$\textcircled{\sc c}$  2024 Elo Touch Solutions, Inc. All Rights Reserved.

ēlı	MD600178 M51 Battery MSDS and UN38.3 Report

## **REVISION HISTORY**

Rev	Description	Originator	Date
Α	Initial release	Rey Liu	11/28/2024

DOC #: <b>MD600178</b> Print Date: 9-Dec-24 REV: A	Page 1 of 32	© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.
---	--------------	---

## Contents

- **1.** Material Safety Datasheet for rechargeable Li-ion polymer battery M51, 3.85V 4500mAh 17.33Wh
- 2. UN38.3 test summary for rechargeable Li-ion polymer battery M51, 3.85V 4500mAh 17.33Wh
- 3. UN38.3 test report for rechargeable Li-ion polymer battery M51, 3.85V 4500mAh 17.33Wh

DOC #: <b>MD600178</b> R Print Date: 9-Dec-24	REV: A	Page 2 of 32	© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.
---	--------	--------------	---

M51 Battery MSDS and UN38.3 Report © 2024 Elo Touch Solutions, Inc. All Right				
1. Material Safety	Datasheet			
NTEK 北		Report No./报告编号: P23112321501		
	Material Safety Data Shee 材料安全数据表			
	Rechargeable Li-ion Polymer Battery 可充电锂聚合物电池			
Model and Spec.: 型号规格:	M51, 3.85V 4500mAh 17.33Wh			
	JIADE ENERGY TECHNOLOGY (ZHUH) 珠海市嘉德电能科技有限公司	AI) CO LTD		
Effective date: 生效日期:	2024-01-01			
Date of issue: 签发日期:	2023-11-27			
	n NTEK New Energy Technolo 市北測新能源技术有 Fechnology Co., Ltd. p://www.ntekbat.org.cn			
DOC #: <b>MD600178</b> Print Date: 9-Dec-24 REV: A		ch Solutions, Inc. All Rights Reserved. Use or uires permission of Elo Touch Solutions, Inc.		

 $\ensuremath{\mathbb{C}}$  2024 Elo Touch Solutions, Inc. All Rights Reserved.

# NTEK 北测<sup>°</sup>

第2页 共9页 Page 2 of 9

Report No./报告编号: P23112321501

Name of Products	Rechargeable Li-ion Polymer Battery			
产品名称	可充电锂聚合物电池			
Model/Type	M51			
型号	100			
Ratings	3.85V 4500mAh 17.33Wh, Mass 质量: 92.2g			
額定参数	3.65V 4500mAn 17.55Wh, Mass (4.1): 82.2g			
Applicant	JIADE ENERGY TECHNOLOGY (ZHUHAI) CO LTD			
委托单位	珠海市嘉德电能科技有限公司			
Address of Applicant	#1 Building No.9 The 7th Dingwan Road Sanzao Town Jinwan District			
委托单位地址	Zhuhai, Guangdong 519040 CHINA			
	珠海市金湾区三灶镇定湾七路9号1#厂房			
Manufacturer	JIADE ENERGY TECHNOLOGY (ZHUHAI) CO LTD			
生产厂商	珠海市嘉德电能科技有限公司			
Address of manufacturer	#1 Building No.9 The 7th Dingwan Road Sanzao Town Jinwan District			
生产厂商地址	Zhuhai, Guangdong 519040 ČHINA			
	珠海市金湾区三灶镇定湾七路9号1#厂房			
Emergency telephone call	+86-756-8287186-8842			
应急电话	+80-700-8287180-8842			
Prepared by	Jake Chen Jak E			
编制人	陈嘉南 下水子 字			
Reviewed by	Jake Chen 陈嘉南 Bill Ye 叶志标			
中核人	叶志标 7577,			
Approved by	Jesse Zhang フィーオ 学派生色位(魚			
批准人	张士杰 Seal of N			

Shenzhen NTEK New Energy Technology Co., Ltd. Tel: +86(0)-755-3699 5529 http://www.ntekbat.org.cn

Print Date: 9-Dec-24
----------------------

### © 2024 Elo Touch Solutions, Inc. All Rights Reserved.

# NTEK 北测<sup>®</sup>

第3页 共9页 Page 3 of 9 Report No./报告编号: P23112321501

	2.1	Hazards Identification 危险性概述	
Dangerous classification 物品危险分类		₽ ₽	
		icle does not belong to the expl 不属于爆炸危险品	osion dangerous goods
		icle does not belong to the flam 不属于易燃危险品	mable material
		This article does not belong to the oxidation of dangerous goods 该物品不属于氧化危险品	
		icle does not belong to the toxic 不属于非害意险品	dangerous goods
		icle does not belong to the radia 不属于放射危险品	ation of dangerous goods
		icle does not belong to the corre 不属于腐蚀危险品	osion of dangerous goods
		-ion batteries, The Watt-hour rat 电池,该电池额定瓦时为17.33W	-
	3. COM	POSITION INFORMATION 成分/组成信息	N
Chemical Composition 化学成分		CAS No. CAS号	Weight (%) 重量百分比
Aluminum foil		7429-90-5	9.42
Copper		7440-50-8	11.77
Styrene-Butadiene rubber 1500		9003-55-8	1.5
Polyvinylidene fluoride (PVDF)		24937-79-9	1.64
Lithium Cobalt Oxide (LiCoO <sub>2</sub> )		12190-79-3	38.02
Graphite		7782-42-5	22.01
Lithium hexafluorophosphate		21324-40-3	2.02
Nickel		7440-02-0	1
Ethylene carbonate (EC)	22	96-49-1	4.27
Ethylene carbonate (EC) Dimethyl carbonate	20 20	96-49-1 616-38-6	4.27 5.35

Shenzhen NTEK New Energy Technology Co., Ltd. Tel: +88(0)-755-3899 5529 http://www.ntekbat.org.cn

RE-057 A/2

DOC #: MD600178 Print Date: 9-Dec-24

© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

# NTEK 北测<sup>®</sup>

第4页 共9页 Page 4 of 9

Report No./报告编号: P23112321501

	4. First aid measures 急救措施
	ry shell rupture, content contact with the human body will produce harm, once contact, should
	lowing emergency measures:
	裂, 内容物接触人体会产生危害, 一旦发生接触, 应采取以下应急措施:
Eye:	
Flush eyes medical aid	with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get
眼睛:	
万一接触.	立即用大量的清水冲洗至少15分钟,翻起上下眼睑,直到化学的残留物消失为止,迅速就医。
Skin:	
Remove co	ntaminated clothes and rinse skin with plenty of water or shower for 15 minutes. Get medical aid
皮肤:	
	用大量水冲洗至少15分钟,同时除去污染的衣物和鞋子,迅速就医。
	Remove from exposure and move to fresh air immediately. Use oxygen if available.
吸入:	
	处移至空气清新处,如果呼吸困难给于输氧,立即就医.
Ingestion: ( physician	Bive at least 2 glasses of milk or water. Induce vomiting unless patient is unconscious. Call a
食入:	
饮用两杯牛	奶或水,如果当事人仍然清晰可以采取催吐的方法,并且立即就医,
	5. Fire-fighting measures 消防措施
Flash Poin	t: N/A.
燃点:不适	用
Auto-Igniti	on Temperature: N/A.
自燃温度:	不适用
Extinguish	ing Media: Water, CO2.
灭火介质:	大量水(降温), 二氧化碳
Special Fir	e-Fighting Procedures: Self-contained breathing apparatus.
特殊灭火程	<b>序:</b> 自给式呼吸器
Unusual Fi	ire and Explosion Hazards: Cell may vent when subjected to excessive heat-exposing battery
异常火灾或	爆炸:当电芯暴露于过热的环境中时,安全阀可能会打开。
Hazardous	Combustion Products: Carbon monoxide, carbon dioxide, lithium oxide fumes.
燃烧产生的	危险物品: 一氧化碳, 二氧化碳, 锂氧化物烟气,

Shenzhen NTEK New Energy Technology Co., Ltd. Tel: +86(0)-755-3699 5529 http://www.ntekbat.org.cn

DOC #: <b>MD600178</b> Print Date: 9-Dec-24 REV: A	Page 6 of 32	© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.
--	--------------	---

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.



第5页 共9页 Page 5 of 9

Report No./报告编号: P23112321501

## 6. Accidental release measures 泄露应急处理 Steps to be Taken in case Material is Released or Spilled If the battery material is released, remove personnel from area until fumes dissipate. Provide maximum ventilation to clear out hazardous gases. Wipe it up with a cloth, and dispose of it in a plastic bag and put into a steel can. The preferred response is to leave the area and allow the battery to cool and vapors to dissipate. Provide maximum ventilation. Avoid skin and eye contact or inhalation of vapors. Remove spilled liquid with absorbent and incinerate. 为防止电池材料泄露或释放采取的措施 如果电池内部材料泄露。试验人员应立刻撤离试验区直到烟气消散。将通风设备打开吹散危险性气体。用 抹布拣净试验区,清除溢出的液体。将泄露电池放进型料袋中,然后放进钢制容器。避免皮肤和眼睛接触或吸入有害 气体。 Waste Disposal Method It is recommended to discharge the battery to the end, to use up the metal lithium inside the battery, and to bury the discharged battery in soil. 废弃物处置方法 建议将电池完全放电,消耗电池内部的锂金属,并且深埋于土壤中。 7. Handling and storage 操作处置和储存 The battery should not be opened, destroyed or incinerate, since they may leak or rupture and release to the environment the ingredients that they contain in the hermetically sealed container. Do not short circuit terminals, or over charge the battery, forced over-discharge, throw to fire. Do not crush or puncture the battery, or immerse in liquids. 禁止打开、毁坏或焚烧电池。因为电池有可能在这些处理过程中发生爆炸、破裂或泄漏等事故。禁止将电 池短路、过充、强制放电或扔入火中,禁止挤压剩穿电池或将电池浸入溶液中, Precautions to be taken in handling and storing Avoid mechanical or electrical abuse. Storage preferably in cool, dry and ventilated area, which is subject to little temperature change. Storage at high temperatures should be avoided. Do not place the battery near heating equipment, nor expose to direct sunlight for long periods. 操作处置和储存中的防范措施 禁止物理或电滥用,禁止高温储存,最好将电池储存在阴凉、干燥、通风等温度变化较小的环境中,禁止 将电池接触加热设备或将电池直接暴露与阳光中. Other Precautions The battery may explode or cause burns, if disassembled, crushed or exposed to fire or high temperatures. Do not short or install with incorrect polarity. 其他要注意的防范措施 拆解、挤压、直接放入火中或高温条件下,电池可能发生爆炸和燃烧,禁止短接或将电池正负极错误的安 装在设备中。

Shenzhen NTEK New Energy Technology Co., Ltd. Tel: +86(0)-755-3699 5529 http://www.ntekbat.org.cn

	Solutions, Inc. All Rights Reserved. Use or s permission of Elo Touch Solutions, Inc.
--	--

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

NTEK 北测 <sup>°</sup>	第6页 共9页 Page 6 of 9	Report No./报告编号: P23112321501
	controls/personal prote 接触控制/个人防护	ction
Respiratory Protection: In case of battery areas with venting cell cores. Respiratory Pr 呼吸防护:当电池排气阀打开时,应尽量使则 内.正常操作条件下,呼吸保护是不必要的。	otection is not necessary under 血风设备开至最大,避免将打开	conditions of normal use.
Ventilation: Not necessary under conditions 通风条件: 正常使用条件下不需要.	s of normal use.	

Protective Gloves: Not necessary under conditions of normal use.

防护手套:正常使用条件下不需要。

Other Protective Clothing or Equipment: Not necessary under conditions of normal use.

其他防护服装或设备:正常使用条件下不需要。

Personal Protection is recommended for venting battery: Respiratory Protection, Protective Gloves, Protective Clothing and safety glass with side shields.

电池开阅试验时应做好个人防护: 呼吸防护, 防护手套, 防护服装和有护边的安全玻璃罩都是要准备的.

#### 9. Physical and chemical properties 物理和化学特性

Appearance: Prismatic

外形: 枝柱形 Odors: If leaking, smells of medical ether. 气味: 泄漏时, 有醚的气味. PH: Not applicable as supplied. 酸碱度: 不适用 Flash Point: Not applicable unless individual components exposed. 燃点:除单个电芯暴露试验外其他不适用。 Flammability: Not applicable unless individual components exposed. 可燃性:除单个电芯暴露试验外其他不适用. Relative density: Not applicable unless individual components exposed. 相对密度:除单个电芯暴露试验外其他不适用。 Solubility (water): Not applicable unless individual components exposed. 溶解性(水溶性):除单个电芯暴露试验外其他不适用。 Solubility (other): Not applicable unless individual components exposed. 溶解性(其他):除单个电芯暴露试验外其他不适用。

Shenzhen NTEK New Energy Technology Co., Ltd. Tel: +86(0)-755-3699 5529 http://www.ntekbat.org.cn

DOC #: MD600178 Print Date: 9-Dec-24	REV: A	Page 8 of 32	© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.
--	--------	--------------	---

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

# NTEK 北辺<sup>®</sup> 第7页 共9页 Page 7 of 9

Report No./报告编号: P23112321501

	10. Stability and reactivity 稳定性和反应活性
Stability: Product is stable	e under conditions described in Section 7.
稳定性:产品在第7节所;	<b>杰的条件下稳定</b> 。
Conditions to Avoid: He	at above 70°C or incinerate. Deform. Mutilate. Crush. Disassemble. Overcharge.
Short circuit. Expose over	a long period to humid conditions.
<b>应避免的条件:</b> 加热 70℃ 下-	以上或焚烧, 变形, 毁坏, 粉碎, 拆卸, 过充电, 短路, 长时间暴露在栅湿的条件
Materials to avoid: Oxidi	sing agents, alkalis, water.
皮避免的材料: 氧化剂, 预	
New Appendix of the state of the	on Products: Toxic Fumes, and may form peroxides.
危险分解物: 有毒烟雾, 升	
Hazardous Polymerizatio	on: N/A.
<b>寮合危害:</b> 不适用	
If leaked, forbidden to con hydrocarbons.	tact with strong oxidizers, mineral acids, strong alkalies, halogenated
如果发生泄露,避免与强等	风化剂, 无机酸, 强碱, 卤代经接触.
	11. Toxicological information 毒理学资料
Signs & symptoms: Non	e, unless battery ruptures.
标志及症状: 无, 除非电流	血破裂.
In the surel of sure sure is	o internal contents, vapour fumes may be very irritating to the eyes and skin.
In the event of exposure to	
	蒸汽烟雾可能对眼睛和皮肤的刺激性.
	蒸汽烟雾可能对眼睛和皮肤的刺激性。
内部物质暴露的情况下, 系	憲汽類雾可能对眼睛和皮肤的刺激性。
內部物质暴露的情况下。素 Inhalation: Lung irritant.	
内部物质暴露的情况下。素 Inhalation: Lung irritant. 吸入:对肺有刺激性。	
內部物质暴露的情况下, 素 Inhalation: Lung irritant. 吸入:对肺有刺激性, Skin contact: Skin irritant	
內部物质暴露的情况下。素 Inhalation: Lung irritant. 吸入:对肺有刺激性。 Skin contact: Skin irritant 皮肤接触:对皮肤利激性。 Eye contact: Eye irritant. 眼睛接触:对眼睛有刺激情	±.
內部物质暴露的情况下。 Inhalation: Lung irritant. 吸入:对肺有刺激性。 Skin contact: Skin irritant 皮肤接触:对皮肤利激性。 Eye contact: Eye irritant.	±.
內部物质暴露的情况下。素 Inhalation: Lung irritant. 吸入:对肺有刺激性。 Skin contact: Skin irritant 皮肤接触:对皮肤利激性。 Eye contact: Eye irritant. 眼睛接触:对眼睛有刺激情	±.
内部物质暴露的情况下, 素 Inhalation: Lung irritant. 吸入:对肺有刺激性. Skin contact: Skin irritant 皮肤接触:对皮肤刺激性. Eye contact: Eye irritant. 跟瞎接触:对眼睛有刺激性 Ingestion: Poisoning if sw 食入: 吞下中毒. Medical conditions genera	±.

Shenzhen NTEK New Energy Technology Co., Ltd. Tel: +88(0)-755-3699 5529 http://www.ntekbat.org.cn

DOC #: <b>MD600178</b> Print Date: 9-Dec-24	REV: A	Page 9 of 32	© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

# **NTEK 北**詞<sup>®</sup> 第8页 共9页 Page 8 of 9

Report No./报告编号: P23112321501

	12. Ecological information 生态学资料	
Mammalian effe	cts: None known at present.	
对哺乳动物的影响	<b>4:</b> 目前未知。	
Eco-toxicity: No	ne known at present.	
生态毒性:目前未	<b>ɛ知</b> .	
Bioaccumulatio	n potential: Slowly Bio-degradable.	
生物体内积累: 1	曼慢地生物降解.	
Environmental f	ate: None known environmental hazards at present.	
环境危害:目前法	没有已知的环境危害.	
	13. Disposal consideration 废弃处置	
	, or subject cells to temperature in excess of 70°C, Such a ell explosion. Dispose of in accordance with appropriate lo	
不要焚烧,或使用	电池温度超过 70°C. 这种滥用可导致泄漏和/或电池爆炸. 扎	按照相应的地方性法规处理.
	14. Transport information 运输信息	
UN No. and Ship		
UN 3480 Lithium		
	ion batteries packed with equipment	
	ion batteries contained in equipment	
UN编号及运输专		
UN 3480 Lithium		
	ion batteries packed with equipment	
Label for conve	ion batteries contained in equipment yance: Lithium Battery Mark, class 9 lithium battery hazard el (Only for UN3480)	l label (Only for UN3480), Cargo
	电标记,第9类锂电池危险品标签(只适用UN3480),仅1	目侨机标签(日近田UN3480)
	p/包装等级: N/A/不适用	Contraction of the second second
EmS No./EmS #		
	ts/海洋污染物: No/否	
		202 05 1000 V
ICAO/IATA	Shipped by air in accordance with International Civil Aviation Organization (ICAO), TI or International Air Transport Association (IATA), DRG Packing	DGR 65 <sup>th</sup> (2024) ICAO (2023-2024 edition)
	Instructions PI 965 IB, PI 966 II, PI 967 II	
	根据国际民用航空组织(ICAO), TI或者国际航空协会	
	(IATA), DGR包装说明PI 965 IB, PI 966 II, PI 967 II相	
	关规定进行空运	
IMDG CODE	Shipped by sea in accordance with International Maritime Dangerous Code (IMDG CODE) Special Provision 188	IMDG CODE (Amdt. 41-22)
	根据(国际海运危险货物规则)(IMDG CODE)特殊规定	
	188条款相关规定运输	1

Shenzhen NTEK New Energy Technology Co., Ltd. Tel: +88(0)-755-3699 5529 http://www.ntekbat.org.cn

DOC #: <b>MD600178</b> Print Date: 9-Dec-24	REV: A	Page 10 of 32	© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.
---	--------	------------------	---

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

## **NTEK 北测**

第9页 共9页 Page 9 of 9

Report No./报告编号: P23112321501

## 15. Regulation information 法规信息 Law information 法律信息 (Dangerous Goods Regulations) (危險品規則) (Recommendations on the Transport of Dangerous Goods Model Regulations) 《关于危险货物运输的建议书 规章范本》 (International Maritime Dangerous Goods Code) 《国际海运危险货物规则》 (Technical Instructions for the Safe Transport of Dangerous Goods) 《危险品安全运输技术指令》 16. Other Information 其他信息 This file is only effective to the batteries (M51) provided by commissioner (JIADE ENERGY TECHNOLOGY (ZHUHAI) CO LTD) which manufactured by JIADE ENERGY TECHNOLOGY (ZHUHAI) CO LTD The commissioner provides the composition information of batteries, and promises its integrity and accuracy. Users should read this file carefully, and use the batteries in correct method. Shenzhen NTEK New Energy Technology Co., Ltd. doesn't assume responsibility for any damage or loss because of misuse of batteries. 本文件仅对由委托方(珠海市泰德电能科技有限公司)提供的。并由珠海市泰德电能科技有限公司生产的 电池 (M51) 有效,该电池的成分信息由委托方提供并承诺其完整性和准确性,用户应仔细阅读此文件,并按 照正确的方法使用电池。如因电池使用不当造成的损害或损失。深圳市北测新能源技术有限公司不承担任何责 Æ.

--End of Material Safety Data Sheet 材料安全数据表结束--

Shenzhen NTEK New Energy Technology Co., Ltd. Tel: +86(0)-755-3699 5529 http://www.ntekbat.org.cn

DOC #: <b>MD600178</b> Print Date: 9-Dec-24	REV: A	Page 11 of 32	© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.
---	--------	------------------	---

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

#### 2. UN38.3 Test Summary UN38.3 试验概要 UN38.3 Test Summary 812300800655451 单位信息 Company information 珠海市嘉德电能科技有限公司 Jiade Energy Technology (Zhuhai) Co., Ltd. 珠海市金湾区三灶镇定湾七路9号1#厂房 #1 Building, No.9 The 7th Dingwan Road, 委托单位 Sanzao Town, Jinwan District, Zhuhai, China Consignor 0756-8287186 zhengju@blbattery.com www.blbattery.com 珠海市嘉德电能科技有限公司 Jiade Energy Technology (Zhuhai) Co., Ltd. 珠海市金湾区三灶镇定湾七路9号 1#厂房 #1 Building, No.9 The 7th Dingwan Road, 生产单位 Sanzao Town, Jinwan District, Zhuhai, China Manufacturer 0756-8287186 zhengju@blbattery.com www.blbattery.com 苏州 UL 美华认证有限公司广州分公司 UL-CCIC Company Limited Guangzhou Branch 广东省广州市黄埔区南云二路8号电子大楼 B 座 101、201、301、401 Rm101, 201, 301, 测试单位 401, Block B, Electronic Building, No. 8 Nanyun Er Road Huangpu District, Guangzhou Test lab China 020-32131000 Robert.Cen@ul.com China.ul.com 电池信息 Battery information 名称 品牌 二次聚合物锂离子电池组 1 Name Brand 型号 原始测试型号 M51 Type Original tested type 标称电压(V) 容量/能量 3.85 4500mAh/17.33Wh Nominal voltage Capacity/energy 可充电键离子单电芯电池 描述 锂含量(g) Rechargeable Li-ion single cell Description Li content battery 黑色,银色双色塑胶及金属 质量(kg) 外观 外壳 Black and silvery 0.0919 Mass Appearance plastics cement and metal shell 测试信息 Test information 原报告编号 测试报告日期 4790877212-2 2023-08-18 Date of test report Original test report No. 测试标准 联合国《试验和标准手册》第 38.3 章 UNITED ST/SG/AC.10/11/Rev.7&Am Test standard NATIONS Manual of Tests and Criteria 38.3 end.1 T.1 高度模拟 T.2 温度测试 合格 Passed 合格 Passed Altitude simulation Thermal test T.3 振动测试 T.4 冲击测试 合格 Passed 合格 Passed Vibration Shock T.5 外部短路 T.6 挤压 合格 Passed 合格 Passed External short circuit Crush T.7 过度充电 T.8 强制放电 合格 Passed 合格 Passed Overcharge Forced discharge 38.3.3 (f) 1 38.3.3 (g) 1 上海化工院检测有限公司 1/2 www.ghs.cn DOC #:

MD600178 Print Date: 9-Dec-24

REV: A

 $\textcircled{\sc b}$  2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.





© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Page 2 of 19 Pages

Report No.: 4790877212-2

Test Summary				
	测试总览			
样品名称	二次聚合物锂离子电池组			
Name of Samples	Rechargeable Li-ion Polymer Battery			
型号规格	电池型号 M51, 3.85V, 4500mAh, 17.33Wh			
Type/ Model	Battery Model M51, 3.85V, 4500mAh, 17.33Wh			
商标	不适用			
Trade Mark	N/A.			
申请单位	珠海市嘉德电能科技有限公司			
Applicant	Jiade Energy Technology (Zhuhai) Co., Ltd.			
申请单位地址	珠海市金湾区三灶镇定湾七路9号1#厂房			
Applicant Address	#1 Building, No.9 The 7th Dingwan Road, Sanzao Town, Jinwan, District, Zhuhai, China			
生产单位	珠海市嘉德电能科技有限公司			
Manufacturer	Jiade Energy Technology (Zhuhai) Co., Ltd.			
生产单位地址	珠海市金湾区三灶镇定湾七路9号1#厂房			
Manufacturer Address	#1 Building, No.9 The 7th Dingwan Road, Sanzao Town, Jinwan, District, Zhuhai, China			
联系电话 Telephone:	郑菊, 0756-8287186			
电子邮箱 Email:	Zhengju@blbattery.com			
公司网址 Website:	www.blbattery.com			
样品外观颜色	黑色			
Appearance	Black			
样品数量	电池组 Battery Pack: 18 pcs			
Quantity of Sample	电池 Battery Cell: 30 pcs			
样品标识序号	电池组 Battery Pack: 6304941-S1~6304941-S10, 6151258-S11~6151258-			
Sample Identification	S18			
	电池 Battery Cell: 6151261-S1~6151261-S30			
测试标准	联合国《关于危险品货物运输的建议书》试验和标准手册第七修订版修正1			
Testing Standard	(2021), 第38.3节: 锂电池 United Nations: Recommendations on the Transport of Dangerous Goods -			
	Manual of Tests and Criteria, Amendment 1 to Seventh Revised Edition, 2021 (ST/SG/AC.10/11/Rev.7/Amend.1), Section 38.3: Lithium Batteries			
接样日期 Samples Received Date	2023-06-06, 2023-07-27			
测试开始日期				
满或开始日期 Test Start Date	2023-06-08			
测试完成日期 Test Completed Date	2023-08-16			
备注 Remark:				
N/A				

Form-ULID-002352 (DCS: 10-CA-F0867) 3.1

Date Issued: 2021-01-05 Date Revision: 2023-08-14

Copyright @ 2023 UL LLC

DOC #: <b>MD600178</b> Print Date: 9-Dec-24	REV: A	Page 15 of 32	© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.
---	--------	------------------	---

DOC #:

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Page 3 of 19 Pages

Clause 章节	Name of test 测试项目名称	Sample Condition 样品状态	Conclusion 结论	Remarks 备注	
- P	试验T.1 Altitude	First cycle in fully charged state/ 第一个交替充电放电周期完全充电		E /L	
38.3.4.1	Simulation 高度模拟	25th cycle ending in fully charged state/第二十五个交替充电放电周 期完全充电	Pass 通过	-	
		First cycle in fully charged state/ 第一个交替充电放电周期完全充电			
38.3.4.2	试验T.2 Thermal Test 温度试验	25th cycle ending in fully charged state/第二十五个交替充电放电周 期完全充电	Pass 通过	-	
111200000	HEAT ON CHART	First cycle in fully charged state/ 第一个交替充电放电周期完全充电		  Pouch Cell 软包电芯	
38.3.4.3	试验T.3 Vibration 振动	25th cycle ending in fully charged state/第二十五个交替充电放电周 期完全充电	Pass 通过		
	试验T.4 Shock	First cycle in fully charged state/ 第一个交替充电放电周期完全充电	Beer		
38.3.4.4	武服1.4 Shock 冲击	25th cycle ending in fully charged state/第二十五个交替充电放电周 期完全充电	通过	-	
	试验T.5 External Short-	First cycle in fully charged state/ 第一个交替充电放电周期完全充电	Pres	20	
38.3.4.5	Circuit 外部短路	25th cycle ending in fully charged state/第二十五个交替充电放电周 期完全充电	通过	备注     Pouch Cel 软包电芯   Ah, 3节进行全项 3节进行全项 ted by Jiade Seventh ed: 2021-01-0	-
NC.CC	HOAT & Inconstitution	First cycle in 50% charged state / 第一个交替充电放电周期半充电	2	Baugh Call	
38.3.4.6	试验T.6 <del>Impact/</del> Crush <del>撞击/</del> 挤压	25th cycle ending in 50% charged state/第二十五个交替充电放电周 期半充电	通过		
	HINT 7 Owner have	First cycle in fully charged state/ 第一个交替充电放电周期完全充电	Deer		
38.3.4.7	过度充电	25th cycle ending in fully charged state/第二十五个交替充电放电周 期完全充电	通过	-	
38.3.4.8	建立价压     state/第二十五个交替充电放电期半充电       试验T.7 Overcharge 过度充电     First cycle in fully charged stat 第一个交替充电放电周期完全注       25th cycle ending in fully charged state/第二十五个交替充电放电期完全充电     First cycle in fully discharged state/第二个交替充电放电周期       试验T.8 Forced Discharge 强制放电     First cycle ending in fully discharged state/第一个交替充电放电周期		Pass		
38.3.4.8	强制放电	25th cycle ending in fully discharged state/第二十五个交替 充电放电周期完全放电	结论         Pass 通过         11, 3.85V, 4500mAh, J版修正 1第38.3节;         17.33Wh submitted Amendment 1 to Set	-	
Test Conclusio					
17.33Wh,依挂 目测试。		二次聚合物锂离子电池组,型号 M5 的建议书》试验和标准手册第七修 守合规范的要求。			
		ery, Model M51, 3.85V, 4500mAh, ed according to Section 38.3 of the			
Form-ULID-00	2352 (DCS: 10-CA-F0867) 3.1	opyright © 2023 UL LLC		ued: 2021-01-0 ion: 2023-08-1	
	C	opynysti w 2020 OC LLO			

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Page 4 of 19 Pages

Report No.: 4790877212-2

Revised Edition of the United Nations: Recommendations on the Transport of Dangerous Goods, Manual of Test and Criteria (ST/SG/AC.10/11/Rev.7/Amend.1, Section 38.3). The test items are full items. The sample received complies with Specification when Simple Acceptance decision rule is applied.

测试结果:通过。 The test results: Pass.

签发日期/Date of issue: 2023-08-18

Approved by: Simon Chen 批准:陈世明 Title: Operations Leader 取衔:工程主管

Bet on

Reviewed by: Simon Chen 审核:陈世明 Title: Operations Leader 职衔:工程主管

Bp ou

Test Report by: Ade Su 检测:苏祥德 Title: Project Engineer 职衔:项目工程师

苏棒

ぼ

Form-ULID-002352 (DCS: 10-CA-F0867) 3.1

Date Issued: 2021-01-05 Date Revision: 2023-08-14

Copyright © 2023 UL LLC

DOC #: <b>MD600178</b> Print Date: 9-Dec-24	REV: A	Page 17 of 32	© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.
---	--------	------------------	---

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Page 5 of 19 Pages

Report No.: 4790877212-2

				ltitude Simu 高度模拟				
			Test	Method 测试	方法			
The same	les we	re stored for a	t least 6 ho	urs at a pres	sure of 11.6 k	Pa (1.68 ps	i) or less and	a
emperature of	f 20 ± 5	°C (68 ± 9°F).	The samp	les were wei	ghed before a	and after the	exposure. T	he
cell/battery vol	tage wa	as also detern	nined before	and after th	e test. 将测试	样品放在温	度为20±5°C,	大气压
力为不大于11.	6kpa的	环境中贮存不	少于6个小时	寸. 对样品在	测试前后进行	称重,并记:	录电压。	
	1.		Test	Results/测试	结果			
Sample No.	Sam	Weight	Weight	Percentag	Voltage	Voltage	Percentag	Results
样品编号	ple	Before	After	e of	Before	After	e of	结果
	Con	Test(g)	Test(g)	Weight	Test(V)	Test(V)	residual	
	ditio	测试前质量	测试后质	Loss	测试前电压	测试后电	Voltage	
		(克)	量(克)	质量损	(伏)	压(伏)	残余电	
	样品状态			失%	1 Carlos		压%	
6304941-S1	(C)	91,550	91,554	0.000	4,3827	4.3657	99,612	(6), (7)
6304941-S2	(C)	91,933	91,943	0.000	4.3754	4.3683	99,838	(6), (7)
6304941-S3	(C)	91,742	91,750	0.000	4.3755	4.3687	99,845	(6), (7)
6304941-S4	(C)	91,488	91,494	0.000	4.3614	4.3545	99.842	(6), (7)
6304941-S5	(C)	91,520	91.525	0.000	4.3752	4.3679	99.833	(6), (7)
6304941-S6	(D)	91.308	91.315	0.000	4.3745	4.3671	99.831	(6), (7)
6304941-S7	(D)	91,400	91.400	0.000	4.3755	4.3690	99.851	(6), (7)
6304941-S8	(D)	91.595	91.594	0.001	4.3740	4.3670	99.840	(6), (7)
6304941-S9	(D)	91.381	91.380	0.001	4.3737	4.3665	99.835	(6), (7)
6304941- S10	(D)	91.835	91.837	0.000	4.3747	4.3673	99.831	(6), (7)
Results/結果:				1				
(1) Leakage/3	液.							
(2) Venting/排								
(3) Disassemb	-							
(4) Rupture/破								
	92.							
(5) Fire/着火.								-
(6) No leakage		-						
(7) The open of	ircuit vo	oltage of each	cell after te	esting was gr	eater than 90	%/开路电压	不低于试验前	所路电历
的90%。								

Samples Condition note for T1 to T8 / 试验T1至T8的样品状态备注:

(A) Fully discharged state (for Primary Cells and Batteries) / 完全放电状态(针对原电池和原电池组)。

(B) Undischarged state (for Primary Cells and Batteries) / 未放电状态(针对原电池和原电池组)。

(C) At First cycle in fully charged state / 第一个充放电周期完全充电状态。

(D) After 25 cycles ending in fully charged state / 25个充放电周期后完全充电状态。

(E) At First cycle at 50% of the design rated capacity / 第一个充放电周期50%设计额定容量状态。

(F) After 25 cycles ending at 50% of the design rated capacity / 25个充放电周期后50%设计额定容量状态。

(G) At First cycle in fully discharged state / 第一个充放电周期完全放电状态。

(H) After 25 cycles ending in fully discharged state / 25个充放电周期后完全放电状态。

Form-ULID-002352 (DCS: 10-CA-F0867) 3.1

Date Issued: 2021-01-05 Date Revision: 2023-08-14

Copyright @ 2023 UL LLC

DOC #: <b>MD600178</b> Print Date: 9-Dec-24	REV: A	Page 18 of 32	© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.
---	--------	------------------	---

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Page 6 of 19 Pages

Report No.: 4790877212-2

		and the second	Test	Method 测试	方法			
		re subjected t						
The samp determined be		re weighed be						
determined be 电压。	ore an	anter the tes	1. 周山杆面	市成117月下海	度铺平测试。	作用原则以用	但近17杯里	,并记来
Samples In/	The	hamber tem	nerature wa	s raised to 7	+ 2°C (182 -	+ 4°E) within	30 minutes	and
样品进箱		tained at this				, within	ov minutes	
in the second state		温度在30分钟				,时.		
		chamber tem		,		-	hin 30 minut	es and
		tained at this						
	烤箱	温度在30分钟	内降低到-40	0±2℃, 井台	挂持此温度X*/	小时-		
	Repe	at the seque	nce for 9 ad	ditional cycle	s (total of 10	cycles).		
		比顺序测试额		-		100000		
Samples	After	the 10th cycl	e, store the	batteries at a	mbient temp	erature 20 ±	5°C (68 ± 9	°F) for 24
Out/样品出		s prior to exam						
箱	在第	10个循环后,	720 ± 5°C3	环境下储存24	4小时,然后相	检查其状态。		
Note: The dura	ation of	exposure to t	he test temp	erature extre	emes(X*) was	determined	as below:	
注: 样品承受相								
[X] Small cells								
[] Large cells	and lar	ge batteries:	12 hours. 大	:电芯和大电)	也为12小时。			
			Tst	Results/测试	结果			
Sample No.	Sam	Weight	Weight	Percentag	Voltage	Voltage	Percenta	Results
样品编号	ple	Before	After	e of	Before	After	ge of	结果
	Con	Test(g)	Test(g)	Weight	Test(V)	Test(V)	residual	
	ditio	测试前质量	测试后质	Loss	测试前电压	测试后电	Voltage	
	样品	(克)	量 (克)	质量损失%	(伏)	压(伏)	残余电 压%	
	状态	1.000000000		~~			FIE 10	
6304941-S1	(C)	91.554	91.491	0.069	4.3657	4.2907	98.282	(6), (7)
6304941-S2	(C)	91.943	91.880	0.069	4.3683	4.2925	98.265	(6). (7)
6304941-S3	(C)	91.750	91.696	0.059	4.3687	4.2921	98.247	(6), (7)
6304941-S4	(C)	91.494	91.436	0.063	4.3545	4.2832	98.363	(6), (7)
6304941-S5 6304941-S6	(C) (D)	91.525 91.315	91.459 91.260	0.072	4.3679 4.3671	4.2865	98.136 98.244	(6), (7)
6304941-S0	(D)	91.400	91.353	0.051	4.3690	4.2904	98.244	(6), (7)
6304941-S8	(D)	91,594	91.537	0.062	4.3670	4.2924	98.253	(6), (7)
6304941-S9	(D)	91.380	91.327	0.058	4.3665	4.2904	98.257	(6), (7)
6304941- S10	(D)	91.837	91.779	0.063	4.3673	4.2885	98.196	(6), (7)
Results/结果:								
(1) Leakage/3	液.							
	٦.							
(2) Venting/排	ly/解体.							
	25							
(3) Disassemb								
(3) Disassemb (4) Rupture/被	44				Contraction of the local division of the loc	王排句 王朝	Z/* I z+ 30	工業小
(3) Disassemb (4) Rupture/破 (5) Fire/着火.		nting, no disa	ssembly, no	rupture, no	TIFE/尤调制。	/1.11	MADE 10 10 10 10 10 10 10 10 10 10 10 10 10	. <u>, , , , , , , , , , , , , , , , , , ,</u>
(3) Disassemb (4) Rupture/破 (5) Fire/着火. (6) No leakage	, no ve							
(3) Disassemb (4) Rupture/破 (5) Fire/着火.	, no ve							

Form-ULID-002352 (DCS: 10-CA-F0867) 3.1

Date Issued: 2021-01-05 Date Revision: 2023-08-14

Copyright © 2023 UL LLC

DOC #: MD600178 Print Date: 9-Dec-24	EV: A	Page 19 of 32	© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.
--	-------	------------------	---

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Page 7 of 19 Pages

Report No.: 4790877212-2

Test Method 测试方法 The samples were subjected to vibration tests consisting of the following. The samples were weighed before and after the exposure. The cell/battery voltage was also determined before and after the test. 测 idt#LA将进行如下振动测试。样品测试前后进行有意,并记录电压. The samples were firmly secured to the platform of the vibration machine without distorting the cells is used a manner as to faithfully transmit the vibration. The vibration was a sinusoidal waveform with a logarithmic sweep between 7 Hz and 200 Hz and back to 7 Hz traversed in 15 minutes. This cycle was repeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the cell. One of the directions of vibration was a perpendicular to the terminal face. Let % net % ne					T.3 Vibratio 振动	0.5			
The samples were subjected to vibration tests consisting of the following. The samples were weighed before and after the texposure. The cell/battery voltage was also determined before and after the test. 潮 KILBAR#LTOIN TEMINANIX, etRaNiXtin ELIGTRE , HiCRARE. The samples were firmly secured to the platform of the vibration machine without distorting the cells in such a manner as to faithfully transmit the vibration. The vibration was a sinusoidal waveform with a ogarithmic sweep between 7 Hz and 200 Hz and back to 7 Hz traversed in 15 minutes. This cycle was epeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the epeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the sub a manner as to faithfully transmit the vibration was a sinusoidal wavefore was epeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the sub a manner as to faithfully transmit the vibration of the directions of vibration was perpendicular to the terminal face. Environmental excursion) and the frequency weep was as follows/ptg31fgbar:: [X] For cells and small batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz is reached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until ask acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于电范环 12 (Natage figes p18#ski, %Enf#affaffaffaffaffaffaffaffaffaffaffaffaf				Test		大法			
it 年品将进行如下振动测试。样品测试前后进行称重、并记录电压。         The samples were firmly secured to the platform of the vibration machine without distorting the cells in         such a manner as to faithfully transmit the vibration. The vibration was a sinusoidal waveform with a         ogarithmic sweep between 7 Hz and 200 Hz and back to 7 Hz traversed in 15 minutes. This cycle was         epeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the         epeated 2. Sigmes for a total of 3 hours for each of three mutually perpendicular mounting positions of the         in the oparithmic frequency sweep was as follows/对数拍频如下:         [X] For cells and small batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz i         eached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency         ncreased until a peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn         was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency         increased until a peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn         was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency         increased until a peak acceleration of 8 gn         was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased         was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased         was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased         was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased         was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased         was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased         if an atom motil approximately 25 Hz). A peak acceleration of 2 gn was then         maintained until 18 Hz is reached.         The atom total excursion) and the frequency incre	The same	oles we	re subjected t				wing. The s	amples were	e weighed
The samples were firmly secured to the platform of the vibration machine without distorting the cells in such a manner as to faithfully transmit the vibration. The vibration was a sinusoidal waveform with a ogarithmic sweep between 7 Hz and 200 Hz and back to 7 Hz traversed in 15 minutes. This cycle was epeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the sell. One of the directions of vibration was perpendicular to the terminal face. 电芯和电池宇圃地安装在振 0h2上、振动以正弦波形式、以7Hz增加至200Hz, 然后在被少回到7Hz为一个循环, 一个循环持续15分钟 phy数前移传送。以振动的其中一个方向必须是垂直样品极性, 对每个电芯从三个互相垂直的方向上循环12 次, 每个方向3个小时. The logarithmic frequency sweep was as follows/对数扫频如下: [X] For cells and small batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz is eached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency norerased until a peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until a peak acceleration of 8 gn maintained until 18 Hz is reached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until peak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于先生物: 7林敲式并给保持1 gn的最大加速度直到 maintained until the frequency was increase to 200 Hz. 对于无论: 7 metrix the kpi 1 gnoha 大加速度直至 maintained until the frequency increased until peak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于给给: The katTh给保持1 gnoha 大加速度直要 maintained until the frequency increase to 200 Hz. 对于允许治: 7 MistTh给保持1 gnoha 大加速度直要 maintained until the frequency increase to 200 Hz. 对于允许。 The katTh给保持1 gnoha (x). The second the frequency increase to 200 Hz. 对 the the transmiter frequency increased until peak acceleration of 2 gn occurred (approximatel	pefore and aft	er the e	xposure. The	e cell/battery	voltage was	also determi			
uch a manner as to faithfully transmit the vibration. The vibration was a sinusoidal waveform with a ogarithmic sweep between 7 Hz and 200 Hz and back to 7 Hz traversed in 15 minutes. This cycle was epeated 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the ell. One of the directions of vibration was perpendicular to the terminal face. 电芯 netlite Talbesgž在振 db白上. 振动以正弦波形式, U7Hz增加至200Hz, 然后在减少回到7Hz为一个循环, 一个循环, 一个循环持续15分钟 db力数 前移传送。以振动的其中一个方向必须是垂直相品极性; 对每个电芯从三个互相垂直的方向上循环 12							chine without	t distorting t	he colls in
Speaked 12 times for a total of 3 hours for each of three mutually perpendicular mounting positions of the left. One of the directions of vibration was perpendicular to the terminal face. 电芯和电池生固地安装在版 (日本) (日本) (日本) (日本) (日本) (日本) (日本) (日本)									
Sell. One of the directions of vibration was perpendicular to the terminal face. 电芯和电池中国地安装在振 的台上。振动以正弦波形式,以7H2增加至200Hz,然后在减少回到7Hz为一个循环,一个循环持线15分钟 的对数前移传送。以振动的其中一个方向必须是垂直样品极性,对每个电芯从三个互相垂直的方向上循环12 文,每个方向3个小时.           The logarithmic frequency sweep was as follows/对数扫频如下:         [X] For cells and small batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz is eached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency ncreased until a peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until a peak acceleration of 1 gn was maintained until 18 Hz is seak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于电池: 7 #兹五始保持 1 gn 的最大加速度 balls () 频率均为50 #益), 将最大加速度保持在8 gn直到频率增加到200 #益.           [] For large batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz is reached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until is acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于电池: 7 #兹五始保持 1 gn 的最大加速度直到 peak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于依池; 7 # #拉斯保持 1 gn 0 最大加速度 直到 peak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn occurred (approximately 26 Hz). <b>f</b> addition the frequency was increase to 200 Hz. # addition the frequency mass increase to 200 Hz. # additi the frequency was increase to 200 Hz. # addition the frequency	ogarithmic sw	eep bet	ween 7 Hz ar	nd 200 Hz a	nd back to 7	Hz traversed	in 15 minut	es. This cycl	e was
幼白上、振动以正弦波形式,以7Hz増加至200Hz,然后在减少回到7Hz为一个循环,一个循环持续15分钟 向对数前移传送。以振动的其中一个方向必须是垂直样品极性,对每个电芯从三个互相垂直的方向上循环12 次,每个方向3个小时. The logarithmic frequency sweep was as follows/对数扫频如下: [X] For cells and small batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz is eached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency noreased until a peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn was then maintained until the frequency was increase to 200 Hz. 对于电芯和小电池: 7赫兹开始保持1 gn 的最大加速度直到频率为18結結,然后将振幅保持在0.8毫米(总偏移1.6毫米)并增加频率直到最大加速度 达到8 gn (频率约为50基益),将最大加速度保持在8 gn直到频率增加到200赫兹. [] For large batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz is reached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until teak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于电池: 7赫兹开始保持1 gn的最大加速度直到 maintained until the frequency was increase to 200 Hz. 对于比地频率直到最大加速度达到2 gn (频率约 525基益),将最大加速度保持在2 gn直到频率增加到200基盘. Test Results/测试结果 Sample No. 常品编号 Kasi (⑦) Rest(0) R									
次、每个方向3个小时。           The logarithmic frequency sweep was as follows/对数扫频如下:           [X] For cells and small batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz is reached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency moreased until a peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn was then maintained until the frequency was increase to 200 Hz. 对于电芯和小电池: 7赫兹开始保持1 gn 的最大加速度直到频率为18赫兹, 然后将振幅保持在0.8毫米 (总偏移1.6毫米) 并增加频率直到最大加速度达到8 gn (频率约为50 Hz), 水最大加速度保持在8 gn 直到频率增加到200 赫兹.           [] For large batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz is reached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until is eaceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于大电池: 7赫兹开始保持1 gn的最大加速度直到频率为18赫兹, 然后将振幅保持在0.8毫米 (总偏称1.6毫米) 并增加频率直到最大加速度达到2 gn (频率约为55 Mž2), 将最大加速度保持在2 gn 直到频率增加到200 M兹拉.           Test Results/测试度电 水晶 the frequency increased until is eaceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于大电池: 7赫兹开始保持1 gn的最大加速度直到频率为18 Maga, 然后将振幅保持在0.8毫米 (总偏称1.6毫米) 并增加频率直到最大加速度达到2 gn (频率约为55 Mg, maintenee the frequency was increase to 200 Hz. 对于大电池: 7 MataThe K; Hits 10, 0, 0, 4.2907           Sample No.         Sam         Weight Before Test(g) Test(g									
The logarithmic frequency sweep was as follows/对数扫频如下: [X] For cells and small batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz is eached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency noreased until a peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until a peak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until a peak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于大电池: 7赫兹开始保持1 gn的最大加速度重要 50.55 Mz), 将最大加速度保持在2 gn直到频率增加到200 Maz. <b>Free Results</b> 7 Matter 7 Mz a peak acceleration of 2 gn was then maintained until 18 Hz is reached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until apeak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于大电池: 7 MataThuk保持1 gn的最大加速度 for the set of t				卜方向必须是	垂直样品极	性, 对每个电	芯从三个互相	相垂直的方向	上循环12
[X] For cells and small batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz is reached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency noreased until a peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until speak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until 18 Hz is reached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until speak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until 16 frequency was increase to 200 Hz. JY Ft.tb.it. The st.ft.ft.gnblet_hit gnblet_hit gnblet_hi									
eached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency noreased until a peak acceleration of 8 gn occurred (approximately 50 Hz). A peak acceleration of 8 gn was then maintained until the frequency was increase to 200 Hz. 对于电芯和小电池: 7 林蓝开始保持 gn bl最大加速度直到频率为18.봚蓝、然后将振幅保持在0.8毫米(总偏移1.6毫米)并增加频率直到最大加速度 达到8 gn (频率约为50.胁益),将最大加速度保持在8 gn直到频率增加到200.赫蓝. [] For large batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz is reached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until beak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于大电池: 7.8 蓝开始保持1 gn的最大加速度直到 bp25.8 mb / 和最大加速度保持在2 gn 直到频率增加到200.8 mb / 加速度 达到 2 gn (频率约 18.4 mb / mb	The logar	ells and	requency swe	eep was as t	follows/对数]	日朔如下: sceleration of	1 on was m	aintained unt	il 18 Hz is
vas then maintained until the frequency was increase to 200 Hz. 对于电芯和小电池: 7赫兹开始保持1 gn 約最大加速度直到频率为18赫兹,然后将振幅保持在0.8毫米(总偏移1.6毫米)并增加频率直到最大加速度 达到8 gn(频率约为50赫兹),将最大加速度保持在8 gn直到频率增加到200赫兹。 [] For large batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz is reached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until peak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于大电池: 7赫兹开始保持1 gn的最大加速度直到 频率为18赫兹,然后将振幅保持在0.8毫米(总偏移1.6毫米)并增加频率直到最大加速度达到2 gn(频率约 为25赫兹),将最大加速度保持在2 gn直到频率增加到200赫兹。 Test Results/测试结果 Sample No. Sam Veight Before Test(g) 测试后质 Con Test(g) 测试后质 Con Test(g) 测试后度 Con Test(g) 测试后度 Con Test(g) 测试后质 Con Test(g) 测试后度 Con Test(g) 测试后度 Con Test(g) 测试后质 Con Test(g) 测试后性 Con Test(g) 测试后性 Con Test(g) 测试后质 Con Test(g) 测试后性 Con Test(g) 测试后性 Con Test(g) 测试后质 Sam Veight Nation Con Test(gn	eached. The	amplitu	de was then i	maintained a	at 0.8 mm (1.	.6 mm total ex	(cursion) an	d the frequer	vor
的最大加速度直到频率为18赫茲,然后将振幅保持在0.8毫米(总偏移1.6毫米)并增加频率直到最大加速度 达到8 gn(频率约为50赫茲),将最大加速度保持在8 gn直到频率增加到200赫茲。 [] For large batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz is reached. The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until is peak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于大电池: 7赫茲开始保持1 gn的最大加速度直到 频率为18赫兹,然后将振幅保持在0.8毫米(总偏移1.6毫米)并增加频率直到最大加速度达到2 gn(频率约 为255赫兹),将最大加速度保持在2 gn直到频率增加到2004赫兹. Test Results/测试结果 Sample No. 林品编号 《克》 # 品编号 《方》 # 品编号 《方》 # 品编号 《方》 # 品编号 《方》 # 品 # 品 ¥A. **** (C) 91.491 91.541 0.000 4.2907 4.2872 99.918 (6).(7) 8304941-S1 (C) 91.491 91.541 0.000 4.2925 4.2890 99.918 (6).(7) 8304941-S3 (C) 91.880 91.935 0.000 4.2925 4.2893 99.935 (6).(7) 8304941-S3 (C) 91.496 91.493 0.000 4.2832 4.2796 99.839 (6).(7) 8304941-S6 (D) 91.280 91.295 0.000 4.2804 4.2868 99.916 (6).(7) 8304941-S6 (D) 91.280 91.295 0.000 4.2804 4.2868 99.916 (6).(7) 8304941-S7 (D) 91.353 91.397 0.000 4.2904 4.2868 99.916 (6).(7) 8304941-S7 (D) 91.357 91.580 0.000 4.2904 4.2869 99.918 (6).(7) 8304941-S7 (D) 91.327 91.374 0.000 4.2904 4.2869 99.918 (6).(7) 8304941- (D)	ncreased until	a peak	acceleration	of 8 gn occi	urred (approx	ximately 50 H	z). A peak	acceleration	of 8 gn
法到8 gn (频率约为50赫兹),将最大加速度保持在8 gn直到频率增加到200赫兹.         [] For large batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz is reached.         The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until is eak acceleration of 2 gn occurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于大电池: 7赫兹开始保持1 gn的最大加速度直到频率均18赫兹, 然后将振幅保持在2 gn直到频率增加到200赫兹.         Test Results/测试结果         Sample No.         增品编号       Weight Before Trest(g)         n       After Test(g)         测试前成量 (克)       第3試后成 量 (克)         潮试前成量 (克)       第3試后成 量 (元)         第304941-S1       (C)       91.491         91.530       0.000       4.2907       4.2872       99.918       (6).(7)         8304941-S3       (C)       91.880       91.935       0.000       4.2925       4.2890       99.918       (6).(7)         8304941-S4       (C)       91.436       91.488       0.000       4.2822       4.2799       99.923       (6).(7)         8304941-S4       (C)       91.436       91.495       0.000       4.2824       4.2799       99.923       (6).(7)         8304941-S3       (C)       91.436       91.488       0.000       4.2824       4.2799 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>									
[] For large batteries: From 7 Hz a peak acceleration of 1 gn was maintained until 18 Hz is reached.         The amplitude was then maintained at 0.8 mm (1.6 mm total excursion) and the frequency increased until a seak acceleration of 2 gn oscurred (approximately 25 Hz). A peak acceleration of 2 gn was then maintained until the frequency was increase to 200 Hz. 对于大电池: 7봚蓝开始保持1 gn的最大加速度直到频率均18赫兹, 然后将振幅保持在0.8毫米(总偏移1.6毫米)并增加频率直到最大加速度达到2 gn(频率约 5/25赫兹), 将最大加速度保持在2 gn直到频率增加到200楼菇.         Test Results/测试结果         Sample No.         ple       Weight Before Test(g)         ditio       n         nditio       n         (克)       Midliggt         ge (克)       ge Mg         May and the frequency in the form to the f								1列半旦到歌	大加速度
Sample No.         Neight ple of the set (g)         Weight form (f)         Percentage (f)         Voltage play         Voltage play         Percentage (f)         Voltage play         Percentage (f)         Notage play					ani (2003)				
Sample No.         Sam         Weight Before Test(g)         Percentag (東)         Voltage (我)         Voltage Before Test(g)         Voltage (我)         Percentag e of Test(g)         Voltage Weight (我)         Percentag Before Test(g)         Voltage (我)         Percentag e of Test(g)         Voltage Weight (H)         Percentag e of Test(g)         Voltage Weight (H)         Percentag e of Test(g)         Voltage Weight (H)         Percentag e of Test(g)         Percentag Weight (H)         Percentag E (R)         Percentag e of Test(g)         Voltage Weight (H)         Percentag Test(V)         Percentag Test(V)         Percentag Test(V)         Percentag Weight (H)         Percentag Test(V)         Percentag Test(									
naintained until the frequency was increase to 200 Hz. 对于大电池: 7赫茲开始保持1 gn的最大加速度直到 频率为18赫兹,然后将振幅保持在0.8毫米(总偏移1.6毫米)并增加频率直到最大加速度达到2 gn(频率约 为25赫兹),将最大加速度保持在2 gn直到频率增加到200赫兹. Test Results/测试结果 Sample No. 样品编号 Percentag 作品编号 (克) 器板 Weight 内 (克) 测试前质量 (克) 测试后质 量(充) 操作。 ************************************									sed until a
为25結益),将最大加速度保持在2gn直到频率增加到200赫益。           Test Results/测试结果           Sample No. 样品编号         Sam ple Con ditio n #AB (克)         Weight Before Test(g)         Weight After Test(g)         Percentag After Test(g)         Voltage Before Test(y)         Voltage Refore Test(V)         Percentag e of residual Voltage 度 (九)         Percentag e of residual Voltage 度 (九)         Percentag e of residual Voltage 度 (九)         Percentag e of residual Voltage 度 (九)         Percentag (L)         Results fall           8304941-S1         (C)         91.491         91.541         0.000         4.2907         4.2872         99.918         (6), (7)           8304941-S2         (C)         91.880         91.935         0.000         4.2925         4.2890         99.918         (6), (7)           8304941-S2         (C)         91.496         91.743         0.000         4.2921         4.2893         99.935         (6), (7)           8304941-S4         (C)         91.459         91.509         0.000         4.2805         4.2796         99.839         (6), (7)           8304941-S6         (D)         91.260         91.295         0.000         4.2805         4.2796         99.839         (6), (7)           8304941-S6         (D)         91.537         91.580         0.000         4.280									回速度直到
Test Results/测试结果           Sample No. 样品编号         Sam ple Con ditio n #After Test(g)         Weight Before Test(g)         Weight After Test(g)         Percentag After Test(g)         Voltage Before Test(V)         Voltage Before Test(V)         Percentag attinine E         Percentag e of residual Voltage Results         Percentag fest(V)         Percentag Mitinine E         Percentag e of residual Voltage         Percentag e of residual Voltage         Percentag e of residual Voltage         Results           8304941-S1         (C)         91.491         91.541         0.000         4.2907         4.2872         99.918         (6), (7)           8304941-S2         (C)         91.880         91.935         0.000         4.2925         4.2890         99.918         (6), (7)           8304941-S3         (C)         91.496         91.743         0.000         4.2822         4.2799         99.923         (6), (7)           8304941-S4         (C)         91.459         91.509         0.000         4.2805         4.2796         99.839         (6), (7)           8304941-S6         (D)         91.260         91.295         0.000         4.2804         99.907         (6), (7)           8304941-S6         (D)         91.537         91.580         0.000         4.2804         99.907 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>直到最大加速</td> <td>速度达到2 gn</td> <td>(頻率约</td>							直到最大加速	速度达到2 gn	(頻率约
Sample No.         Sam ple Con ditio n #ABm (克)         Weight Before Test(g)         Weight After Test(g)         Percentag After Test(g)         Voltage e of Weight Loss 质量损失 %         Voltage Before Test(V)         Percentag After Test(V)         Percentag e of residual Voltage 度 (元)         Percentag e of residual Voltage 素         Percentag e of residual Voltage at set         Percentag Percentag         Percentag at set           8304941-S1         (C)         91.491         91.541         0.000         4.2925         4.2803         99.918         (6), (7)           8304941-S4         (C)         91.459         91.509         0.000         4.2805         4.2796         99.839         (6), (7)           8304941-S6         (D)         91.260         91.295         0.000         4.2804	<b>525赫兹),</b> 3	将最大加	0速度保持在2						
样品编号         ple Con ditio         Before Test(g)         After Test(g)         e of Test(g)         Before Test(g)         After Test(y)         e of Weight Loss         Before Test(V)         After Test(V)         e of residual Woltage         after test(V)         e of residual Woltage         after Test(V)         e of Test(V)         after Test(V)         after Tes				Test	Results/测证	【结果			
中田崎 5         Con ditio n 株品 状态         Test(g) 测试崩度量 (克)         Test(g) 测试高度 量(克)         Weight Loss 质量损失 %         Test(V) 测试前电压 (伏)         Test(V) 测试前电压 压(伏)         Test(V) 测试前电压 压(伏)         residual Voltage 残余电压 %         Nat Fest(V)           8304941-S1         (C)         91.491         91.541         0.000         4.2907         4.2872         99.918         (6), (7)           8304941-S2         (C)         91.880         91.935         0.000         4.2925         4.2890         99.918         (6), (7)           8304941-S3         (C)         91.496         91.743         0.000         4.2821         4.2893         99.935         (6), (7)           8304941-S4         (C)         91.436         91.488         0.000         4.2825         4.2799         99.923         (6), (7)           8304941-S6         (D)         91.260         91.295         0.000         4.2805         4.2796         99.839         (6), (7)           8304941-S6         (D)         91.353         91.397         0.000         4.2804         99.907         (6), (7)           8304941-S8         (D)         91.537         91.580         0.000         4.2904         4.2869         99.918         (6), (7)           8304941-S9 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Results</td></td<>									Results
n			Berore			Before			
祥品 状态         (%)         第(元)         第(行)         第(元)         第(行)         第(G)         第(G)         1,436         91,436         91,436	样品编号		Test(g)	Test(g)	Weight	Test(V)			結果
状态                6304941-S1         (C)         91.491         91.541         0.000         4.2907         4.2872         99.918         (6), (7)           6304941-S2         (C)         91.880         91.935         0.000         4.2925         4.2890         99.918         (6), (7)           6304941-S2         (C)         91.880         91.935         0.000         4.2925         4.2890         99.918         (6), (7)           6304941-S3         (C)         91.696         91.743         0.000         4.2822         4.2799         99.923         (6), (7)           6304941-S4         (C)         91.459         91.509         0.000         4.2865         4.2796         99.839         (6), (7)           6304941-S6         (D)         91.260         91.295         0.000         4.2865         4.2796         99.839         (6), (7)           6304941-S7         (D)         91.353         91.397         0.000         4.2924         4.2868         99.916         (6), (7)           6304941-S8         (D)         91.537         91.580         0.000         4.2907         4.2873         99.921         (6), (7)	样品编号	Con ditio		测试后质	Loss	测试前电压	Test(V) 测试后电	residual Voltage	結果
6304941-S2         (C)         91.880         91.935         0.000         4.2925         4.2890         99.918         (6), (7)           6304941-S3         (C)         91.696         91.743         0.000         4.2921         4.2893         99.935         (6), (7)           6304941-S4         (C)         91.436         91.488         0.000         4.2832         4.2799         99.923         (6), (7)           6304941-S5         (C)         91.459         91.509         0.000         4.2865         4.2796         99.839         (6), (7)           6304941-S6         (D)         91.260         91.295         0.000         4.2804         4.2868         99.916         (6), (7)           6304941-S7         (D)         91.353         91.397         0.000         4.2924         4.2884         99.907         (6), (7)           6304941-S8         (D)         91.537         91.580         0.000         4.2907         4.2873         99.921         (6), (7)           6304941-S9         (D)         91.327         91.374         0.000         4.2904         4.2869         99.918         (6), (7)           6304941-         (D)         91.779         91.831         0.000         4.2895 <td>样品编号</td> <td>Con ditio n</td> <td>测试前质量</td> <td>测试后质</td> <td>Loss 质量损失</td> <td>测试前电压</td> <td>Test(V) 测试后电</td> <td>residual Voltage 残余电压</td> <td>结果</td>	样品编号	Con ditio n	测试前质量	测试后质	Loss 质量损失	测试前电压	Test(V) 测试后电	residual Voltage 残余电压	结果
6304941-S3         (C)         91.696         91.743         0.000         4.2921         4.2893         99.935         (6), (7)           6304941-S4         (C)         91.436         91.488         0.000         4.2832         4.2799         99.923         (6), (7)           6304941-S5         (C)         91.436         91.509         0.000         4.2832         4.2799         99.923         (6), (7)           6304941-S5         (C)         91.459         91.509         0.000         4.2865         4.2796         99.839         (6), (7)           6304941-S6         (D)         91.260         91.295         0.000         4.2804         4.2868         99.916         (6), (7)           6304941-S7         (D)         91.353         91.397         0.000         4.2924         4.2884         99.907         (6), (7)           6304941-S8         (D)         91.537         91.580         0.000         4.2907         4.2873         99.921         (6), (7)           6304941-S9         (D)         91.327         91.374         0.000         4.2904         4.2869         99.918         (6), (7)           6304941-         (D)         91.779         91.831         0.000         4.2895 <td>样品编号</td> <td>Con ditio n 样品</td> <td>测试前质量</td> <td>测试后质</td> <td>Loss 质量损失</td> <td>测试前电压</td> <td>Test(V) 测试后电</td> <td>residual Voltage 残余电压</td> <td>11年</td>	样品编号	Con ditio n 样品	测试前质量	测试后质	Loss 质量损失	测试前电压	Test(V) 测试后电	residual Voltage 残余电压	11年
6304941-S4         (C)         91.436         91.488         0.000         4.2832         4.2799         99.923         (6), (7)           6304941-S5         (C)         91.459         91.509         0.000         4.2865         4.2796         99.839         (6), (7)           6304941-S6         (D)         91.260         91.295         0.000         4.2865         4.2796         99.839         (6), (7)           6304941-S6         (D)         91.260         91.295         0.000         4.2904         4.2868         99.916         (6), (7)           6304941-S7         (D)         91.353         91.397         0.000         4.2904         4.2873         99.921         (6), (7)           6304941-S8         (D)         91.537         91.580         0.000         4.2907         4.2873         99.921         (6), (7)           6304941-S9         (D)         91.327         91.374         0.000         4.2904         4.2869         99.918         (6), (7)           6304941-         (D)         91.779         91.831         0.000         4.2895         4.2809         99.918         (6), (7)		Con ditio n 样品 状态	测试前质量 (克)	測试后质 量 (克)	Loss 质量损失 %	测试前电压 (伏)	Test(V) 测试后电 压(伏)	residual Voltage 残余电压 %	成来 (6), (7)
6304941-S5         (C)         91.459         91.509         0.000         4.2865         4.2796         99.839         (6), (7)           6304941-S6         (D)         91.260         91.295         0.000         4.2904         4.2868         99.916         (6), (7)           6304941-S7         (D)         91.353         91.397         0.000         4.2924         4.2884         99.907         (6), (7)           6304941-S7         (D)         91.537         91.580         0.000         4.2907         4.2873         99.921         (6), (7)           6304941-S9         (D)         91.327         91.374         0.000         4.2904         4.2869         99.918         (6), (7)           6304941-         (D)         91.327         91.374         0.000         4.2904         4.2869         99.918         (6), (7)           6304941-         (D)         91.779         91.831         0.000         4.2895         4.2830         99.915         (8) (7)	6304941-S1	Con ditio n 样品 状态 (C)	测试前质量 (克) 91.491	测试后质 量 (克) 91.541 91.935	Loss 质量损失 % 0.000	测试前电压 (伏) 4.2907	Test(V) 测试后电 压(伏) 4.2872	residual Voltage 残余电压 % 99.918	
6304941-S6         (D)         91.260         91.295         0.000         4.2904         4.2868         99.916         (6), (7)           6304941-S7         (D)         91.353         91.397         0.000         4.2924         4.2868         99.916         (6), (7)           6304941-S7         (D)         91.353         91.397         0.000         4.2924         4.2873         99.907         (6), (7)           6304941-S8         (D)         91.537         91.580         0.000         4.2907         4.2873         99.921         (6), (7)           6304941-S9         (D)         91.327         91.374         0.000         4.2904         4.2869         99.918         (6), (7)           6304941-         (D)         91.779         91.831         0.000         4.2895         4.2830         99.915         (8) (7)	6304941-S1 6304941-S2	Con ditio n 样品 状态 (C) (C)	测试前质量 (克) 91.491 91.880	测试后质 量 (克) 91.541 91.935	Loss 质量损失 % 0.000 0.000	测试前电压 (伏) 4.2907 4.2925	Test(V) 测试后电 压(伏) 4.2872 4.2890	residual Voltage 残余电压 % 99.918 99.918	(6), (7)
6304941-S7         (D)         91.353         91.397         0.000         4.2924         4.2884         99.907         (6), (7)           6304941-S8         (D)         91.537         91.580         0.000         4.2907         4.2873         99.921         (6), (7)           6304941-S9         (D)         91.327         91.374         0.000         4.2904         4.2869         99.918         (6), (7)           6304941-         (D)         91.327         91.374         0.000         4.2904         4.2869         99.918         (6), (7)           6304941-         (D)         91.779         91.831         0.000         4.2895         4.2830         99.915         (8) (7)	6304941-S1 6304941-S2 6304941-S3	Con ditio n 样品 状态 (C) (C) (C)	测试前质量 (克) 91.491 91.880 91.696	测试后质 量(克) 91.541 91.935 91.743	Loss 质量损失 % 0.000 0.000 0.000	测试前电压 (伏) 4.2907 4.2925 4.2921	Test(V) 测试后电 压(伏) 4.2872 4.2890 4.2893	residual Voltage 残余电压 % 99.918 99.918 99.935	(6), (7) (6), (7)
6304941-S8         (D)         91.537         91.580         0.000         4.2907         4.2873         99.921         (6), (7)           6304941-S9         (D)         91.327         91.374         0.000         4.2904         4.2869         99.918         (6), (7)           6304941-         (D)         91.779         91.831         0.000         4.2895         4.2830         99.915         (8) (7)	6304941-S1 6304941-S2 6304941-S3 6304941-S4 6304941-S5	Con ditio n 样品 状态 (C) (C) (C) (C) (C)	测试前质量 (克) 91.491 91.880 91.696 91.436 91.459	测试后质 量(克) 91.541 91.935 91.743 91.488	Loss 质量损失 % 0.000 0.000 0.000 0.000 0.000	測试前电压 (伏) 4.2907 4.2925 4.2921 4.2832 4.2865	Test(V) 潮试后电 压(伏) 4.2872 4.2890 4.2893 4.2799 4.2796	residual Voltage 残余电压 % 99.918 99.918 99.935 99.923 99.839	(6), (7) (6), (7) (6), (7)
6304941-S9 (D) 91.327 91.374 0.000 4.2904 4.2869 99.918 (6), (7) 6304941- (D) 91.779 91.831 0.000 4.2895 4.2830 99.915 (8) (7)	6304941-S1 6304941-S2 6304941-S3 6304941-S3 6304941-S5 6304941-S5 6304941-S6	Con ditio n 样品 状态 (C) (C) (C) (C) (C) (C) (C)	测试前质量 (克) 91.491 91.880 91.696 91.436 91.459 91.260	潮试后族 量(克) 91.541 91.935 91.743 91.488 91.509 91.295	Loss 质量损失 % 0.000 0.000 0.000 0.000 0.000 0.000	测试前电压 (伏) 4.2907 4.2925 4.2921 4.2832 4.2865 4.2904	Test(V) 潮试后电 压(伏) 4.2872 4.2890 4.2893 4.2799 4.2796 4.2868	residual Voltage 残余电压 % 99.918 99.918 99.935 99.923 99.839 99.916	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
6304941- (D) 01 770 01 831 0 000 4 2895 4 2830 00 015 (8) (7)	6304941-S1 6304941-S2 6304941-S3 6304941-S3 6304941-S5 6304941-S5 6304941-S5 6304941-S7	Con ditio n 样品 状态 (C) (C) (C) (C) (C) (C) (D) (D)	測试前质量 (克) 91.491 91.880 91.696 91.436 91.459 91.260 91.353	潮试后族 量(克) 91.541 91.935 91.743 91.488 91.509 91.295 91.397	Loss 质量损失 % 0.000 0.000 0.000 0.000 0.000 0.000 0.000	测试前电压 (伏) 4.2907 4.2925 4.2921 4.2832 4.2865 4.2904 4.2924	Test(V) 潮试后电 压(伏) 4.2872 4.2890 4.2893 4.2796 4.2868 4.2868 4.2884	residual Voltage 残余电压 % 99.918 99.918 99.935 99.923 99.839 99.916 99.907	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
(D) 01 770 01 831 0 000 4 2885 4 2830 00 015 (8) (7)	6304941-S1 6304941-S2 6304941-S3 6304941-S4 6304941-S5 6304941-S6 6304941-S7 6304941-S8	Con ditio n 样品 状态 (C) (C) (C) (C) (C) (C) (D) (D) (D)	測试前质量 (克) 91.491 91.880 91.696 91.436 91.459 91.260 91.353 91.537	湖试后族 量(克) 91.541 91.935 91.743 91.488 91.509 91.295 91.397 91.580	Loss 质量损失 % 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	测试前电压 (伏) 4.2907 4.2925 4.2921 4.2832 4.2865 4.2904 4.2924 4.2907	Test(V) 潮试后电 度(伏) 4.2872 4.2890 4.2893 4.2796 4.2868 4.2868 4.2884 4.2873	residual Voltage 残余电压 % 99.918 99.918 99.935 99.935 99.923 99.839 99.916 99.907 99.921	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
510	6304941-S1 6304941-S2 6304941-S3 6304941-S4 6304941-S5 6304941-S5 6304941-S7 6304941-S8 6304941-S8 6304941-S9	Con ditio n 样品 状态 (C) (C) (C) (C) (C) (C) (D) (D) (D)	測试前质量 (克) 91.491 91.880 91.696 91.436 91.459 91.260 91.353 91.537	湖试后族 量(克) 91.541 91.935 91.743 91.488 91.509 91.295 91.397 91.580	Loss 质量损失 % 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	测试前电压 (伏) 4.2907 4.2925 4.2921 4.2832 4.2865 4.2904 4.2924 4.2907	Test(V) 潮试后电 度(伏) 4.2872 4.2890 4.2893 4.2796 4.2868 4.2868 4.2884 4.2873	residual Voltage 残余电压 % 99.918 99.918 99.935 99.935 99.923 99.839 99.916 99.907 99.921	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
510	8304941-S1 8304941-S2 8304941-S3 8304941-S4 8304941-S5 8304941-S6 8304941-S7 8304941-S8 8304941-S8 8304941-S9	Con ditio n 样品 状态 (C) (C) (C) (C) (C) (C) (D) (D) (D)	測试前质量 (克) 91.491 91.880 91.696 91.436 91.459 91.260 91.353 91.537	湖试后族 量(克) 91.541 91.935 91.743 91.488 91.509 91.295 91.397 91.580	Loss 质量损失 % 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	测试前电压 (伏) 4.2907 4.2925 4.2921 4.2832 4.2865 4.2904 4.2924 4.2907	Test(V) 潮试后电 度(伏) 4.2872 4.2890 4.2893 4.2796 4.2868 4.2868 4.2884 4.2873	residual Voltage 残余电压 % 99.918 99.918 99.935 99.935 99.923 99.839 99.916 99.907 99.921	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
	3304941-S1 3304941-S2 3304941-S3 3304941-S4 3304941-S5 3304941-S7 3304941-S8 3304941-S8 3304941-S9 6304941- S10 esults/結果:	Con ditio n 样品 状态 (C) (C) (C) (C) (C) (C) (D) (D) (D) (D) (D)	測试前质量 (克) 91.491 91.880 91.696 91.436 91.459 91.260 91.353 91.537	湖试后族 量(克) 91.541 91.935 91.743 91.488 91.509 91.295 91.397 91.580	Loss 质量损失 % 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	测试前电压 (伏) 4.2907 4.2925 4.2921 4.2832 4.2865 4.2904 4.2924 4.2907	Test(V) 潮试后电 度(伏) 4.2872 4.2890 4.2893 4.2796 4.2868 4.2868 4.2884 4.2873	residual Voltage 残余电压 % 99.918 99.918 99.935 99.935 99.923 99.839 99.916 99.907 99.921	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
	8304941-S1 8304941-S2 8304941-S3 8304941-S4 8304941-S5 8304941-S5 8304941-S8 8304941-S8 8304941-S9 8304941-S10 Results/结果: 1) Leakage/導	Con ditio n 样品 衣 (C) (C) (C) (C) (C) (C) (D) (D) (D) (D) (D) (D)	測试前质量 (克) 91.491 91.880 91.696 91.436 91.459 91.260 91.353 91.537 91.327	測试后族 量(克) 91.541 91.935 91.743 91.743 91.743 91.743 91.743 91.295 91.397 91.397 91.580 91.374	Loss 质量损失 % 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	测试前电压 (伏) 4.2907 4.2925 4.2921 4.2832 4.2865 4.2904 4.2904 4.2907 4.2904	Test(V) 測试后电 压(伏) 4.2872 4.2890 4.2893 4.2799 4.2796 4.2868 4.2868 4.2884 4.2873 4.2869	residual Voltage 残余电压 % 99.918 99.935 99.935 99.923 99.839 99.916 99.907 99.921 99.918	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
2) Venting/排气.	6304941-S1 6304941-S2 6304941-S3 6304941-S4 6304941-S5 6304941-S5 6304941-S8 6304941-S9 6304941-S10 Results/结果: 1) Leakage/講 2) Venting/排	Con ditio n 样品态 (C) (C) (C) (C) (C) (D) (D) (D) (D) (D) (D) (D)	測试前质量 (克) 91.491 91.880 91.696 91.436 91.459 91.260 91.353 91.537 91.327 91.779	測试后族 量(克) 91.541 91.935 91.743 91.743 91.743 91.743 91.743 91.295 91.397 91.397 91.580 91.374	Loss 质量损失 % 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	测试前电压 (伏) 4.2907 4.2925 4.2921 4.2832 4.2865 4.2904 4.2904 4.2907 4.2904	Test(V) 測试后电 压(伏) 4.2872 4.2890 4.2893 4.2799 4.2796 4.2868 4.2868 4.2884 4.2873 4.2869	residual Voltage 残余电压 % 99.918 99.935 99.935 99.923 99.839 99.916 99.907 99.921 99.918	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
1) Leakage/漏液. 2) Venting/排气. 3) Disassembly/解体.	6304941-S1 6304941-S2 6304941-S3 6304941-S4 6304941-S5 6304941-S5 6304941-S8 6304941-S9 6304941-S10 Results/结果: 1) Leakage/講 2) Venting/排 3) Disassemb	Con ditio n 样品 衣 (C) (C) (C) (C) (C) (D) (D) (D) (D) (D) (D) (D)	測试前质量 (克) 91.491 91.880 91.696 91.436 91.459 91.260 91.353 91.537 91.327 91.779	測试后族 量(克) 91.541 91.935 91.743 91.743 91.743 91.743 91.743 91.295 91.397 91.397 91.580 91.374	Loss 质量损失 % 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	测试前电压 (伏) 4.2907 4.2925 4.2921 4.2832 4.2865 4.2904 4.2904 4.2907 4.2904	Test(V) 測试后电 压(伏) 4.2872 4.2890 4.2893 4.2799 4.2796 4.2868 4.2868 4.2884 4.2873 4.2869	residual Voltage 残余电压 % 99.918 99.935 99.935 99.923 99.839 99.916 99.907 99.921 99.918	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
2) Venting/排气. 3) Disassembly/解体. 4) Rupture/破裂.	6304941-S1 6304941-S2 6304941-S3 6304941-S4 6304941-S5 6304941-S5 6304941-S8 6304941-S9 6304941-S9 6304941-S9 6304941-S10 Results/結果: 1) Leakage/講 2) Venting/排 3) Disassemb 4) Rupture/被	Con ditio n 样品 衣 (C) (C) (C) (C) (C) (D) (D) (D) (D) (D) (D) (D)	測试前质量 (克) 91.491 91.880 91.696 91.436 91.459 91.260 91.353 91.537 91.327 91.779	測试后族 量(克) 91.541 91.935 91.743 91.743 91.743 91.743 91.743 91.295 91.397 91.397 91.580 91.374	Loss 质量损失 % 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	测试前电压 (伏) 4.2907 4.2925 4.2921 4.2832 4.2865 4.2904 4.2904 4.2907 4.2904	Test(V) 測试后电 压(伏) 4.2872 4.2890 4.2893 4.2799 4.2796 4.2868 4.2868 4.2884 4.2873 4.2869	residual Voltage 残余电压 % 99.918 99.935 99.935 99.923 99.839 99.916 99.907 99.921 99.918	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
2) Venting/排气. 3) Disassembly/解体. 4) Rupture/破裂. 5) Fire/着火.	6304941-S1 6304941-S2 6304941-S3 6304941-S5 6304941-S5 6304941-S5 6304941-S7 6304941-S8 6304941-S9 6304941-S10 Results/結果: 1) Leakage/講 2) Venting/排 3) Disassemb 4) Rupture/破 5) Fire/着火.	Con ditio n 样品态 (C) (C) (C) (C) (C) (D) (D) (D) (D) (D) (D) (D) (D)	測试前质量 (克) 91.491 91.880 91.696 91.436 91.459 91.260 91.353 91.537 91.327 91.779	测试后族 量(克) 91.541 91.935 91.743 91.743 91.488 91.509 91.295 91.397 91.580 91.374 91.831	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	测试前电压 (伏) 4.2907 4.2925 4.2921 4.2865 4.2904 4.2924 4.2907 4.2904 4.2885	Test(V) 测试后电 压(伏) 4.2872 4.2890 4.2893 4.2799 4.2796 4.2868 4.2884 4.2873 4.2869 4.2830	residual Voltage 残余电压 % 99.918 99.918 99.935 99.923 99.923 99.916 99.907 99.921 99.918 99.915	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
2) Venting/排气. 3) Disassembly/解体. 4) Rupture/破裂.	3304941-S1 3304941-S2 3304941-S3 3304941-S4 3304941-S5 3304941-S5 3304941-S8 3304941-S9 6304941-S9 6304941-S9 6304941-S9 6304941-S1 1) Leakage/淵 2) Venting/排 3) Disassemb 4) Rupture/破 5) Fire/着火. 8) No leakage	Con ditio n #品 状态 (C) (C) (C) (C) (C) (C) (D) (D) (D) (D) (D) (D) (D) (D) (D) (D	測试前质量 (克) 91.491 91.880 91.696 91.436 91.436 91.459 91.260 91.353 91.537 91.327 91.779	测试后族 量(克) 91.541 91.935 91.743 91.743 91.488 91.509 91.295 91.397 91.580 91.374 91.831 ssembly, no	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	测试前电压 (伏) 4.2907 4.2925 4.2921 4.2865 4.2904 4.2924 4.2907 4.2904 4.2885	Test(V) 测试后电 压(伏) 4.2872 4.2890 4.2893 4.2799 4.2796 4.2868 4.2884 4.2873 4.2869 4.2830	residual Voltage 残余电压 % 99.918 99.918 99.935 99.923 99.923 99.923 99.916 99.907 99.921 99.918 99.915	(6). (7) (6). (7) (6). (7) (6). (7) (6). (7) (6). (7) (6). (7) (6). (7) (6). (7)

DOC #:
MD600178
Print Date: 9-Dec-24

 $\ensuremath{\mathbb{C}}$  2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Page 8 of 19 Pages

Report No.: 4790877212-2

(7) The open circuit voltage of each cell after testing was greater than 90%/开路电压不低于试验前开路电压 的90%.

Form-ULID-002352 (DCS: 10-CA-F0867) 3.1

Date Issued: 2021-01-05 Date Revision: 2023-08-14

Copyright @ 2023 UL LLC

DOC #: <b>MD600178</b> Print Date: 9-Dec-24	REV: A	Page 21 of 32	© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.
---	--------	------------------	---

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Page 9 of 19 Pages

Report No.: 4790877212-2

			-	冲击 Mathead 2013	1 2+-			
The		an authin to the		Method 测证	47 2 Pan	hadan and	- Des literation	
The samp The cell/batter		re subjected t						
he testing ma								
ample was su	bjected	d to a half-sine	e shock as l	below: 样品将	<b>并进行如下冲击</b>	上测试。对样	品在测试前	后进行称
1.并记录电历	臣。 以利	自固的托架固定	自住每个电志	5和电池样品	的全部配件表	面。每个样。	品将进行如下	下半正弦冲
告测试:								
[X] Fo [50 gn, 脉冲]		Peak accelera	ation of 150	gn and puls	e duration of	o millisecono	ds. 小电芯:	峰值为
		cells: Peak ac	celeration o	f 50 on and i	oulse duration	of 11 millis	econds te	自然:峰值
为50 gn,脉冲	-			a de gri arra j				C-0 === 18
		batteries: Pea	k accelerat	ion of the sm	aller of the fo	llowing, and	pulse durat	ion of 6
nilliseconds: /		取如下较小值	直为峰值, 影	k冲持续6毫利	\$.			
	0 gn.	Imper alth	hattensis	-				
		/ mass of the batteries: Pea			aller of the fol	lowing and	pulse durat	ion of 11
nilliseconds: 7						and, and	parac ourat	
• 50	gn.	18 202625						
- v(	30000 /	mass of the l	battery in kg	)				
Each car		s subjected to	three sheet	ke in the new	itius disseties	followed by	three cheel	ke in the
egative direct								
每个测试样品级								
经受18次冲击。		and the debits of the second			and an a state of the			27323-0223-0233-033-033-033-033-033-033-03
			Test	Results/测试	《结果			
Sample No.	Sam	Weight	Weight	Percentag	Voltage	Voltage	Percenta	Results
样品编号	ple	Before	After	e of	Before	After	ge of	结果
	Con ditio	Test(g)	Test(g)	Weight Loss	Test(V)	Test(V)	residual Voltage	
		测试前质量	测试后质	质量损失	测试前电压 (伏)	测试后电 压(伏)	残余电压	
	n	(古)	Sec. 12.		10.7			
	样品	(克)	量 (克)	%	1.250.6	de tix/	%	
Strate, Enderstate	样品 状态						1000	
6304941-S1	样品 状态 (C)	91.541	91.537	0.004	4.2872	4.2869	99.993	(6), (7)
6304941-S2	样品 状态 (C) (C)	91.541 91.935	91.537 91.933	0.004	4.2890	4.2869 4.2888	99.993 99.995	(6), (7)
8304941-S2 8304941-S3	样品 状态 (C) (C) (C)	91.541 91.935 91.743	91.537 91.933 91.739	0.004 0.002 0.004	4.2890 4.2893	4.2869 4.2888 4.2885	99.993 99.995 99.981	(6), (7) (6), (7)
6304941-S2 6304941-S3 6304941-S4	样品 状态 (C) (C) (C) (C)	91.541 91.935 91.743 91.488	91.537 91.933 91.739 91.482	0.004 0.002 0.004 0.007	4.2890 4.2893 4.2799	4.2869 4.2888 4.2885 4.2796	99.993 99.995 99.981 99.993	(6), (7)
8304941-S2 8304941-S3	样品 状态 (C) (C) (C)	91.541 91.935 91.743	91.537 91.933 91.739	0.004 0.002 0.004	4.2890 4.2893	4.2869 4.2888 4.2885	99.993 99.995 99.981	(6), (7) (6), (7)
6304941-S2 6304941-S3 6304941-S4	样品 状态 (C) (C) (C) (C)	91.541 91.935 91.743 91.488	91.537 91.933 91.739 91.482	0.004 0.002 0.004 0.007	4.2890 4.2893 4.2799	4.2869 4.2888 4.2885 4.2796	99.993 99.995 99.981 99.993	(6), (7) (6), (7) (6), (7)
8304941-S2 8304941-S3 8304941-S4 8304941-S5	样品 状态 (C) (C) (C) (C) (C)	91.541 91.935 91.743 91.488 91.509	91.537 91.933 91.739 91.482 91.512	0.004 0.002 0.004 0.007 0.000	4.2890 4.2893 4.2799 4.2796	4.2869 4.2888 4.2885 4.2796 4.2789	99.993 99.995 99.981 99.993 99.984	(6), (7) (6), (7) (6), (7) (6), (7)
6304941-S2 6304941-S3 6304941-S4 6304941-S5 6304941-S6	样品 (C) (C) (C) (C) (C) (C) (D)	91.541 91.935 91.743 91.488 91.509 91.295	91.537 91.933 91.739 91.482 91.512 91.299	0.004 0.002 0.004 0.007 0.000 0.000	4.2890 4.2893 4.2799 4.2796 4.2868	4.2869 4.2888 4.2885 4.2796 4.2789 4.2858	99.993 99.995 99.981 99.993 99.984 99.977	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
6304941-S2 6304941-S3 6304941-S4 6304941-S5 6304941-S6 6304941-S7	株品 (C) (C) (C) (C) (C) (D) (D)	91.541 91.935 91.743 91.488 91.509 91.295 91.397	91.537 91.933 91.739 91.482 91.512 91.299 91.399	0.004 0.002 0.004 0.007 0.000 0.000 0.000	4.2890 4.2893 4.2799 4.2796 4.2868 4.2884	4.2869 4.2888 4.2885 4.2796 4.2789 4.2858 4.2858 4.2850	99.993 99.995 99.981 99.993 99.984 99.977 99.991	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
6304941-S2 6304941-S3 6304941-S4 6304941-S5 6304941-S6 6304941-S7 6304941-S8	株品 (C) (C) (C) (C) (C) (D) (D) (D)	91.541 91.935 91.743 91.488 91.509 91.295 91.397 91.580	91.537 91.933 91.739 91.482 91.512 91.512 91.299 91.399 91.585	0.004 0.002 0.004 0.007 0.000 0.000 0.000 0.000 0.000	4.2890 4.2893 4.2799 4.2796 4.2868 4.2884 4.2884 4.2873	4.2869 4.2888 4.2885 4.2796 4.2789 4.2858 4.2858 4.2880 4.2869	99.993 99.995 99.981 99.993 99.984 99.977 99.991 99.991	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
8304941-S2 8304941-S3 8304941-S4 8304941-S5 8304941-S5 8304941-S7 8304941-S8 8304941-S9 6304941- S10	株品 (C) (C) (C) (C) (C) (D) (D) (D) (D)	91.541 91.935 91.743 91.488 91.509 91.295 91.397 91.580 91.374	91.537 91.933 91.739 91.482 91.512 91.299 91.399 91.585 91.370	0.004 0.002 0.004 0.007 0.000 0.000 0.000 0.000 0.000 0.000	4.2890 4.2893 4.2799 4.2796 4.2868 4.2868 4.2884 4.2873 4.2869	4.2869 4.2888 4.2885 4.2796 4.2789 4.2858 4.2858 4.2880 4.2869 4.2858	99.993 99.995 99.981 99.993 99.984 99.977 99.991 99.991 99.991 99.974	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
8304941-S2 8304941-S3 8304941-S4 8304941-S5 8304941-S5 8304941-S7 8304941-S8 8304941-S9 6304941- S10 Results/结果:	株品 状态 (C) (C) (C) (C) (D) (D) (D) (D) (D)	91.541 91.935 91.743 91.488 91.509 91.295 91.397 91.580 91.374	91.537 91.933 91.739 91.482 91.512 91.299 91.399 91.585 91.370	0.004 0.002 0.004 0.007 0.000 0.000 0.000 0.000 0.000 0.000	4.2890 4.2893 4.2799 4.2796 4.2868 4.2868 4.2884 4.2873 4.2869	4.2869 4.2888 4.2885 4.2796 4.2789 4.2858 4.2858 4.2880 4.2869 4.2858	99.993 99.995 99.981 99.993 99.984 99.977 99.991 99.991 99.991 99.974	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
8304941-S2 8304941-S3 8304941-S4 8304941-S5 8304941-S5 8304941-S7 8304941-S8 8304941-S9 8304941-	株品 状态 (C) (C) (C) (C) (D) (D) (D) (D) (D) (D) 液.	91.541 91.935 91.743 91.488 91.509 91.295 91.397 91.580 91.374	91.537 91.933 91.739 91.482 91.512 91.299 91.399 91.585 91.370	0.004 0.002 0.004 0.007 0.000 0.000 0.000 0.000 0.000 0.000	4.2890 4.2893 4.2799 4.2796 4.2868 4.2868 4.2884 4.2873 4.2869	4.2869 4.2888 4.2885 4.2796 4.2789 4.2858 4.2858 4.2880 4.2869 4.2858	99.993 99.995 99.981 99.993 99.984 99.977 99.991 99.991 99.991 99.974	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
8304941-S2 8304941-S3 8304941-S5 8304941-S5 8304941-S5 8304941-S5 8304941-S7 8304941-S8 8304941-S9 8304941-S9 8304941-S10 Results/結果: 1) Leakage/灝 2) Venting/排 <sup>4</sup>	样品 (C) (C) (C) (C) (D) (D) (D) (D) (D) (D) (D)	91.541 91.935 91.743 91.488 91.509 91.295 91.397 91.580 91.374 91.831	91.537 91.933 91.739 91.482 91.512 91.299 91.399 91.585 91.370	0.004 0.002 0.004 0.007 0.000 0.000 0.000 0.000 0.000 0.000	4.2890 4.2893 4.2799 4.2796 4.2868 4.2868 4.2884 4.2873 4.2869	4.2869 4.2888 4.2885 4.2796 4.2789 4.2858 4.2858 4.2880 4.2869 4.2858	99.993 99.995 99.981 99.993 99.984 99.977 99.991 99.991 99.991 99.974	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
8304941-S2 8304941-S3 8304941-S5 8304941-S5 8304941-S5 8304941-S7 8304941-S8 8304941-S9 8304941-S10 Results/结果: 1) Leakage/淵	株品 (C) (C) (C) (C) (D) (D) (D) (D) (D) (D) (D) (D	91.541 91.935 91.743 91.488 91.509 91.295 91.397 91.580 91.374 91.831	91.537 91.933 91.739 91.482 91.512 91.299 91.399 91.585 91.370	0.004 0.002 0.004 0.007 0.000 0.000 0.000 0.000 0.000 0.000	4.2890 4.2893 4.2799 4.2796 4.2868 4.2868 4.2884 4.2873 4.2869	4.2869 4.2888 4.2885 4.2796 4.2789 4.2858 4.2858 4.2880 4.2869 4.2858	99.993 99.995 99.981 99.993 99.984 99.977 99.991 99.991 99.991 99.974	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
8304941-S2 8304941-S3 8304941-S5 8304941-S5 8304941-S5 8304941-S7 8304941-S7 8304941-S8 8304941-S9 8304941-S10 Results/结果: 1) Leakage/淵 2) Venting/排 <sup>4</sup> 3) Disassemb	株品 (C) (C) (C) (C) (D) (D) (D) (D) (D) (D) (D) (D	91.541 91.935 91.743 91.488 91.509 91.295 91.397 91.580 91.374 91.831	91.537 91.933 91.739 91.482 91.512 91.299 91.399 91.585 91.370	0.004 0.002 0.004 0.007 0.000 0.000 0.000 0.000 0.000 0.000	4.2890 4.2893 4.2799 4.2796 4.2868 4.2868 4.2884 4.2873 4.2869	4.2869 4.2888 4.2885 4.2796 4.2789 4.2858 4.2858 4.2880 4.2869 4.2858	99.993 99.995 99.981 99.993 99.984 99.977 99.991 99.991 99.991 99.974	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
8304941-S2 8304941-S3 8304941-S5 8304941-S5 8304941-S5 8304941-S7 8304941-S7 8304941-S8 8304941-S9 8304941-S10 Results/结果: 1) Leakage/灝 2) Venting/排 <sup>4</sup> 3) Disassemb 4) Rupture/破	株品 (C) (C) (C) (C) (D) (D) (D) (D) (D) (D) (D) (D	91.541 91.935 91.743 91.488 91.509 91.295 91.397 91.580 91.374 91.831	91.537 91.933 91.739 91.482 91.512 91.299 91.399 91.585 91.370 91.826	0.004 0.002 0.004 0.007 0.000 0.000 0.000 0.000 0.000 0.000 0.004 0.005	4.2890 4.2893 4.2799 4.2796 4.2868 4.2884 4.2873 4.2869 4.2830	4.2869 4.2888 4.2885 4.2796 4.2789 4.2858 4.2880 4.2869 4.2869 4.2858 4.2822	99.993 99.995 99.981 99.993 99.984 99.977 99.991 99.991 99.991 99.974 99.981	(6). (7) (6). (7) (6). (7) (6). (7) (6). (7) (6). (7) (6). (7) (6). (7) (6). (7)
8304941-S2 8304941-S3 8304941-S5 8304941-S5 8304941-S5 8304941-S7 8304941-S7 8304941-S8 8304941-S9 8304941-S10 Results/結果: 1) Leakage/淵 2) Venting/排 3) Disassemb 4) Rupture/破 5) Fire/着火.	株品 (C) (C) (C) (C) (D) (D) (D) (D) (D) (D) (D) (D	91.541 91.935 91.743 91.488 91.509 91.295 91.397 91.580 91.374 91.831	91.537 91.933 91.739 91.482 91.512 91.299 91.399 91.585 91.370 91.826	0.004 0.002 0.004 0.007 0.000 0.000 0.000 0.000 0.000 0.000 0.004 0.005	4.2890 4.2893 4.2799 4.2796 4.2868 4.2884 4.2873 4.2869 4.2830	4.2869 4.2888 4.2885 4.2796 4.2789 4.2858 4.2880 4.2869 4.2869 4.2858 4.2822	99.993 99.995 99.981 99.993 99.984 99.977 99.991 99.991 99.991 99.974 99.981	(6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7) (6), (7)
8304941-S2 8304941-S3 8304941-S5 8304941-S5 8304941-S5 8304941-S7 8304941-S7 8304941-S7 8304941-S9 8304941-S9 8304941-S10 Results/结果: 1) Leakage/灝 2) Venting/排 3) Disassemb 4) Rupture/破 5) Fire/着火. 6) No leakage	株品 (C) (C) (C) (C) (D) (D) (D) (D) (D) (D) (D) (D	91.541 91.935 91.743 91.488 91.509 91.295 91.397 91.580 91.374 91.831	91.537 91.933 91.739 91.482 91.512 91.299 91.399 91.585 91.370 91.826	0.004 0.002 0.004 0.007 0.000 0.000 0.000 0.000 0.000 0.000 0.004 0.005	4.2890 4.2893 4.2799 4.2796 4.2868 4.2884 4.2873 4.2869 4.2830	4.2869 4.2888 4.2885 4.2796 4.2789 4.2858 4.2880 4.2869 4.2869 4.2858 4.2822	99.993 99.995 99.981 99.993 99.984 99.977 99.991 99.991 99.991 99.974 99.981	(6). (7) (6). (7) (6). (7) (6). (7) (6). (7) (6). (7) (6). (7) (6). (7) (6). (7)

DOC #: MD600178 Print Date: 9-Dec-24

 $\textcircled{\sc c}$  2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Page 10 of 19 Pages

Report No.: 4790877212-2

(7) The open circuit voltage of each cell after testing was greater than 90%/开路电压不低于试验前开路电压的90%.

Form-ULID-002352 (DCS: 10-CA-F0867) 3.1

Date Issued: 2021-01-05 Date Revision: 2023-08-14

Copyright © 2023 UL LLC

DOC #: <b>MD600178</b> Print Date: 9-Dec-24	REV: A	Page 23 of 32	© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.
---	--------	------------------	---

DOC #:

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Page 11 of 19 Pages

	1.	5 External Sho 外部短期			
		Test Method i			
The samples w	ere shall be heated fo			reach a homoor	Deous
	re of 57 ± 4 °C, meas				
	此环境下暴露一段时间		Citizan Galact. 73 (C11	HH ALL POPULATION ALL	H J W/ AH GELOC -
	and small batteries: 6		0小由油至少暴露6	in Brt.	
	and large batteries: 12				
-	urs, assessed depend				小时、根据样品
尺寸设计评价			•		,
The samples w	ere then subjected to	a short circuit o	condition with a tot	al external resist	ance of less
	然后将样品正负极用小				
	small batteries and la	rge cells: 1 hou	ir after the externa	l case temperatu	re of sample
	d to 57 ± 4 °C.			45 99 48 to 1 4 9 90	L.
	电池和大电芯: 样品外 ries: After the external				
	emperature increase o				
	品表面温度下降所测最	-			
		Test Results/il			
Sample No.	Sample Condition	Voltage	External	Maximum	Results
样品编号	样晶状态	Before	resistance	Temperature,	结果
		Test(V)	(mohm)	°C	
		测试前电压	总外部电阻(毫	最高温度	
		(伏)	政)	(°C)	
6304941-S1	(C)	4,2869	87.22	57.0	(4), (5)
6304941-S1	(C)	4.2888	85.40	57.3	(4), (5)
6304941-S3	(C)	4.2885	84.20	57.0	(4), (5)
6304941-S4	(C)	4.2796	80.29	57.2	(4), (5)
6304941-S5	(C)	4.2789	86.34	57.2	(4), (5)
6304941-S6	(D)	4.2858	80.74	57.1	(4), (5)
6304941-S7	(D)	4.2880	87.51	57.4	(4), (5)
6304941-S8	(D)	4.2869	83.22	57.1	(4), (5)
6304941-S9 6304941-S10	(D) (D)	4.2858 4.2822	89.20 87.66	57.2 57.2	(4), (5)
Results/结果:	(0)	4.2022	01.00	51.2	(4), (5)
	*				
	P-				
(1) Disassembly/解例					
(2) Rupture/破裂.				I alsh T Anot	T ++ #1 T #6
(2) Rupture/破裂. (3) Fire/着火.			all a second training of the		<b>九仞 冠, 九</b> 有
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly,	no rupture, no fire wit	thin 6 hours afte	er the test/测试后6	小时内无解体,;	Concession and in
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火.					
2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火.	no rupture, no fire wit				
2) Rupture/破裂. 3) Fire/着火. 4) No disassembly, 火.					
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火.					
2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火.					
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火.					
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火.					
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火.					
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火.					
2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火.					
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火.					
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火.					
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火.					
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火.					
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火. (5) The maximum te	mperature did not exc			₩氏度.	
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火. (5) The maximum te				₩氏度. Date I	ssued: 2021-01-
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火. (5) The maximum te	mperature did not exc CS: 10-CA-F0867) 3.1	eed 170°C/₩∦	高温度不超过170摄	₩氏度. Date I	
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火. (5) The maximum te	mperature did not exc CS: 10-CA-F0867) 3.1		高温度不超过170摄	₩氏度. Date I	ssued: 2021-01-
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火. (5) The maximum te	mperature did not exc CS: 10-CA-F0867) 3.1	eed 170°C/₩∦	高温度不超过170摄	₩氏度. Date I	ssued: 2021-01-
(2) Rupture/破裂. (3) Fire/着火. (4) No disassembly, 火. (5) The maximum te	CS: 10-CA-F0867) 3.1	copyright © 202	高温度不超过170摄 3 UL LLC	⊪氏度. Date ∎ Date Re	ssued: 2021-01- vision: 2023-08-
) Rupture/破裂. ) Fire/着火. ) No disassembly, ) The maximum te	CS: 10-CA-F0867) 3.1	copyright © 202	高温度不超过170摄	I氏度. Date I Date Re Solutions, Inc.	ssued: 2021-01- vision: 2023-08-

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Page 12 of 19 Pages

Report No.: 4790877212-2

		T.6 Impact / Crush 撞击 / 挤压		
		Test Method 测试方法	12	
[]Impact (for 圆柱形电池)			neter)/ 撞击(适用于直行	至不小于18毫米的
longest dimension o center of the sample of the bar and samp minimal drag on the 90 degrees from the 不锈钢棒,其直径为 在样品中心。将一质	of the cell, whichever is e. A 9.1 kg ± 0.1 kg ma ble in a controlled mann falling mass. The vert horizontal supporting 15.8 mm ± 0.1 mm,	greater, Type 316 sta ass was dropped from ner, using a near frictio tical track or channel u surface. 将试验样品 长度为至少6 cm, 或电	.1 mm diameter, at leas inless steel bar was pla a height of 61 ± 2.5 cm onless, vertical sliding tr used to guide the falling 放在一个平坦光滑的平面 芯的最长边长度(两者 标度, 无摩擦地从垂直滑机	ced across the at the intersection ack or channel with mass was oriented 上。将一条316型 中较大者),放置
to the longitudinal as sample. Separate s	xis of a 15.8 mm ± 0.1 samples were used for	mm diameter curved : each test. 接受撞击的	allel to the flat surface a surface lying across the 试样,纵轴应与平坦的非 个试样只经受一次撞击。	center of the test 表面平行并与横放
	prismatic, pouch, coin/ 袋装、硬币/纽扣电池和		frical cells less than 18 i 柱形电池)	mm in diameter)/拐
约为1.5厘米/秒。挤	eached/将样品放在两个 压持续进行,直到出现 l force reaches 13 kN <del>1</del>	以下三种情况之一:	力度逐渐加大,在第一个	
potions below has re 的为1.5厘米/秒。挤 The applied The voltage The cell is d A prismatic or p crushed by applying berpendicular to the 表面施压。圆柱形应 The test sample was subjected to other te	压持续进行,直到出现 force reaches 13 kN ± of the cell drops by at beformed by 50% or mo pouch cell was crushed the force on its flat su longitudinal axis/棱柱 认与纵轴垂直的方向施 s observed for a furthe	以下三种情况之一: t 0.78 kN/施加的力达到 least 100 mV; or/电池 ore of its original thick d by applying the force rfaces. For cylindrical 形或袋装电池应从最宽 能压。 r 6 hours. Separate s	力度逐渐加大,在第一个	按触点上的速度大 t,或者 度的50%以上。 utton/coin cell was as applied 形电池应从其平坦 eviously been
options below has re 約为1.5厘米/秒。挤 The applied The voltage The cell is d A prismatic or p crushed by applying perpendicular to the 表面施压。圆柱形应 The test sample war	压持续进行,直到出现 force reaches 13 kN ± of the cell drops by at beformed by 50% or mo pouch cell was crushed the force on its flat su longitudinal axis/棱柱 以与纵轴垂直的方向施 s observed for a furthe ests were used for eac	以下三种情况之一: t 0.78 kN/施加的力达到 least 100 mV; or/电池 ore of its original thick d by applying the force rfaces. For cylindrical 形或袋装电池应从最宽 能压。 r 6 hours. Separate s	力度逐渐加大,在第一1 例13 kN ± 0.78 kN; 的电压下降至少100毫仿 ness/电池变形达原始厚 to the widest side. A b cells, the crush force w 的一面施压。纽扣/硬币 amples that have not pr 观察6小时。未进行过其	按触点上的速度大 t,或者 度的50%以上。 utton/coin cell was as applied 形电池应从其平坦 eviously been
potions below has re 的为1.5厘米/秒。挤 The applied The voltage The cell is d A prismatic or p crushed by applying perpendicular to the 表面施压。圆柱形应 The test sample was subjected to other te	压持续进行,直到出现 force reaches 13 kN ± of the cell drops by at beformed by 50% or mo pouch cell was crushed the force on its flat su longitudinal axis/棱柱 以与纵轴垂直的方向施 s observed for a furthe ests were used for eac	以下三种情况之一: to.78 kN/施加的力达到 least 100 mV; or/电池 ore of its original thicku d by applying the force rfaces. For cylindrical 形或袋装电池应从最宽 修压。 r 6 hours. Separate s h test/测试样品进一步 Test Results/测试结果 Voltage Before Test(V)	力度逐渐加大,在第一1 例13 kN ± 0.78 kN; 的电压下降至少100毫仿 ness/电池变形达原始厚 e to the widest side. A b cells, the crush force w 的一面施压。纽扣/硬币 amples that have not pr 观察6小时。未进行过其 Maximum Temperature, °C	按触点上的速度大 t,或者 度的50%以上。 utton/coin cell was as applied 形电池应从其平坦 eviously been
ptions below has re 约为1.5厘米/秒。挤 The applied The voltage The cell is d A prismatic or p rushed by applying rependicular to the 表面施压。圆柱形应 the test sample was ubjected to other te 比测试。 Sample No.	压持续进行,直到出现 force reaches 13 kN ± of the cell drops by at deformed by 50% or mo pouch cell was crushed the force on its flat su longitudinal axis/棱柱; 以与纵轴垂直的方向施 s observed for a furthe ests were used for each	以下三种情况之一: to.78 kN/施加的力达到 least 100 mV; or/电池 ore of its original thicku d by applying the force rfaces. For cylindrical 形或袋装电池应从最宽 Market Separate s h test/测试样品进一步 Test Results/测试结爆 Voltage Before	力度逐渐加大,在第一1 例13 kN ± 0.78 kN; 的电压下降至少100毫位 ness/电池变形达原始厚 to the widest side. A b cells, the crush force w 的一面施压。纽扣/硬币 amples that have not pr 观察6小时。未进行过其 Maximum	Y接触点上的速度大 R,或者 度的50%以上。 utton/coin cell was as applied 形电池应从其平坦 eviously been 他测试的样品用于 Results 结果
ptions below has re 约为1.5厘米/秒。挤 The applied The voltage The cell is d A prismatic or p rushed by applying erpendicular to the 表面施压。圆柱形应 the test sample was ubjected to other te 比测试。 Sample No. 样品编号	压持续进行,直到出现 force reaches 13 kN ± of the cell drops by at beformed by 50% or mo pouch cell was crushed the force on its flat su longitudinal axis/棱柱 认与纵轴垂直的方向施 s observed for a furthe ests were used for each Sample Condition 样品状态	以下三种情况之一: to.78 kN/施加的力达到 least 100 mV; or/电池 ore of its original thicku d by applying the force rfaces. For cylindrical 形或袋装电泡应从最宽 Marking Separate s h test/测试样品进一步 Test Results/测试结果 Voltage Before Test(V) 测试前电压(伏)	力度逐渐加大,在第一1 例13 kN ± 0.78 kN; 的电压下降至少100毫仿 ness/电池变形达原始厚 to the widest side. A b cells, the crush force w 的一面施压。纽扣/硬币 amples that have not pr 观察6小时。未进行过其 Maximum Temperature, °C 最高温度(°C)	按触点上的速度 ま、或者 変的50%以上。 utton/coin cell was as applied 形电池应从其平坦 eviously been 他測试的样品用于 Results
ptions below has re 约为1.5厘米/秒。挤 The applied The voltage The cell is d A prismatic or p rushed by applying erpendicular to the 收面施压。圆柱形应 the test sample was ubjected to other te 比测试。 Sample No. 样品编号 6151261-S11 6151261-S12	压持续进行,直到出现 force reaches 13 kN ± of the cell drops by at leformed by 50% or mo pouch cell was crushed the force on its flat su longitudinal axis/棱柱 以与纵轴垂直的方向施 s observed for a furthe ests were used for each Sample Condition 样品状态 (E) (E)	以下三种情况之一: to.78 kN/施加的力达到 least 100 mV; or/电池 ore of its original thicku d by applying the force rfaces. For cylindrical 形或袋装电池应从最宽 MLE- r 6 hours. Separate s h test/测试样品进一步 Test Results/测试结果 Voltage Before Test(V) 测试前电度(伏) 3.856 3.855	力度逐渐加大,在第一1 別13 kN ± 0.78 kN; 的电压下降至少100毫仿 ness/电池变形达原始厚 to the widest side. A b cells, the crush force w 的一面施压。纽扣/硬币 amples that have not pr 观察6小时。未进行过其 Maximum Temperature, °C 最高温度(°C) 26.6 26.9	·接触点上的速度力 R,或者 度的50%以上。 utton/coin cell was as applied 形电池应从其平坦 eviously been 他测试的样品用于 Results 结果 (3),(4) (3),(4)
ptions below has re 约为1.5厘米/秒。挤 The applied The voltage The cell is d A prismatic or p rushed by applying erpendicular to the 版面施压。圆柱形应 blocted to other te 比测试。 Sample No. 样品编号 6151261-S11	压持续进行,直到出现 force reaches 13 kN ± of the cell drops by at beformed by 50% or mo pouch cell was crushed the force on its flat su longitudinal axis/棱柱 以人与纵轴垂直的方向施 s observed for a furthe ests were used for each Sample Condition 样品状态 (E) (E) (E)	以下三种情况之一: to.78 kN/施加的力达到 least 100 mV; or/电池 ore of its original thicku d by applying the force rfaces. For cylindrical 形或袋装电池应从最宽 Markathar r 6 hours. Separate s h test/测试样品进一步 Test Results/测试结果 Voltage Before Test(V) 测试前电压(伏) 3.856	力度逐渐加大,在第一1 別13 kN ± 0.78 kN; 的电压下降至少100毫仿 ness/电池变形达原始厚 to the widest side. A b cells, the crush force w 的一面施压。纽扣/硬币 amples that have not pr 观察6小时。未进行过其 Maximum Temperature, °C 最高温度(°C) 26.6	·接触点上的速度力 R,或者 度的50%以上。 utton/coin cell was as applied 形电池应从其平坦 eviously been 他测试的样品用于 Results 结果 (3), (4)
ptions below has re 约为1.5厘米/秒。挤 The applied The voltage The cell is d A prismatic or p rushed by applying erpendicular to the 版面施压。圆柱形应 the test sample was ubjected to other te 比测试。 Sample No. 样品编号 6151261-S11 6151261-S12 6151261-S13 6151261-S14	E持续进行,直到出现 force reaches 13 kN ± of the cell drops by at beformed by 50% or mo pouch cell was crushed the force on its flat su longitudinal axis/棱柱 以与纵轴垂直的方向施 s observed for a furthe ests were used for each Sample Condition 样晶状态 (E) (E) (E) (E)	以下三种情况之一: to.78 kN/施加的力达到 least 100 mV; or/电池 ore of its original thicku d by applying the force rfaces. For cylindrical 形或袋装电池应从最宽 Market Separate s h test/测试样品进一步 Test Results/测试结果 Voltage Before Test(V) 测试前电压(伏) 3.856 3.855 3.854 3.858	力度逐渐加大,在第一1 別13 kN ± 0.78 kN; 的电压下降至少100毫位 ness/电池变形达原始厚) e to the widest side. A b cells, the crush force w 的一面施压。纽扣/硬币 amples that have not pr 观察6小时。未进行过其 Maximum Temperature, °C 最高温度(°C) 26.6 26.9 26.4 26.5	·接触点上的速度 · 技触点上的速度 g 的50%以上。 utton/coin cell was as applied 那电池应从其平坦 eviously been 他测试的样品用于 Results 结果 (3), (4) (3), (4) (3), (4) (3), (4)
ptions below has re 约为1.5厘米/秒。挤 The applied The voltage The cell is d A prismatic or p rushed by applying erpendicular to the 收面施压。圆柱形应 the test sample was ubjected to other te 比测试。 Sample No. 样品编号 6151261-S11 6151261-S12 6151261-S13 6151261-S14 6151261-S15	压持续进行,直到出现 force reaches 13 kN ± of the cell drops by at beformed by 50% or mo pouch cell was crushed the force on its flat su longitudinal axis/棱柱 以人与纵轴垂直的方向施 s observed for a furthe ests were used for each Sample Condition 样品状态 (E) (E) (E) (E) (E) (E)	以下三种情况之一: to.78 kN/施加的力达到 least 100 mV; or/电池 ore of its original thicku d by applying the force rfaces. For cylindrical 形或袋装电池应从最宽 Mag State r 6 hours. Separate s h test/测试样品进一步 Test Results/测试结果 Voltage Before Test(V) 测试前电压(伏) 3.856 3.855 3.854 3.858 3.856	カ度逐渐加大,在第一1 別13 kN ± 0.78 kN; 的电压下降至少100毫位 ness/电池变形达原始厚) to the widest side. A b cells, the crush force w 的一面施压。纽扣/硬币 amples that have not pr 观察6小时。未进行过其 Maximum Temperature, °C 最高温度(°C) 26.6 26.9 26.4 26.5 25.9	按触点上的速度 表,或者 度的50%以上。 utton/coin cell was as applied 形电池应从其平坦 eviously been 他测试的样品用于 Results 结果 (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4)
ptions below has re 约为1.5厘米/秒。挤 The applied The voltage The cell is d A prismatic or p rushed by applying erpendicular to the 表面施压。圆柱形应 the test sample was ubjected to other te 比测试。 Sample No. 样品编号 6151261-S11 6151261-S12 6151261-S13 6151261-S15 6151261-S15 6151261-S28	压持续进行,直到出现 force reaches 13 kN ± of the cell drops by at beformed by 50% or mo pouch cell was crushed the force on its flat su longitudinal axis/棱柱; 以与纵轴垂直的方向施 s observed for a furthe ests were used for each Sample Condition 样晶状态 (E) (E) (E) (E) (E) (E) (E) (E) (E) (E)	以下三种情况之一: to.78 kN/施加的力达到 least 100 mV; or/电池 ore of its original thicku d by applying the force rfaces. For cylindrical 形或袋装电池应从最宽 Suffice and a state r 6 hours. Separate s h test/测试样品进一步 Test Results/测试结果 Voltage Before Test(V) 测试前电压(伏) 3.856 3.855 3.854 3.856 3.856 3.857	カ度逐渐加大,在第一1 別13 kN ± 0.78 kN; 的电压下降至少100毫位 ness/电池变形达原始厚) to the widest side. A b cells, the crush force w 的一面施压。纽扣/硬币 amples that have not pr 观察6小时。未进行过其 Maximum Temperature, °C 最高温度(°C) 28.6 26.9 26.4 26.5 25.9 26.3	按触点上的速度 表,或者 度的50%以上。 utton/coin cell was as applied 形电池应从其平坦 eviously been 他测试的样品用于 Results 结果 (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4)
ptions below has re 约为1.5厘米/秒。挤 The applied The voltage The cell is d A prismatic or p rushed by applying reprendicular to the 表面施压。圆柱形应 the test sample was ubjected to other te 比测试。 Sample No. 样品编号 6151261-S11 6151261-S12 6151261-S13 6151261-S15 6151261-S15 6151261-S28 6151261-S27	圧持续进行、直到出現 force reaches 13 kN ± of the cell drops by at beformed by 50% or mo pouch cell was crushed the force on its flat su longitudinal axis/棱柱 以人与纵轴垂直的方向施 s observed for a furthe ests were used for each Sample Condition 样品状态 (E) (E) (E) (E) (E) (E) (E) (E) (F) (F)	以下三种情况之一: e 0.78 kN/施加的力达到 least 100 mV; or/电池 ore of its original thicku d by applying the force rfaces. For cylindrical 形或袋装电池应从最宽 Mag State r 6 hours. Separate s h test/测试样品进一步 Test Results/测试结果 Voltage Before Test(V) 测试前电压(伏) 3.856 3.855 3.855 3.856 3.857 3.855	カ度逐渐加大,在第一1 別13 kN ± 0.78 kN; 的电压下降至少100毫位 ness/电池变形达原始厚) to the widest side. A b cells, the crush force w 的一面施压。纽扣/硬币 amples that have not pr 观察6小时。未进行过其 Maximum Temperature, °C 最高温度(°C) 28.6 26.9 26.4 26.5 25.9 26.3 26.1	按触点上的速度 表,或者 度的50%以上。 utton/coin cell was as applied 形电池应从其平坦 eviously been 他测试的样品用于 Results 结果 (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4)
potions below has re 的为1.5厘米/秒。挤 The applied The voltage The cell is of A prismatic or p crushed by applying berpendicular to the 表面施压。圆柱形应 The test sample was subjected to other te 比测试。 Sample No. 样品编号 6151261-S11 6151261-S12 6151261-S13 6151261-S15 6151261-S15 6151261-S26	压持续进行,直到出现 force reaches 13 kN ± of the cell drops by at beformed by 50% or mo pouch cell was crushed the force on its flat su longitudinal axis/棱柱; 以与纵轴垂直的方向施 s observed for a furthe ests were used for each Sample Condition 样晶状态 (E) (E) (E) (E) (E) (E) (E) (E) (E) (E)	以下三种情况之一: to.78 kN/施加的力达到 least 100 mV; or/电池 ore of its original thicku d by applying the force rfaces. For cylindrical 形或袋装电池应从最宽 Suffice and a state r 6 hours. Separate s h test/测试样品进一步 Test Results/测试结果 Voltage Before Test(V) 测试前电压(伏) 3.856 3.855 3.854 3.856 3.856 3.857	カ度逐渐加大,在第一1 別13 kN ± 0.78 kN; 的电压下降至少100毫位 ness/电池变形达原始厚) to the widest side. A b cells, the crush force w 的一面施压。纽扣/硬币 amples that have not pr 观察6小时。未进行过其 Maximum Temperature, °C 最高温度(°C) 28.6 26.9 26.4 26.5 25.9 26.3	按触点上的速度 式,或者 度的50%以上。 utton/coin cell was as applied 形电池应从其平坦 eviously been 他测试的样品用于 Results 结果 (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4) (3),(4)

Form-ULID-002352 (DCS: 10-CA-F0867) 3.1

Date Issued: 2021-01-05 Date Revision: 2023-08-14

Copyright © 2023 UL LLC

DOC #:
MD600178
Print Date: 9-Dec-24

REV: A Page 25 of 32

 $\textcircled{\sc c}$  2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Page 13 of 19 Pages

Report No.: 4790877212-2

Results/结果:

(1) Disassembly/解体.

(2) Fire/着火.

(3) No disassembly, no fire within 6 hours after the test/测试后6小时内无解体,无着火.

(4) The maximum temperature did not exceed 170°C/最高温度不超过170摄氏度.

Form-ULID-002352 (DCS: 10-CA-F0867) 3.1

Date Issued: 2021-01-05 Date Revision: 2023-08-14

Copyright @ 2023 UL LLC

DOC #: MD600178 Print Date: 9-Dec-24	REV: A	Page 26 of 32	© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or duplication requires permission of Elo Touch Solutions, Inc.
--	--------	------------------	---

DOC #:

Print Date:

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Use or

Page 14 of 19 Pages

		T.7 Overcharg 过度充电		
		Test Method 测试	方法	
Batteries were	subjected to a char		e manufacturer's recommended	maximum
		惟荐的最大持续充电电		
			测试电压由按如下决定:	
			age is not more than 18 V, the m	
			imum charge voltage of the batte 充电电压应是厂家标定最大充电电	
	中的较小者。	7.10 v . 44.00 m H 3 M 3.1.	儿吧吧压应走/ 脉标定最大儿吧~	SVE BUILDING HE
and a first state of the	1 112 125 2 10 1	mmended charge volt	age is more than 18 V, the minim	num voltage of
		-	如果厂家推荐的充电电压超过18	-
最小充电电	国压应是厂家标定最大	大充电电压的1.2倍。		
			<ol> <li>The duration of the test was 24</li> </ol>	4 hours. 测试
在20±5°C的环境》	冒度下进行,试验持约	续24小时。		
Overcharge Curre	ant/讨杂由语	9000mA		
Overcharge Volta		8.8V		
overcharge volta	gen红元电压	0.01		
		Test Results/测试	结果	
Sample No.	Sample Condition	Voltage Before Test,	Measured Overcharge Current,	Results
Ka编号	样品状态	V V	mA	结果
	TT HA TA ID	测试前电压 (伏)	测量的过充电流 (毫安)	244 AP
6151258-S11	(C)	4.369	0	(3)
6151258-S12	(C)	4.371	0	(3)
6151258-S13	(C)	4.365	0	(3)
6151258-S14	(C)	4.363	0	(3)
6151258-S15 6151258-S16	(D) (D)	4.371 4.371	0	(3)
6151258-S17	(D)	4.371	0	(3)
6151258-S18	(D)	4.367	0	(3)
				8 12.02
Results/结果:				
Results/结果: (1) Disassembly/解	体.			
	体.			
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	则试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	则试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	则试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	则试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	则试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	则试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	则试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	则试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	则试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	则试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	则试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	制试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	则试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	制试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	制试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	制试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	制试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火.		n days after the test/?	制试后7天内无解体,无着火.	
(1) Disassembly/解 (2) Fire/着火. (3) No disassembly	y, no fire within seve			sued: 2021-01-0
(1) Disassembly/解 (2) Fire/着火. (3) No disassembly			Date is:	
(1) Disassembly/解 (2) Fire/着火. (3) No disassembly	y, no fire within seve		Date Is: Date Rev	sued: 2021-01-0 ision: 2023-08-1
(1) Disassembly/解 (2) Fire/着火. (3) No disassembly	y, no fire within seve	.1	Date Is: Date Rev	
(1) Disassembly/解 (2) Fire/着火. (3) No disassembly	y, no fire within seve	.1	Date Is: Date Rev	
(1) Disassembly/解 (2) Fire/着火. (3) No disassembly	y, no fire within seve	.1	Date Is: Date Rev	
(1) Disassembly/解 (2) Fire/着火. (3) No disassembly	DCS: 10-CA-F0867) 3	.1 Copyright © 2023 U	Date Is: Date Rev	ision: 2023-08-1

DOC #:

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Page 15 of 19 Pages

			强制	d Discharge 川放电 ad 測试方法		
power sup 在常温环的	pply at an initia	al current e 电芯连接在	ged at ambient tem qual to the maximu	od 测试方法 iperature by connect um discharge current 生行强制放电,此直测	t specified by the m	anufacturer.
and rating	in series with	the test ce	ell. Each cell was f	y connecting a resist forced discharged for (in amperes). 指定的	r a time interval (in	hours) equal
			每个电芯的强制放用	电时间(小时)为额;		
			Test Resul	lts/测试结果		
Sample 样品编	1000 C	ondition 非品状态	Initial Discharge Current, mA 初始放电电流	Voltage of Discharged Cell Before Test(V)	Voltage After Test(V) 测试后电压	Results 结果
and the same			(毫安)	测试前电压 (伏)	(伏)	
6151261		(G)	4520	3.394	0	(3)
6151261 6151261		(G) (G)	4521 4520	3.395	0	(3)
6151261		(G)	4520	3.419	0	(3)
6151261		(G)	4520	3.411	0	(3)
6151261		(G)	4520	3.411	0	(3)
6151261		(G)	4520	3.391	0	(3)
6151261 6151261		(G) (G)	4520 4520	3.391 3.381	0	(3)
6151261		(G) (G)	4520	3.381	0	(3)
6151261		(H)	4520	3.401	0	(3)
6151261	-S17	(H)	4522	3.400	0	(3)
6151261		(H)	4520	3.391	0	(3)
6151261		(H)	4520	3.391	0	(3)
6151261		(H)	4520	3.393	0	(3)
6151261		(H) (H)	4523 4529	3.400 3.400	0	(3)
6151261		(H)	4520	3.395	ő	(3)
6151261		(H)	4520	3.391	Ő	(3)
6151261	-S25	(H)	4521	3.393	0	(3)
(2) Fire/着 (3) No dis		fire within s	seven days after th	e test/测试后七天内	无解体、无着火.	
(9)10 05						
	-002352 (DCS:	10-CA-F086		2023 UL LLC		ssued: 2021-01-05 vision: 2023-08-14
	-002352 (DCS: REV: A	Pag	Copyright ©	0 2024 Elo Touch	Date Re Solutions, Inc. /	

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Page 16 of 19 Pages

Report No.: 4790877212-2



DOC #:<br/>MD600178<br/>Print Date: 9-Dec-24REV: APage 29 of<br/>32© 2024 Elo Touch Solutions, Inc. All Rights Reserved. Use or<br/>duplication requires permission of Elo Touch Solutions, Inc.

© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

Page 17 of 19 Pages



© 2024 Elo Touch Solutions, Inc. All Rights Reserved.

#### Page 18 of 19 Pages



M51 Battery MSDS and U	© 2024 Elo Touch Solutions, Inc. All Rights Reserved		
	Page 19 of 19 Pages	Report No.: 4790877212-2	
	注意事项		
	Important		
1. 未经本试验室书面同意,不得复 Nobody is allowed to photocop UL.	f制或部分地复制本报告。 by or partly photocopy this test repo	ort without written permission of	
<ol> <li>本报告无批准人、审核人及主档 The test report is invalid withor Person.</li> </ol>	这人签名无效。 ut the signatures of Approver, Revi	iewer and Report Prepare	
3. 本报告涂改无效。 The test report is invalid if alter	red.		
	则报告之日起十五天内向检验单位提 ust be submitted to UL within 15 d		
5. 本报告中以点号代替小数点。 Throughout this report a point	is used as the decimal separator.		
6. 本报告仅对送检样品负责。 The test report is valid for the t	tested samples only.		
	使用UL任何UL的名称、商标、标识 applicant the use of UL name, trad		
	E都不会超过检测单位就本次检测所 tance will exceed the testing fee re report.		
9. 检测数据和结果不具备社会证 The test data and results do n			
	y Limited Guangzhou Branch 云二路8号电子大楼B座101、20 1, Block B, Electronic Building, China 7		
	*** 报告结束 *** *** Report End ***		
Form-ULID-002352 (DCS: 10-CA-F086	7) 3.1 Copyright © 2023 UL LLC	Date Issued: 2021-01-05 Date Revision: 2023-08-14	
DOC #:         REV: A         Page           MD600178         REV: A         3		Solutions, Inc. All Rights Reserved. Use or es permission of Elo Touch Solutions, Inc.	