



Li-ion Polymer Battery
Specification

锂离子聚合物电池说明书

Model 型号 : 555075 规格书
DTP555075 Specification

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1. 概述 Overview

文件描述的是由公司提供的可再充电锂聚合物电池的产品规格书.

The document describes the product specifications for rechargeable lithium polymer batteries provided by the company

2. 型号 Model DTP 555075

3. 电芯规格书 Battery cell specification

No.	项目	规格 Specification	
1	充 电 电 压 (V) (CC/CV) Charging Voltage	4.2V	
2	标称电压 (V) Standrad Voltage	3.7V	
3	截止电压 (V) the end Voltage	2.56V	
4	最大充电电流 Max charging Current	1.0C	
5	标称容量 (0.2C) Standrad capacity	2500mah	
6	内阻 Cell Initial Voltage	≤35mΩ(1kHz AC 内阻)	
7	标准充电时间 Standard Charging Time	4.5hours (reference)	
8	最大放电电流 Max discharging Current	1.0C	
9	工作温度 & 相对湿度 ‰	charging: 0°C~55°C, Relative humidity:90%.	
	Perating Temperature&Relative humidity	discharging: -20°C~60°C, Relative humidity:90%	
10	储存条件 Standard storage conditions	-20°C~45°C, 65%±20% RH	
11	推荐储存条件 Recommend storage conditions	20°C±5°C, 65%±20% RH	
12	重量 Weight	About 33g	
		项目 Item	Cell

13	尺寸 Size (mm)	长度 length	75.0/-1.0(not include lug glue)
		宽度 width	50.0+0.0/-0.5
		厚度 length	5.5mm max

4. 电池标准性能 Battery standard performance

4.1 外观 Exterior

电池将不会出现这样的缺陷,比如:刮痕,裂纹,爆炸和漏液,这些将会严重影响电池的市场价格.

The battery will not have such defects, such as: scratches, cracks, explosions and liquid leakage, which will seriously affect the battery market price

4.2 标准环境测试条件 Standard environmental test conditions

除非有其他说明, 产品规格书里提到的所有测试都在下面条件下进行:

Unless otherwise specified, all tests mentioned in the product specification are conducted under the following conditions:

温度 Temperature : 23 ± 5 °C

相对湿度: Relative humidity: 65 ± 20%

4.3 电气特性 Electrical characteristics of the cell

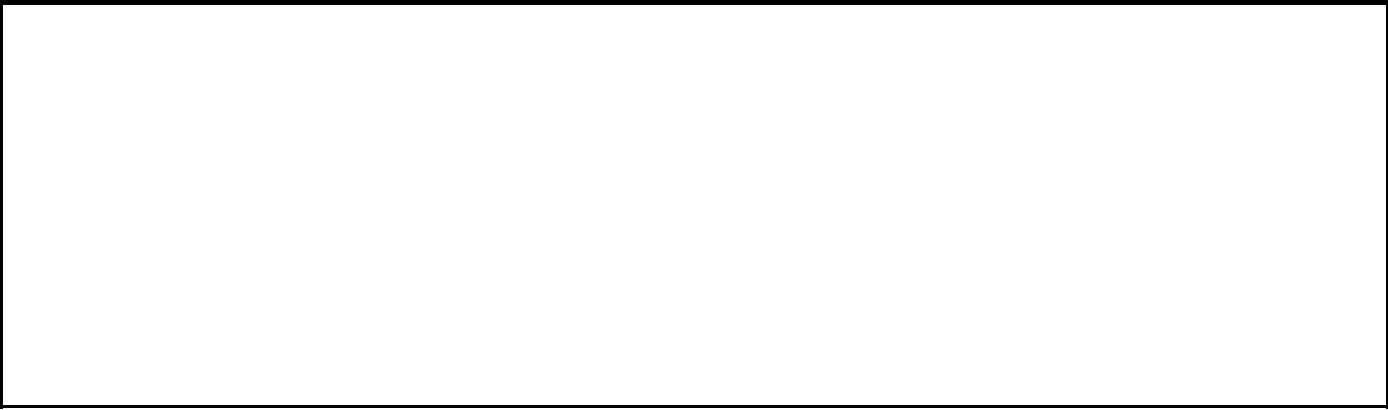
项 目 Item	测试方法 test method	标 准 standrad
充饱电 charge full	<p>以 0.5C₅A 恒流充电，当电池电压达到 4.2V 后，改为恒压充电，充电电流逐渐减少，直到充电电流小于或等于 0.01C₅A，设置充电时间为 2.5 小时</p> <p>charge with 0.2C₅A Constant current,after the battery achieve 4.2V,Change to constant current charge, The charging current is gradually reducing to the charge current less or equal 0.01C₅,setting the charge time to 2.5 hours.</p>	
典 型 容 量 Typical Capacity	<p>①在充饱电后 5 小时内，以 0.2C₅A 电流连续放电至 2.56V 终止电压。 After Charging full within 5 hours , then 0.2C₅A current discharge to 2.56V cut-off voltage</p> <p>②在充饱电后 5 小时内，以 0.5C₅A 电流连续放电至 2.56V 终止电压。 After Charging full within 5 hours,current discharge with 0.5C₅A to 2.56V cut-off voltage</p>	
循环寿命 Cycle life	<p>电池在 20℃±5℃的环境下，经过 500 次完全充放电循环后，再以 0.2C₅A 的电流放电至 2.56 终止电压，测量其放电容量。</p> <p>The battery at environment,after 500 times full</p>	<p>≥ 80% 额 容 量 Rated Capacity</p>

	charge and discharge cycle,current discharge with 0.5C ₅ A to 2.56V cut-off voltage,measuring its discharge capacity.	
荷电保持能力 Charge maintain ability	电池充饱电后，在 20℃±5℃的环境下，存放 28 天，然后在室温下停留 1 小时，以 0.5C ₅ A 电流连续放电至 2.56V 终止电压。 After the battery is fully charged, it is stored for 28 days at 20 °C ± 5 °C and then stop for 1 hour at room temperature. current discharge with 0.5C ₅ A to 2.56V	容量保持率 Capacity retention≥85%

※典型容量 Typical capacity

所规定的电池典型容量，是指能生产的电池在 20℃±5℃温度下，以 0.2C₅A 电流放电至终止电压时所对应的容量分布中心值。

The typical capacity of the battery is producing the temperature under 20 °C ± 5 °C, 0.2C₅A current discharge to cut-off voltage of the corresponding capacity distribution center value.



4.4 环境适应性 Environmental adaptability

项 目 Item	测试方法 Test method	标 准 standrad
温 度 temperature	在 20℃±5℃条件下充饱电后，测量在不同温度下用0.2 C ₅ A	在 -20℃时 40% at -20℃ is
	放电至 2.56V 终止电压的放电容量（与典型容量作为比较）。	40%
	After after the battery is fully charged at 20 °C ± 5 °C	在 0℃时 60% at 0℃ is 60%
	measure the discharge capacity with 0.2 C ₅ A discharge to	在 55℃时 95% at 55℃ is 95%

	2.56V Cut off voltage.(Compare with typical capacity)	
恒 定 湿 热 Constant hot and humid	<p>将电池放入 40°C±2°C及相对湿度为 90%的恒温恒湿箱中 48 小时后，再以 0.2C₅A 放电至 2.56V 终止电压。</p> <p>The battery was placed in a constant temperature and humidity chamber at 40 ° C ± 2 ° C and a relative humidity of 90% for 48 hours, then discharged at 0.2C₅A to a end voltage of 2.56V.</p>	<p>无明显变形、冒烟或爆炸，放电时间不低于 480 分钟。</p> <p>No obvious deformation, smoke or explosion, discharge time not less than 480 minutes.</p>
振动 vibration	<p>充饱电后的电池在三个相互垂直的方向按振幅0.8mm的谐振形式进行振动，频率在 10-55HZ 以 1Hz/min 的速率变化，往复振动 90 至 100min。</p> <p>Fully charged battery in three mutually perpendicular direction by the vibration amplitude of 0.8mm form of vibration, the frequency of 10-55HZ at 1Hz / min rate of change, reciprocating vibration 90 to 100min.</p>	<p>无明显损伤、漏液、冒烟或爆炸。 No obvious damage, leakage, smoking or explosion</p>
自由跌落 Free fall	<p>电池将从 1 米高处自由跌落到 20mm 厚的硬木板上，从 X、Y、Z 正负方向每个方向自由跌落一次。</p> <p>The battery will drop freely from 1 meter to a 20mm thick hardwood board and drop freely in each of the positive and negative X, Y, Z directions.</p>	<p>无明显损伤、漏液、冒烟或爆炸。 No obvious deformation, smoke or explosion, discharge time not less than 36 minutes.</p>

5. 安全性能 Safety performance

电池的安全性能是根据UL1642标准要求制定.产品的安全特性与UL1642的要求是一致的.UL1642的标准符合客户要求.Battery safety performance is based on the requirements of UL1642 standard product safety features UL1642 requirements are consistent.UL1642 standard to meet customer requirements.

No.	项目 item	测试方法和条件test method and condition	标准 standrad
1	连续充电测试 Continuous charge test	电池按照在20±5°C标准充电条件下放电,然后根据客户指定的充电方式充电,一直持续30天. The battery is discharged at a standard charge of 20 ± 5 ° C and then charged according to customer specified charging method for 30 days	没有明显的电解液漏出, 没有爆炸& 起火. No significant electrolyte leakage, no explosion & fire.
2	过放电/过充电测试 Over discharge / overcharge test	电池按照在 20±5°C 标准充电条件下充电, 测试 30 个循环: 以 0.5C 恒流放电, 直到电池终止放电或放电到 0V,然后以 0.5C 充电到电池终止充电或 4.3V. Charge the battery at standard charge of 20 ± 5°C and test for 30 cycles: Discharge at constant current of 0.5 C until the battery is terminated or discharged to 0V, and then charged at 0.5C until the battery is terminated or charged to 4.3V.	

3	热振动 Heat vibration	<p>电池在 $65\pm 2^{\circ}\text{C}$ 测试 48 个小时,在 5 分钟内移到 -20°C 放置 24 小时,在温度为 $23\pm 5^{\circ}\text{C}$ 环境下再放置 24 小时.</p> <p>Batteries are to be tested for 48 hours at $65 \pm 2^{\circ}\text{C}$, moved to -20°C for 24 hours in 5 minutes, and left for 24 hours at $23 \pm 5^{\circ}\text{C}$.</p>		
4	高度测试 (低压) Height test (Low pressure)	<p>在标准充电条件下电池完全充电,然后放在压强小于 11.6Pa 真空箱内(相当于高于海平面 15700m 放置 6 个小时)</p> <p>The battery is fully charged under standard charging conditions and then placed in a vacuum chamber at a pressure less than 11.6Pa (equivalent to 6 hours above 15700m above sea level)</p>		
5	短路测试 Short circuit test t	<p>在标准充电条件电池完全充电,用内阻为 $100\text{m}\Omega$ 的导线把正,负极端子短路.</p> <p>The battery is fully charged under standard charging conditions, and the positive and negative terminals are short-circuited with a wire with an internal resistance of $100\text{ m}\Omega$.</p>	<p>不爆炸,不起火,电池表面最高温度不能超过 150°C</p> <p>No explosion, no fire, the maximum surface temperature of the battery can not exceed 150°C</p>	
6	自由落体测试 Free fall test	<p>在标准充电条件下电池完全充电,从 1m 的高度直接落到地面上,每个方向两次.</p> <p>The battery is fully charged under standard charging conditions, falling directly from 1m</p>	<p>没有明显的电解液漏出,不爆炸& 不起火.No significant electrolyte leakage, no</p>	

		to the ground, twice in each direction.	explosion & fire.
7	高温测试 High temperature test	在标准充电条件下电池完全充电,在高于130±2°C 放置30分钟 The battery is fully charged under standard charging conditions and is allowed to stand above 130 ± 2 ° C for 30 minutes	

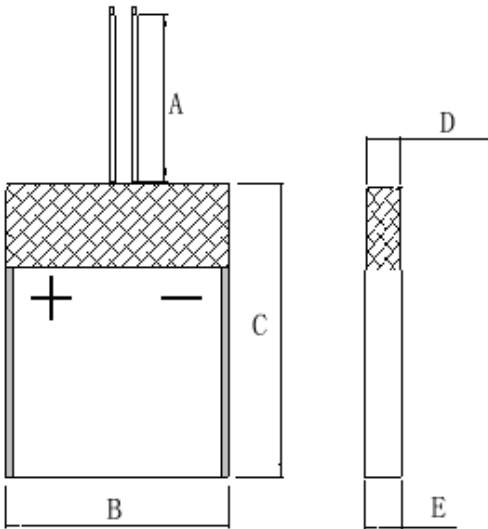
6. 存储 store

项目 item	存储条件 store condition		存储时间	容量capacity (mAh)
	电压 voltage (V)	温度 temperature (°C)	store time	恢复 restore
1. 用于短时间存储 For short-term storage	标称 Nominal	参考.4.2环境 Reference .4.2 environment	1个月 1 mouth	90% 90%
2. 用于长时间存储 For short-term storage	标称 Nominal	参考.4.2环境 Reference .4.2 environmen	3个月 3mouth	85%
3. 长期存储	标称 Nominal	参考.4.2 环境 Reference .4.2 environmen	6个月 6 mouth	85%

4. 长期存储	标称 Nominal	参考.4.2 环境 Reference .4.2 environmen	12 个月 12 mouth	80%
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7.产品图形& BOM (物料清单)Product Graphics & BOM (Bill of Materials)

7.1 产品图形(未按比例)Product Graphics (not to scale)



外露线长 Exposed length A	50.0+3.0/-3.0mm
宽度 width B	50.0+0.5/-0.5mm
高度 height C	75.0+0.5/-1.0mm
厚度 thickness D	5.0+0.1/-0.3mm
厚度 thickness E	5.0+0.0/-0.3mm

7.2 喷码内容：Coding content:

- DTP 555075
2500mAh 3.7V
+ XXXXXXXX-----日期 Date (公司标准 company standrad)

7.3 主要参数：major parameter

序号 NO	项目 Item	规格 specification	备注 Remarks
1	电芯种类 cell species	555075	
2	典型容量 Typical capacity	2500mAh	
3	开路电压 Open circuit voltage	≥ 3.7V	
4	过充保护电压 Over charge protection voltage	4.25±0.025V	
5	过放保护电压 Over discharge protection voltage	2.56.0±0.062V	
6	短路保护 Short circuit protection	有短路保护 Short-circuit protection	
7	贮存温度 Storage temperature	-5 ~ 35℃	
8	内阻 Internal resistance	≤ 35mΩ	

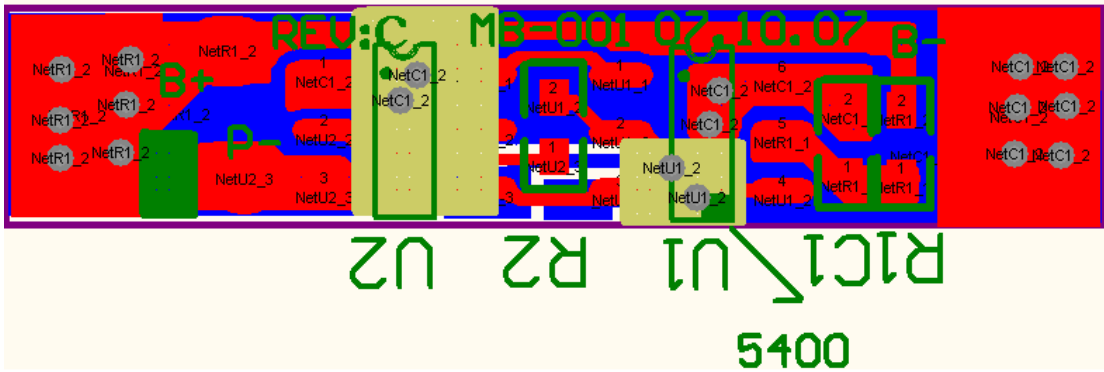
7.4 BOM (物料清单 Bill of materials)

序号	物料名称 Material name	规格型号 Model	单位 Unit	数量 Quantity	备注 Remarks
1	电芯 Cell	DTP555075	PCS	1	

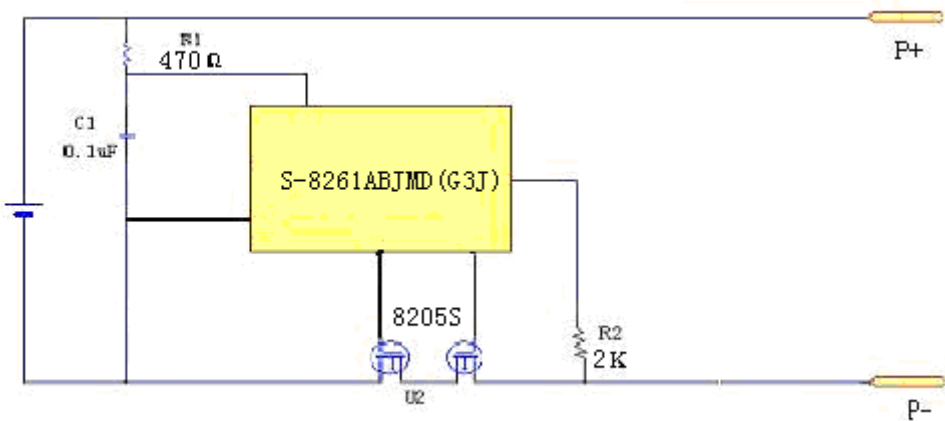
2	PCBA	MB-001	PCS	1	
3	红色导线 red wire	2+70+2* ϕ 1.0mm (UL1571 #26)	PCS	1	
4	黑色导线 black wire	2+65+2* ϕ 1.0mm (UL1571 #26)	PCS	1	
5	金色高温 gold polyimide tape	0.06*12*35mm	PCS	1	顶部 top
6	金色高温胶 gold polyimide tape	0.06*8*115mm	PCS	1	外围 Periphery
7	美纹胶 Masking Tap	6*35mm	PCS	1	绝缘 insulation
8	茶色高温胶 Brown polyimide tape	0.06*12*42mm	PCS	2	包边 Rim

8. 保护电路 protect the circuit

8.1 外形尺寸图/印刷线路图 Dimension drawing / printed circuit diagram



8.2 电路图 Circuit diagram



8.3 PCM 的物料清单 PCM material list

序号 NO	位号 Tag	品名/规格 name/specification	用量 Amount	品牌 brand
1	R1	470ohm±5% 1/16W	1	
2	R2	2K ohm±5% 1/16W	1	
3	C1	0.1Uf+80% -20% 50V	1	
4	U1	S-8261ABJMD(G3J)	1	
5	U2	8205S	1	
6	PCB	MB-001	1	

备注:

后续对 PCBA 的更改(不影响性能),不再作任何的通知.

Note:

PCBA subsequent changes (without affecting performance), no further notice.

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