此no rupture and r. 无破裂以及无	要求不适用于完全 no fire. 着火现象的发生	7(a) 5 () () () () () () () ()	Test result 测试结果
No.	样品试验后和电芯。 3.No leakage样品(电池 Result/测试结 Befor 测试	开路电压应不信,no venting, no.)应无漏液、无 be Test 式前	成于试验前开路 o disassembly, r 元排气、无解体、 Afte 则	电压的 90%,此no rupture and ruptu	要求不适用于完全 no fire. 着火现象的发生。 Mass loss	Residual OCV	result
No. 样品编号	样品试验后和电芯。 3.No leakage样品(电池 Result/测试结 Befor 测试 Mass 样品质量 (kg)	开路电压应不信 , no venting, no .) 应无漏液、无 E E Test 式前 Voltage 开路电压(V)	成于试验前开路 o disassembly, r 元排气、无解体、 Afte 则 Mass 样品质量(kg)	电压的 90%,此no rupture and ruptu	要求不适用于完全no fire. 着火现象的发生。 Mass loss 质量损失(%)	Residual OCV 剩余电压(%)	result 测试结果
No. 样品编号 B01#	样品试验后和电芯。 3.No leakage样品(电池 Result/测试结 Befor 测试 Mass 样品质量(kg) 9.952	开路电压应不信,no venting,no)应无漏液、无 上果 Te Test 式前 Voltage 开路电压(V) 13.695	成于试验前开路 disassembly, r 元排气、无解体、 Afte 则 Mass 样品质量(kg) 9.952	电压的 90%,此no rupture and ruptu	要求不适用于完全 no fire. 着火现象的发生。 Mass loss 质量损失(%)	Residual OCV 剩余电压(%)	result 测试结界 P
No. 样品编号 B01# B02#	样品试验后和电芯。 3.No leakage样品(电池 Result/测试结 Befor 测试 Mass 样品质量(kg) 9.952	开路电压应不信,no venting,no)应无漏液、无 是果 Te Test 或前 Voltage 开路电压(V) 13.695	成于试验前开路 disassembly, r 元排气、无解体、 Afte 则 Mass 样品质量(kg) 9.952 9.955	电压的 90%,此no rupture and ruptu	要求不适用于完全 no fire. 着火现象的发生 Mass loss 质量损失(%) 0.00	Residual OCV 剩余电压(%) 99.96 99.97	result 测试结界 P
No. 样品编号 B01# B02# B03#	样品试验后和电芯。 3.No leakage样品(电池Result/测试结Befor测: Mass样品质量(kg) 9.952 9.955 9.941	开路电压应不信,no venting,no.) 应无漏液、无	K于试验前开路 disassembly, r 证排气、无解体、 Afte 测 Mass 样品质量(kg) 9.952 9.955 9.941	电压的 90%,此no rupture and ruptu	要求不适用于完全 no fire. 着火现象的发生 Mass loss 质量损失(%) 0.00 0.00	Residual OCV 剩余电压(%) 99.96 99.97	result 测试结界 P P
No. 样品编号 B01# B02# B03#	样品试验后和电芯。 3.No leakage样品(电池 Result/测试结 Befor 测:	开路电压应不信 , no venting, no) 应无漏液、 法果 re Test 式前 Voltage 开路电压(V) 13.695 13.761 13.647 13.553	成于试验前开路 disassembly, r 记排气、无解体、 Afte 测 Mass 样品质量(kg) 9.952 9.955 9.941 9.957	电压的 90%,此no rupture and in 无破裂以及无 Test 以 Voltage 开路电压(V) 13.690 13.757 13.643	要求不适用于完全 no fire. 着火现象的发生 Mass loss 质量损失(%) 0.00 0.00 0.00	Residual OCV 剩余电压(%) 99.96 99.97 99.97	result 测试结界 P P
No. 样品编号 B01# B02# B03# B04# B05#	样品试验后和电芯。 3.No leakage样品(电池 Result/测试结 Befor 测:	所路电压应不信 , no venting, no) 应无漏液、 注果 re Test 式前 Voltage 开路电压(V) 13.695 13.761 13.647 13.553 13.635	成于试验前开路 disassembly, r 证排气、无解体、 Afte 测 Mass 样品质量(kg) 9.952 9.955 9.941 9.957	电压的 90%,此no rupture and in 无破裂以及无 r Test i式后 Voltage 开路电压(V) 13.690 13.757 13.643 13.541 13.628	要求不适用于完全no fire. 着火现象的发生 着火现象的发生 Mass loss 质量损失(%) 0.00 0.00 0.00	Residual OCV 剩余电压(%) 99.96 99.97 99.97 99.91	result 测试结果 P P P

Other supplements: Test result "P" decides that the test item passes.

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38.3.4	Procedure/测试步骤		7600	ian Su—
Seo.	Test 5: External short circ	cuit/测试 5:外部短路	Tian 5"	ğ
7:au Su 7:au Su 38.3.4.5	temperature reaches 57±4 condition with a total extern condition is continued for a has returned to 57±4℃, the to be concluded. 保持试验环境温度稳定在 5度下,将其正负极用小于 0	sted shall be temperature stabilized s C and then the cell or battery shall be nal resistance of less than 0.1 ohm at t least one hour after the cell or batter e cell or battery must be observed for 7±4℃,以使电芯或电池样品外表温度 .1 欧姆的线路短接,待电芯或电池的线或电池必须进一步观察 6 个小时才能	e subjected to a short circuit 57±4℃, This short circuit y external case temperature a further six hour for the test 达到 57±4℃,然后,在此温外表温度恢复到 57±4℃之后	美術 Tian Si Ma ian S ^a P
	170℃; 电芯或电池的外壳温度应	ure and no fire during the test and wit	7ian 54 天渊。	
	Result 测试结果	EM 7cm 54	天瀬 Tian Su	Jean S"
Sample	A A	Max External Temp	i, 5"	Test result
No. 样品编号	天湖 Sian Sia	样品表面最高温度(℃)	天潮	测试结身
No.	大明 Tian Su Tian Su	样品表面最高温度(°C) 57.8	天湖 - 湖	
No. 样品编号	天明 Tian Si Tian Si 大明 Tian Si	THE STATE OF THE S	天湖	测试结身
No. 样品编号 B01#	Fian Su	7 ian 5 2 57.8 Kill	天湖 7120 50 天湖 7120 50	测试结身 P
No. 样品编号 B01# B02#	Tian Su	57.8 57.9	天湖 Tian Su Tian Su Tian Su Tian Su	测试结身 P P
No. 样品编号 B01# B02# B03#	天明 Tian Su Tian Su Tian Su Tian Su Tian Su Tian Su	57.8 57.9 57.5 57.5	天湖 Tian Su Tian Su An Su An Su	测试结身 P P
No. 样品编号 B01# B02# B03# B04#	天湖 Tian Su Tian Su Tian Su Tian Su Tian Su Tian Su Tian Su Tian Su	57.8 57.9 57.5 57.2	文牌 Tian St Tian St Tian St Tian St Tian St Tian St	测试结身 P
No. 样品编号 B01# B02# B03# B04# B05#	天湖 Tian Su Tian Su Tian Su Tian Su Tian Su Tian Su Tian Su Tian Su Tian Su	57.8 57.9 57.5 57.2 58.1	天湖 Tian Su Tian Su An Su Tian Su Tian Su Tian Su Tian Su	测试结身 P P P P

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38.3.4	Procedure/测试步骤	ian Su—
天湖 Tian Su	Test 6: Crush\Impact/ 测试 6: 挤压(适用) 撞击(不适用)	* 7
	Crush 挤压	夫湖 Tian Su
	A cell or component cell is to be crushed between two flat surfaces. The crushing is to be gradual with a speed of approximately 1.5 cm/s at the first point of contact. The crushing is to be continued until the first of the three options below is reached.	·湘
	(a) The applied force reaches 13kN±0.78kN;	
	(b) The voltage of the cell drops by at least 100 mV;	0
	(c) The cell is deformed by 50% or more of its original thickness.	
	Once the maximum pressure has been obtained, the voltage drops by 100mV or more, or the cell is deformed by at least 50% of its original thickness, the pressure shall be released. 电池芯或组成电池芯在两个平面间挤压。挤压在第一个接触点以约 1.5cm/s 的速度慢慢进	天湖 Tian Si
	行,直到下面三个选项之一达到为止:	
	(a)作用力达到 13kN±0.78kN;	£ (#1)
	(b)电池芯电压降至少达到 100mV;	7ian Su
	(c)电池厚度和最初比较变形至少 50%。	
	一旦达到最大压力,电压降超过 100 mV 或者电池芯变形超过 50%,压力应该解除。	, °
	Impact 撞击附	u L
38.3.4.6	(applicable to cylindrical cells not less than 18mm in diameter)	P
71.00 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	The sample cell or component cell is to be placed on a flat smooth surface. A 15.8 mm \pm 0.1 mm diameter, at least 6 cm long, or the longest dimension of the cell, whichever is greater, Type 316 stainless steel bar is to be placed across the centre of the sample. A 9.1 kg \pm 0.1 kg mass is to be dropped from a height of 61 \pm 2.5 cm at the intersection of the bar and sample in a controlled manner using a near frictionless, vertical sliding track or channel with minimal drag on the falling mass. The vertical track or channel used to guide the falling mass shall be oriented 90 degrees from the horizontal supporting surface.	天湖 7ian Su B
	The test sample is to be impacted with its longitudinal axis parallel to the flat surface and perpendicular to the longitudinal axis of the 15.8 mm ± 0.1 mm diameter curved surface lying across the centre of the test sample. Each sample is to be subjected to only a single impact.	F. V Tian
	Cells and component cells meet this requirement if their external temperature does not exceed 170°C and there is no disassembly and no fire during the test and within six hours after this test.	天 湖 Tian Su
	(适用于直径不小于 18 毫米的圆柱形电池)将电池或元件电池样品平放在一个平面上,其纵轴平行于测试台面年,将一直径为 15.8 mm ± 0.1 mm 的 316 型不锈钢棒横放在电池中心位置。然后,将一质量为 9.1 kg ± 0.1 kg 的物体从 61±2.5 cm 的高度落向样品。样品在进行试验时,其外表温度应不超过 170℃。且试验结束后 6 个小时之内,样品应无解体、无起火现象发生。	A 5"
	Requirement/标准要求: 1.Cells and component cells meet this requirement if their external temperature does not	710
	exceed 170°C;	win s
	电芯的外壳温度应不超过 170℃; 2. No disassembly, no fire during the test and within six hours after this test.	Filas Si
		1 SANGE 10



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o Jean u	Result 测试结果	大湖 大湖 Tian Sa	X VIII 7ian Su
Sample No. 样品编号	OCV prior to test 试验前电压(V)	Max External Temp 样品表面最高温度(℃)	Test result 测试结果
C01#	3.276	24.6 Jun 54	Р
C02#	3.249	23.3 KM	P P
C03#	3.261	24.5	Р
C04#	3.273	24.0	7 in Su P
C05#	3.279 KIM	24.7	Р
C06#	3.244	23.7	⁵⁴ P
C07#	3.267	24.0	P MA
C08#	3.272	24.6	Р
C09#	3.262	23.9	K P
C10#	3.255	23.8 £ MA	Р

Other supplements: Test result "P" decides that the test item passes.

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38.3.4	Procedure/测试步骤	ian Su—			
© 140 €	Test 7: Overcharge/测试 7: 过度充电				
天湖 7ian Su 38.3.4.7 天湖 7ian Su 天湖	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 or 22V, whichever is less. When the manufacturer's recommended charge voltage is more than 18V, the charging voltage of the test shall be 1.2 times maximum charge voltage. The charging current is 2 times of the maximum charging current recommended by the manufacturer. 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该是两倍的厂家标定最大充电电压或者是 22V,取其中较小者。如果厂家推荐的充电电压超过 18V,充电电压应该为 1.2 倍的厂家标定最大充电电压。充电电流为厂家推荐的最大充电电流 2 倍。				
	Requirements/标准要求: No disassembly and no fire during the test and within seven days after the test. 试验样品在试验中和试验后 7 天内,应无解体和无起火现象发生。				
	No disassembly and no fire during the test and within seven days after the test.	Tian S			
	No disassembly and no fire during the test and within seven days after the test.	Tean S Tean Su			
Sample No. 样品编号	No disassembly and no fire during the test and within seven days after the test. 试验样品在试验中和试验后 7 天内,应无解体和无起火现象发生。 Result	Test result 测试结果			
710x 5"	No disassembly and no fire during the test and within seven days after the test. 试验样品在试验中和试验后 7 天内,应无解体和无起火现象发生。 Result 测试结果 OCV prior to test				
样品编号	No disassembly and no fire during the test and within seven days after the test. 试验样品在试验中和试验后 7 天内,应无解体和无起火现象发生。 Result 测试结果 OCV prior to test 试验前电压 (V)	测试结果			
样品编号 B09#	No disassembly and no fire during the test and within seven days after the test. 试验样品在试验中和试验后 7 天内,应无解体和无起火现象发生。 Result 测试结果 OCV prior to test 试验前电压 (V) 13.758	测试结果 P			
样品编号 B09# B10#	No disassembly and no fire during the test and within seven days after the test. 试验样品在试验中和试验后 7 天内,应无解体和无起火现象发生。 Result 测试结果 OCV prior to test 试验前电压 (V) 13.758	测试结果 P P			
B09# B10# B11#	No disassembly and no fire during the test and within seven days after the test. 试验样品在试验中和试验后 7 天内,应无解体和无起火现象发生。 Result 测试结果 OCV prior to test 试验前电压 (V) 13.758 13.884	测试结果 P P			
样品编号 B09# B10# B11# B12#	No disassembly and no fire during the test and within seven days after the test. 试验样品在试验中和试验后 7 天内,应无解体和无起火现象发生。 Result 测试结果 OCV prior to test 试验前电压 (V) 13.758 13.884 13.646	测试结果 P P P			
样品编号 B09# B10# B11# B12# B13#	No disassembly and no fire during the test and within seven days after the test. 试验样品在试验中和试验后 7 天内,应无解体和无起火现象发生。 Result 测试结果 OCV prior to test 试验前电压(V) 13.758 13.884 13.646 13.811	测试结果 P P P			

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38.3.4	Procedure/测试步骤	<u> </u>	美潮	- XIA	ijian Su—
天 湖 71245 54 天 71 38.3.4.8 天 71 24 天 71 24	Test 8: Forced discharge/测试 8: 强制放电				
	Each cell shall be forced discharged at ambient temperature by connecting it in series with a 12V D.C power supply at an initial current equal to the maximum discharge current specified the manufacturer The specified discharge current is to be obtained by connecting a resistive load of the appropriate size and rating in series with the test cell, Each cell shall be forced discharged for a time interval(in hours) equal to its rated capacity divided by the initial test current(in ampere). 在 20±5℃的环境温度下,将单个电芯连接在 12V 的直流电源上进行强制放电,此直流电源提供每个电芯初始电流为制造厂指定的最大放电电流,放电时间为额定容量除以初始电流。 Requirements/标准要求: No disassembly and no fire during the test and within seven days after the test. 试验样品在试验中和试验后 7 天内,应无解体和无起火现象发生。				
	Sample No. 样品编号	OCV prior to test 试验前电压(V)	Test result 测试结果	Sample No. 样品编号	OCV prior to test 试验前电压(V)
C11#	2.870	Р	C21#	2.894	Р
C12#	2.915	P P	C22#	2.942	Р
C13#	2.911	P Time	C23#	2.897	Р
C14#	2.919	Р	C24#	2.905	Jian Su P
C15#	2.918	P. S.	C25#	2.897	Р
C16#	2.926 Jun 54	Р	C26#	2.890	^{™S™} P
C17#	7 u S 2.906	F. WA P	C27#	2.873	P
A 54	2.907	P	C28#	2.925	Р
C18#	- 174t	7,40		2.922	Р
C18# C19#	2.914	Р	C29#	2.922	5 m

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STATEMENTS

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