

江西佰仕通电子科技有限公司



充电器规格书

Charger specification

Date 日期: 2020-05-09

To:

From: BESTON

Model No 型号: C9024L

Specification 规格: 输入: DC 5V2A (min)

输出: AA:DC 1.2V 1800mA; AAA:DC 1.2V 900mA;

Total No.of Pages 总页数: Total 11 pages including this cover sheet 共 11 页(含封面)

Signature by customer 客户回签

	Section	Confirm	checked	Approval
	Name			
	Approve			

Signature by supplier 供方签名

BESTON	Written 拟定	宋新民
	Project checked 工程审核	
	Quality checked 品质审核	
	R&D checked 研发审核	
	Approval 批准	

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1. Summarize 概述

1.1 Application Field 适用范围

This specification is applied to describe the electric, appearance, mechanical features and external environment request of the C9024L charger.

此规格书用于规定 C9024L 民用充电器的电气、外观、机械特性以及外部环境要求等方面的规格。

2. Product Characteristic 产品特点

2.1 Can charge **1-8** pcs AA/AAA Ni-MH / Ni-CD rechargeable batteries. LED screen show total process of charging. With elegant appearance.

本品外形美观大方，LED 屏显示充电状态，能充 **1-8** 节 AA/AAA 镍氢镍镉电池。

2.2 Microcomputer IC controls charging process, make sure the battery is fully charged and won't over charge (ratio of charging sufficiency of one battery $\geq 85\%$).

微电脑芯片控制充电过程，自动切断充电确保电池充满电，又不会过充(单节电池充电充饱率 $\geq 85\%$)。

2.3 Over current protection: constant current could avoid bad effect caused by rebounding current and make sure safety.

过流保护:恒流保护，避免反向电流带来的不良影响，确保安全。

2.4 Can identify automatically: through microcomputer IC to distinguish non-rechargeable battery, short-circuit battery and deficient rechargeable battery, and then does not charge these batteries to make sure safety.

自动识别电池:通过微电脑 IC 来鉴别不可充电电池、短路电池和有缺陷的可充电电池，然后不给这些电池充电以确保安全。

2.5 Can refresh battery: if the voltage of battery is too low (0-0.9V), the charger can refresh battery itself.

对电池有修复功能:若电池电压过低(0-0.9V)，充电器可自动修复电池。

3、Environmental Condition 环境条件

The charger charges indoors only. 该充电器用于室内

Operation Temperature 工作温度	0℃—35℃	Storage Temperature 储存温度	-10℃~50℃
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Operation Humidity 工作湿度	35%—95%	Storage Humidity 储存湿度	45%—85%
Inspection Temperature 检测温度	25℃±10℃	Atmospheric Pressure 大气压力	70—106Mpa

4、 Electric Features 电器特性

4.1 Input 输入: DC5V 2A Min。

4.2 Consume when unloading battery 空载功耗: 0.3W MAX;

4.3 Consume when all channels loading batteries 满载功率: 10W;

4.4 Output 输出: AA:DC 1.2V 1800mA; AAA:DC 1.2V 900mA

4.5 Charging way: 充电控制方式

Constant voltage and current control 恒压恒流控制

5、 Reliability Test 可靠性测试

5.1 High Temperature Test 高温测试

Testing Temperature: 65℃ ±2℃, without packing and lasts for 5 hours Place product in normal temperature after test, then retest appearance, insulation, indication and electric. It should be no nick, burr or other mechanism scratch and the outer metal be no rust and all the functions should be in normal.

实验温度为 65℃±2℃, 产品不包装, 持续时间为 5 小时。在常温下放置待恢复后对其外观、绝缘强度、指示功能及电性能进行重新测试。外观应平整无划痕、毛刺以及其它机械损伤, 外露金属部分不应有锈蚀; 无击穿、飞弧现象; 指示功能及电性能正常。

5.2 Low Temperature Test 低温测试

Testing Temperature: -20℃ ±3℃, without packing and lasts for 8 hours. Place product in normal temperature after test, then retest appearance, insulation, indication and electric. It should be no nick, burr or other mechanism scratch and the outer metal are no rust and all the functions should be in normal.

实验温度为 -20℃±3℃, 产品不包装, 持续时间为 8 小时。在常温下放置待恢复后对其外观、绝缘强度、指示功能及电性能进行重新测试。外观应平整无划痕、毛刺以及其它机械损伤, 外露金属部分不应有锈蚀; 无击穿、飞弧现象; 指示功能及电性能正常。

5.3 Constant Humidity & Heat Test 恒定湿热测试

Testing Temperature: $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$, humidity: 90%~95%, without packing and lasts for 48 hours. Place product in normal temperature after test, then retest appearance, insulation, indication and electric. It should be no nick, burr or other mechanism scratch and the outer metal are no rust and all the functions should be in normal

实验温度为 $40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ，湿度为 90%~95%，产品不包装，持续时间为 48 小时。测试后对其外观、绝缘强度、指示功能及电性能进行重新测试。外观应平整无划痕、毛刺以及其它机械损伤，外露金属部分不应有锈蚀；无击穿、飞弧现象；指示功能及电性能正常。

5.4 Vibration Test 震动测试

Frequency is 10~55Hz and Swing is 0.35mm. Make frequency circulation to each direction to be 10 times. Place product in normal temperature after test, then retest appearance, insulation, indication and electric. It should be no nick, burr or other mechanism scratch and the outer metal are no rust and all the functions should be in normal

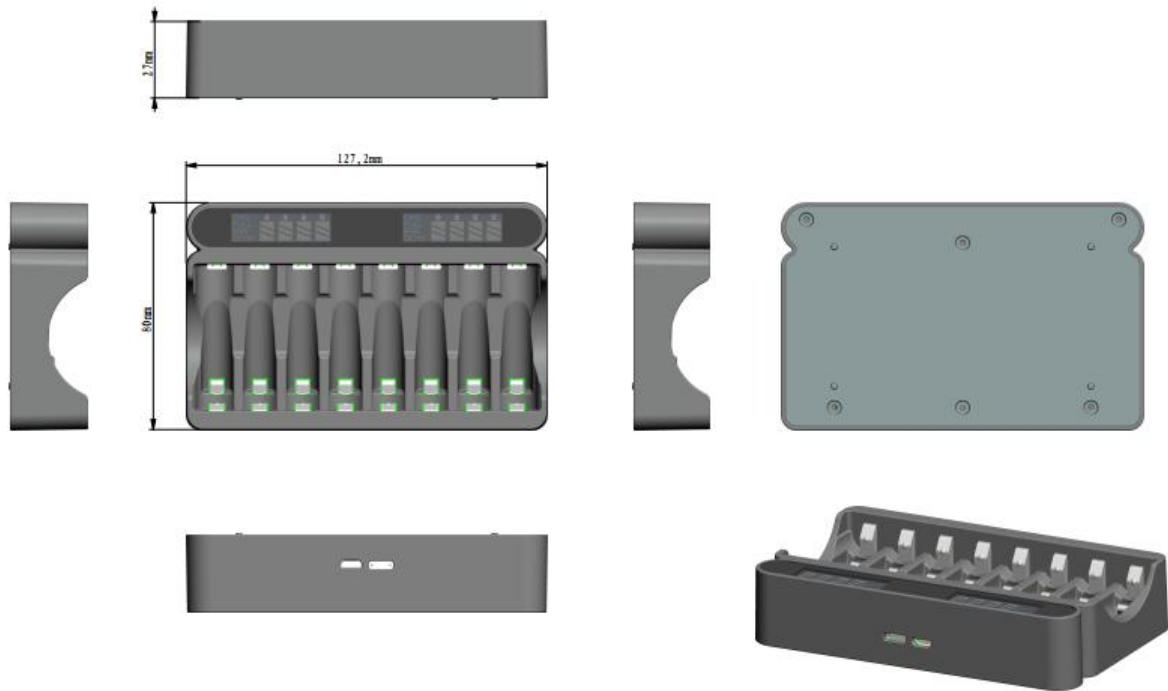
频率为 10~55HZ，振幅为 0.35mm，每个方向上扫频循环次数为 10 次。实验后对其外观、绝缘强度、指示功能及电性能进行重新测试。外观应平整无痕、毛刺以及其它机械损伤，外露金属部分不应有锈蚀；无击穿、飞弧现象；指示功能及电性能正常。

5.5 Falling Test 跌落测试

height is 100cm, testing desk be 20mm thickness board and each of the 6 sides with one test. Place product in normal temperature after test, then retest appearance, insulation, indication and electric. It should be no nick, burr or other mechanism scratch and the outer metal are no rust and all the functions should be in normal. 高度为 100cm，实验台厚度为 20mm 的硬木板，6 个表面，每个方向 1 次。实验后对其外观、绝缘强度、指示功能及电性能进行重新测试。外观无裂痕，无它机械损伤，指示功能及电性能正常。

6. Appearance Feature 外观特性

6.1 Size 尺寸：（127 x 79.5 x 26.7mm） ± 3 mm (长 length /宽 width/高 height)



6.2 Weight 重量: $101 \pm 5\text{g}$ (No battery pack 不含电池)

6.3 Appearance 外观

The product should be without scratch, injection grip, besmirch, and crack and out contact without rust and oxidation, printing of label is clear. The connection cable between car charger and charger should be without oxidation on contact

本产品外壳表面无划伤、批峰、污渍、裂缝，五金无生锈、批峰、划伤，产品标识明确。

7、Packing and Storage 包装/储存

7.1 Packing 包装

Packing Type 包装方式: Blister packing or boxed 吸塑包装或者盒装。

7.2 Storage 储存

The charger should be storied in clean, dry and ventilated place with the temperature between $-10^{\circ}\text{C} \sim 50^{\circ}\text{C}$. Please keep it away from caustic material, fire or heat.

充电器应贮存在环境温度为 $-10^{\circ}\text{C} \sim 50^{\circ}\text{C}$ ，清洁、干燥通风的室内，应避免与腐蚀性特质接触，应远离火源及热源。

8、Notice 注意事项

8.1 Warning 警告

8.1.1 Charging only for AA/AAA Ni-MH / Ni-CD rechargeable battery. And it may explode

cracking or leak if charging for other type of battery or equipment.

仅限于对 AA/AAA 镍氢或镍镉可充电电池进行充电，若对其它类型的电池或者设备进行充电可能会导致爆炸、电池破裂或漏液、人身伤害或财产损失。

8.1.2 Incorrect use of the charger will shine into damage.

不正确使用充电器则会照成损坏

8.1.3 It is used indoors or in car; please don't expose it to rain or snow.

充电器专用于室内充电，请勿将其暴露于雨中或雪中。

8.1.4 Please don't disconnect or install it.

请勿分解或组装充电器。

8.2 Notice 注意事项

8.2.1 Avoid falling or placing heavy object on it.

请勿使充电器落地或将重物置于其上。

8.2.2 Children should use it at the supervision of adult.

儿童须成人的监督下使用本充电器。

8.2.3 Working temperature is 0°C~35°C.

须在 0°C~35°C 温度范围内使用本充电器。

8.2.4 Keep it away from heat equipment or high temperature place, and don't expose to direct sunlight.

请勿在直射阳光下、发热的设备旁或其它高温场所使用或储存本充电器。

8.2.5 Do not charge for un-rechargeable battery.

在充电时，一定不能对不可充电电池进行充电。

8.2.6 It is normal to be a little heat while charging.

在充电的过程中，充电器及其电池会有轻微的发热是正常现象。

Attachment#1 《Test standard》 附件#1 《检测标准》

1 Purpose 目的

This standard provides the test requirements and inspection standards for C9024L of the manufactured by BESTON to ensure the quality of the product.

规定了佰仕通生产的 C9024L 产品的测试要求及检验标准，确保公司产品品质。

2 Application scope 适用范围

This standard is appropriate for C9024L of BLD products.

本标准规定了本公司生产的 C9024L 产品。

3 Test condition 检验条件

Unless otherwise specified, all tests in this standard shall be according to the following condition:

除非另有规定，本标准中各项试验应在试验的标准条件下进行：

Temperature 温度：25±10℃； Humidity 湿度：35 %～95%RH

4 Contents of this standard 标准内容

4.1 The requirements of dimension, appearance and basic characteristic parameters.

外形尺寸、外观、基本特性参数要求

Table 1 Dimension, appearance, basic characteristic parameter and measuring method.

表 1 外形尺寸、外观、基本特性参数和测量方法

Classes 类别	No. 序号	Items 项目	Criteria 合格判定标准	Measuring condition(method) 测量条件（方法）
Dimension 尺寸	1	Overall dimension 外形尺寸	The appearance of the charger size shall conform to the product specification. 充电器的外形尺寸应符合产品的规格要求。	Measured by digital calipers which the resolution is 0.01mm. 使用分辨率为 0.01mm 数显卡尺测量。
Appearance 外观	2	Appearance 外观	The standard reference to B level of injected oil spout part appearance inspection. 参照《注塑喷油件检测标准》（B级）	Checked by visual 目视检查。

4.2 Performance 性能测试

Table 2 Electronic parameter and measuring method.

表 2 性能参数和测量方法

序号	Test items 测试项目	Test condition 测试
1	Charging indicating mode 充电指示方式	1、Power on and No load 通电空载。 connect the charger to the power socket with the specified voltage, and the LED screen backlight will light up to display all characters. If there is no battery in the battery slot, the backlight will automatically go out. 接入电源，背光亮，LED 屏显示所有字符，之后全灭。 2、Charging 充电 When there is a battery in the battery slot, the charger will charge the battery, and the backlight will light up to display the current battery power. 当放入电池时，进入充电状态，背光点亮并显示电池电量。 3、Full battery 电池充满。 The battery symbol's inner cell is full and still, while the backlight is off. 当电池充满时，自动停止充电，电池符号满格显示， 5、Error 报警 Don't charge when short or bad battery flash and battery symbol 短路，不可充电池，自动停止充电，电池符号闪
2	Noise 噪声	Keep it far away from the charger (the distance is 50cm) at the quiet environment, we cannot hear noise. That is OK. 在相对安静环境下离充电器 50CM 处，听不到噪声即为 OK。
3	Temperature 温度	电池 Battery: 60℃ (Max) 外壳 cover: 80℃(Max) 室温 Room temperature: 25℃
4	PCBA Appearance PCBA 外观检	The component shall be assembled correctly and the soldering effect shall be well. 插元件时必须插到位，不可插错、漏、反件等不良现象。目检焊点不可有连锡、虚焊、空焊、锡尖、堆锡、锡点不饱满，整板无污垢等不良现象。
5	Finished product appearance	The appearance shall be free from scratches, dirt, oxidation, and has not noise when shake it. 外观无刮伤,无污垢,五金无氧化，摇晃产品无内响。

	成品外观检	
6	Burn in test 老化测试	Load AA/AAA Ni-MH Ni-CD rechargeable batteries into slots, and all functional parameters shall be OK within normal range。 将 AA/AAA Ni-MH Ni-CD 电池装入槽位,充满后各项功能参数应正常范围内即为 OK。
7	Current test 电流测试	1、 AA Impulsive charging current 脉冲充电电流: 1800mA (1500-2100mA@1.2 V) AA x1 Average charging current 平均充电电流: x1/2: 1800mA (1400-2000mA@1.2 V) x3/4: 900mA (700-1200mA@1.2 V) x5/6/7/8: 450mA (350-600mA@1.2 V) 2、 AAA Impulsive charging current 脉冲充电电流: 900mA (750-1050mA@1.2 V) AAA Average charging current 平均充电电流: x1/2: 900mA (700-1000mA@1.2 V) x3/4: 450mA (350-600mA@1.2 V) x5/6/7/8: 225mA (150-300mA@1.2 V)
8	Volt @No load 空载电压	AA/AAA : 0-5.5V