



Model : Power-Xtra 1.2V Ni-Mh SC 2200 Mah Power Type Battery (Paper) Ver:A0 NO: 900.600.503.093

PX-2200P-1.2V Battery Spec

电池规格书

Model : PX-2200P-1.2V

Stock Code: 900.600.503.093

Cell Type : 2200P

Nominal Voltage: 1.2V

Capacity: 2200mAh

Draft 起草	Approved 批准	Customer Confirmation 客户确认
Peter		

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1. Scope (适用范围)

This specification governs the performance of the following Power-Xtra Nickel-Metal Hydride cylindrical battery .

3. External Appearance (外观)

The cell / battery shall be free from cracks, scars, breakage, rust, discoloration, leakage and deformation. 电池/电池组外观无破裂、划痕、变形、生锈、污迹、电解液泄漏等不良现象。

4. Ratings (规定参数)

The data involving the nominal voltage and the approximate weight of the battery pack.
此资料包括电池的额定电压和大约重量。

Description	Unit	Specification	Conditions
Nominal Voltage	V	1.2	Unit: PCS
Rated Capacity	mAh	2200	Standard charging / discharging
Minimum Capacity	mAh	2200	Standard charging / discharging
Standard Charge	mA	220 (0.1C)	Ta 环境温度=15-25°C (see note)
	hour	16	
Fast Charge	mA	1100(0.5C)~2200 (1.0C) With charge termination control	-ΔV=6~10mv/PCS Timer cutoff=110% input capacity Temp. cutoff= 40-50°C, Ta= 0-40°C dT / dt=0.6°C/ min
	hour	2.4 approx.(0.5C) 1.2 approx.(1.0C)	
Trickle Charge	mA	110 (0.05C)	Ta 环境温度=15-25°C (see note)
Discharge Cut-Off Voltage	V	1.0	Less than 1.0C discharge
		0.8	3C-10C discharge
Maximum Continuous Discharge Current	mA	22000 (10C)	Ta= -10-30°C
Storage Temperature (Percent 40-60 charged state)	°C	-20-50	Less than 30 days
		-20-40	Less than 90 days
		-20-25	Less than 360 days
	%	65±20	Relative humidity
Typical Weight	g	70	Approx.

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5. Performance (电池性能)

Unless otherwise stated, tests should be done within one month of delivery under the following conditions:

Relative humidity (相对湿度) : $65 \pm 20\%$ RH.

Ambient Temperature (环境温度) (Ta) : $20 \pm 5^\circ\text{C}$.

***Notes: Standard charge / discharge condition (注意: 标准充电/放电条件)

Charge (充电) : 220 mA (0.1C) x 16 hrs

Discharge (放电) : 440 mA (0.2C) to 1.0V/PCS.

***The batteries must be standard discharged before charging (电池充电前必须先放电)。

***Battery test vide infra (电池测试参见下文):

Test	Unit	Specification	Conditions	Remarks
Capacity	mAh	≥ 2200	Standard Charge / Discharge	Up to 3 cycles Allowed
Open Circuit Voltage (OCV)	V	≥ 1.25	Within 1 hr after standard charge	Unit: PCS
Internal Impedance (Ri)	m Ω	≤ 12	Upon fully charge (1Khz)	Unit: PCS
Rapid Discharge	min	≥ 54	Standard charge, 30min rest before discharge at 1.0C to 1.0V/PCS	Up to 3 cycles Allowed
High Rate Discharge (10C)	min	≥ 5.2	Standard charge, 30min rest before discharge at 10C to 0.8V/PCS	Up to 3 cycles Allowed
Over discharge Over charge	N/A	No leakage nor explosion	0.1C charge for 48H 用最大不超过 220mA (0.1C)电流充电 48 小时	
Self discharge	mAh	$\geq 1430(65\%)$	Standard charge, storage for 28 days, standard discharge 20°C	
	mAh	$\geq 1430(65\%)$	Standard charge, storage for 7 days, standard discharge 标准充满电后在 $40 \pm 2^\circ\text{C}$ 环境温度下存 7 天, 以标准 0.2C 放电至 1.0V	
IEC Cycles Test	cycle	≥ 500	IEC 61951-2(2003) 7.4.1.1	

POWER-XTRA

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Short Circuit	N/A	Deformatio & leakage may occur but no explosion	After standard charge, short circuit for 1 hr 引线(lead wire =1.0mm ² x 20mm)
Vibration Test 振动测试	N/A	$\Delta V < 0.05V$	Charge at 0.1C for 16 hrs, then leave for 24 hrs. Check battery before/after vibration. 0.1C 充电 16 小时后放置 24 小时,检查电池振动前后的电压。 Amplitude 振幅: 1.5mm, Vibration 振动: 3000CPM any direction for 60 mins 任意方向 60 分钟
Drop Test 跌落测试	N/A	$\Delta V < 0.05V$	Charge at 0.1C for 16 hrs, then leave for 24 hrs. Check battery before / after drop on the wooden board of thickness: 30 mm Height: 50 cm Direction is not specified test for 3 times. 充电 16 小时后放置 24 小时后,电池从 50cm 高度任意方向自由坠落到厚 30mm 的木板上 3 次。

6. Configurations, Dimensions And Markings (外形尺寸)

Please refer to the related drawing.
电池外形尺寸请参见附图。

7. Warranty (保证)

One year limited warranty against workmanship and material defect.
我们对工艺和材料的保证期限为 1 年。



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8. Cautions (使用注意事项)

1. Reverse charging is not acceptable.
应将电池极性正确连接，不可反接。
2. Charge before use, use the correct charger for Ni-MH batteries.
使用之前请充电，请使用 Ni-MH 专用充电器。
3. Do not charge / discharge with more than the specified current.
请不要超过规格要求电流对电池/电池组进行充放电。
4. Do not short circuit the cell / battery.
请不要将电池/电池组短路。
5. Do not incinerate or mutilate the cell/battery.
请不要将电池/电池组投入火中或试图拆开。
6. Do not solder directly to the cell / battery.
请不要在电池/电池组上直接焊锡。
7. The life expectancy may be reduced if the cell / battery is subjected to adverse conditions, like extreme temperature, deep cycling, excessive overcharge / over-discharge.
如果电池/电池组在极限条件下使用，可能减少寿命：
如：极限温度，深度循环，过充电或过放电。
8. Store the cell / battery in a cool dry place.
电池/电池组应储存在阴凉干燥处。
9. For charging methods please reference to TMK technical handbook.
充电方法请参考我们的技术手册。
10. When find battery power down during use, please switch off the device to avoid overdischarge.
电池使用时发现功率下降，请关闭用电器开关以防止电池过放。
11. When not using a battery, disconnect it from the device.
当电池不使用时，请把它从装置上取下。
12. well-ventilated place out of direct sunlight.
电池使用后，如果电池发热，再次充电前，请在通风环境中冷却。
13. During long term storage, battery should be charged and discharged once every half a year.
经过长时间存放，电池应每三个月进行一次充放电。
14. When the battery is hot, please do not touch it and handle it, until it has cooled down.
如果电池发烫，请勿触摸，直至冷却。
15. Do not mix Power-Xtra batteries with other battery brands or batteries of a different chemistry such as alkaline and zinc carbon batteries.
请不要将 Power-Xtra 电池与其他品牌的电池或者不同种类的电池，比如碱性锌电池混用。
16. Do not mix new batteries in use with semi-used batteries, battery may be over-discharged.
请不要将新旧电池混用，可能会导致过放电。
17. Keep away from children. If swallowed, contact a physician at once.
放在儿童拿不到的地方，如果发现吞食，请立即联系医生。

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Specifications of single cell (单粒电池规格)

Dimensions 外形尺寸(mm)

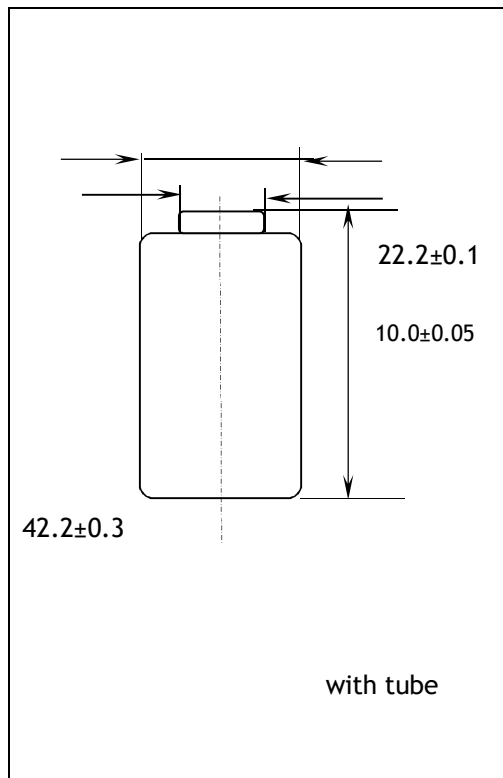


MODEL No: PX-2200P

Description: 2200mAh SC SIZE NI-MH

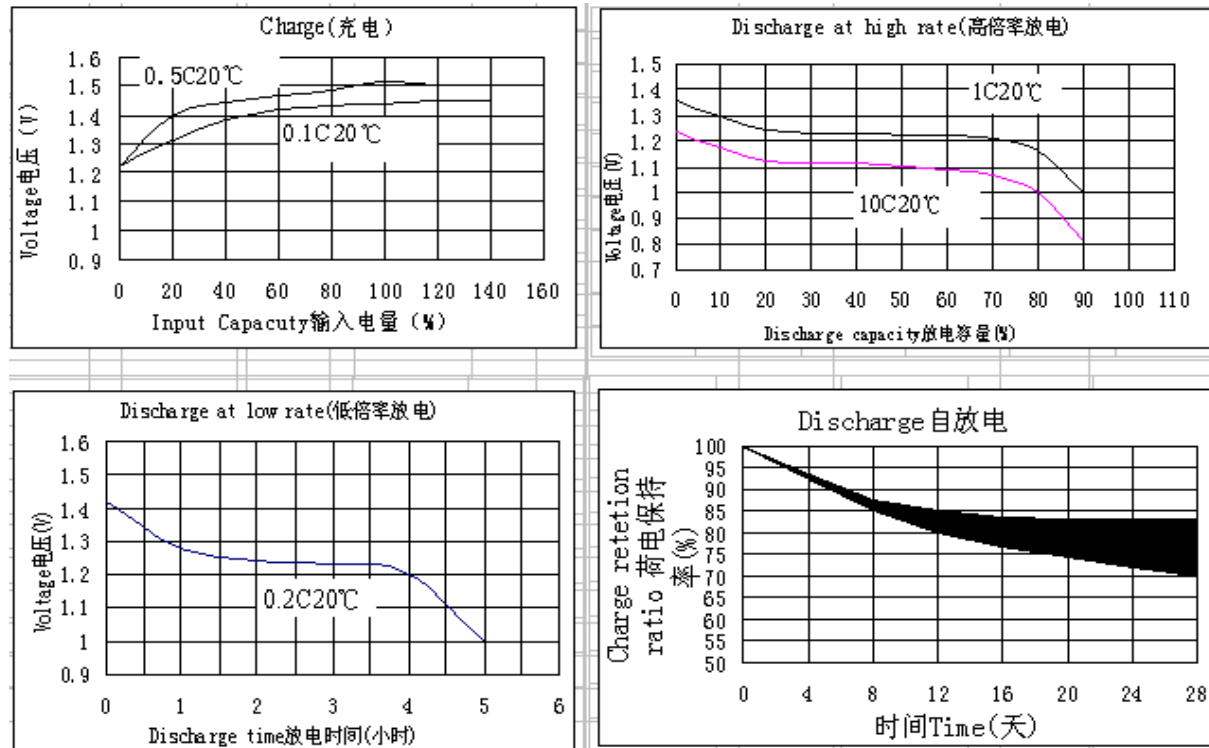
Specification

Nominal Capacity 额定容量		2200 mAh	
Nominal Voltage 额定电压		1.2 V	
Charge current 充电电流	Standard 标准	220mA	
	Quick 快充	1100mA	
	Fast 快充	2200mA	
Charge time 充电时间	Standard 标准	14~16 Hrs	
	Quick 快充	2.4 Hrs	
	Fast 快充	1.2Hrs	
Ambient Temperatur e 使用温度	Charge 充电	Standard 标准	0°C~45°C
		Quick 快充	10°C~40°C
		Fast 快充	10°C~40°C
	Discharge 放电		-20°C~60°C
	Storage 储存		-20°C~35°C
Internal Impedance(AC) (After Charge)充电后内阻		Max≤12.0	
Weight 重量		70g	



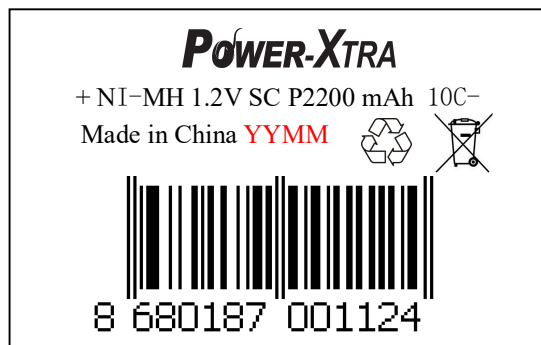
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Drawing of Label 标签图

套纸套，纸套印字方式：PET 透明标签。ENA-13 Bar code 条形码内容为：“8680187001124”。印字日期随生产日期更改，YY 为年，MM 为月，如 1705（2017 年 05 月）。喷码格式如下：



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Drawing Packing 包装图

PP 袋单独包装，再装纸盒（可多个），箱内装防潮袋，每箱不超 10KG，贴侧唛；客户定制 Logo 外箱；外箱 Logo 内容格式如下：

POWER-XTRA

侧唛：

条形码格式为：GS1(EAN.UCC)/ENA-13 Bar code，侧唛分别贴于纸箱两侧（尺寸视纸箱尺寸更改），内容及格式如下：

PO NO.	Order	← 根据每次订单更改
MODEL NO.	900.600.503.093	
QTY	500PCS	← 根据每箱数量更改
DATE	YYYY-MM-DD	← 根据出货日期更改
Made in China		
		
8 680187 001124		