# **Product Specification**

Name:	Ni-Cd Battery
Model:	Ni-Cd AA1000mAh 1.2V
Stock Code:	900.600.503.005
Author:	Zhenfeng Huang
Review:	Peter
Approval:	Sam
Date:	2017/08/01

ltem	Signature 签名	Date 日期
Customer Signature		



#### 1、APPLICATION

Model : Ni-CdAA1000mAh1.2V Cell Size: AA ( $\phi$ 14.5<sup>-1.0</sup>×49.0<sup>-1.5</sup>)

#### 2. DATA OF STACK UP BATTERIES

All data involves voltage and weight to stack-up battery are equal to the value of unit cell times the number of unit cell which consisted in the stack-up batteries/

#### Example/:

Stack-up battery consisting three unit cells

Nominal voltage of unit cell=1.2V

Nominal voltage of stack-up batteries=1.2V×3=3.6V



#### 3、RATINGS/

RATINGS/				
Description	Unit	Specification	Conditions	
Nominal Voltage	V	1.2	Unit cell	
Nominal Capacity	mAh	1000	Standard Charge/Discharge	
S. 1.161	mA	100(0.1C)	Ambient Temperature:	
Standard Charge	Hour	16	Ta= 20±5°C	
Trickle Charge		(0.03C)~(0.05C)	Ta = 0~45°C	
Standard discharge	mA	200(0.2C)	Ambient Temperature: $Ta = 20\pm5^{\circ}C$ Humidity: Max : 85%	
DischargeCut-off Voltage	٧	1.0		
Operating temperature range	°C	0-45°C	Humidity: Max : 85%	
Storage Tomperature	°C	-20~35℃ 一年	Fully charged state、Humidity、Max.60%	
Storage Temperature	C	0~60°C 一周	Fully charged state、Humidity、Max.80%	
Typical Weight	g	Approx.21.0		



#### 4. PERFORMANCE

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

Ambient Temperature/, T: 20±5°C Relative Humidity/: 65±20%

Test	Unit	Specification	Other Condition Remarks	
Capacity	mAh	1000	Standard Charge Discharge	up to 3 cycles are allowed
Open Circuit Voltage(OCV)	٧	≥1.25	Within I hour after standardCharge	
InternalImpedance	m Ω/ Cell	≤40	Upon fully charge(lKHz)	
High Rate Discharge(1.0C)	minute	≥48	Standard Charge, I hour rest Before Discharge by 1.0C to1.0 V	up to 3 cycles are allowed
Overcharge		Noleakagenor explosion	0.1CCharge14 days	
Charge Retention	mAh	≥650(65%)	Standard Charge, Storage: 7 day rest at 45Ambient Temperature, Standard Discharge	
IEC Cycle Life	Cycle	≥500	IEC61951-1(2003)7.4.1.1	(see Note )/
Leakage Test		No leakage nor deformation	Fully charged at 0.5C for 2.5 hour stand for 14 days.	
Security Test		No explosion, but leak age or deformation is allowed	Charge the cell 0.1C 16hrs, Then≤100 mΩImpedance short circuit for 1hour	Ambient Temperature/: T=20±5°C
Impact Resistance		Change of voltage should be under 0.02V/Cell Change of impedance should be under 5 mΩ	Charge the cell 0.1C 16hrs Then leave for 1-4hrs,check battery before/after dropped, Height 50c m Wooden board (thickness 30mm) Direction not specified,3 times.	Ambient Temperature: T=20±5°C

Vibration Resistance	Change of voltage should be under 0.02V/cell,Change of impedance should be under5 milliohm/cell/	Charge the battery 0.1C 16hrs, then leave for 24hrs,check Battery before/after vibration, Amplitude 1.5mmVibration 3000CPM, Any direction for 60mins.	Ambient Temperature: T=20±5°C
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#### 5、 CONFIGURATION, DIMENSIONS AND PACKINGS

Please refer to the attached drawing.

#### **6**、EXTERNAL APPEARANCE

The cell/battery shall be free from cracks, scars, breakage, rust, discoloration, leakage nor deformation.

#### 7、CAUTION

- 1) Reverse charging is not acceptable.
- 2) Charge before use. The cells/batteries are delivered in an uncharged state.
- 3) Do not charge/discharge with more than our specified current.
- 4) Do not short circuit the cell/battery Permanent damage to the cell/battery may result.
- 5) Do not incinerate or mutilate the cell/battery.
- 6) Do not solder directly to the cell/battery.
- 7) The life expectancy may be reduced if the cell/battery is subjected adverse conditions like: extreme temperature, deep cycling, excessive overcharge/ over-discharge.
- 8) Store the cell/battery uncharged in a cool dry place. Always discharge batteries before bulk storage or shipment.

#### Notes:

- 1) Ambient Temperature.
- 2) Approximate charge time from discharged state is for reference only.
- 3) We recommend cells or batteries are charged and discharged at least once every 6 months./
- 4) IEC61951-1(2003)7.4.1.1 Cycle Life:/

Cycle No./ 循 环周次	Charge/充电	Rest/搁置	Discharge/放电
1	0.1C×16h	None	0.25C×2h20min
2-48	0.25C×3h10min	None	0.25C×2h20min
49	0.25C×3h10min	None	0.25C to 1.0V/ cell
50	0.1C×16h	1-4h	0.2C to 1.0V/ cell

Cycles I to 50 shall be repeated until the discharge duration on any 50th Cycle becomes less than 3 h/ 循环至任一第 50 次放电时间不足 3 小时为止。



#### 8、Other/其他

- 1) The information (subject to change without prior notice) contained in this document is for reference only and should not be used as a basis for product guarantee or warranty./
- 2) Manufacturer reserves the right to alter or amend the design, model and specification without prior notice./

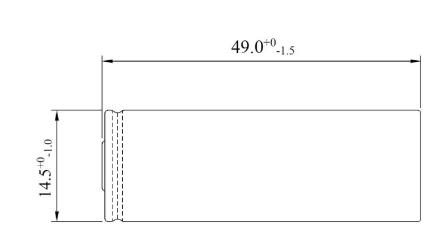
### **Amendment Records**

Please refer to the items with "\D" marked in the item list of the attached drawing.

Revision	Description	Prepared by	Approved by	Date
A0	First Publish	Huang Jianhao	Michael Li	2014.7.10
A1	PVC	Huang Jianhao	Michael Li	2017.8.11
A2	Flat			2017.08.15
А3	标签	Peter		2017.11.05
A4	面垫-白色	Abby		2017.11.20
A5	更改包装及标签描述	Peter		2017.02.10
A6	增加包装标签			2018-03-02

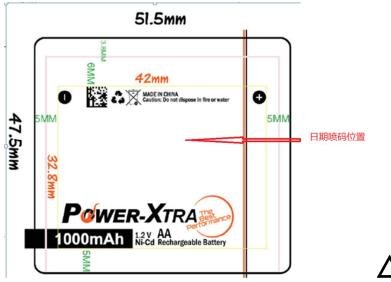
Attached Drawing /附图





标签印字方式:不干胶卷标。GS1(EAN.UCC)/EAN-13 Bar code 条形码,内容为"8680187000516"。

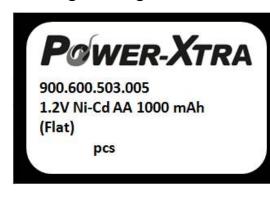
日期印字方式:喷码。日期随生产日期更改,YY为年,MM为月,如1606(2016年06月)。



NO	NAME	SIZE	QTY	NOTE		
1	CELLS	AA1000MAH	1	NICD		
2	PVC	51.5*47.5*0.07MM	1		MODEL	
3	SURFACRMAT	AA (φ13mm)	1	WHITE		
					DESIGN BY	
					CHECKER	
					VERSION	



## **Drawing Packing:**





标签位置示意图。 统一贴于纸盘左侧面

内置防潮袋,每箱不超 20KG,贴侧唛;客户定制 Logo 外箱;外箱 Logo 内容格式如下:

# Power-XTRA

侧唛:

PO NO.	Order 16-8		
MODEL NO.	900.600.503.005		
QTY	500PCS		
DATE	YYYY-MM-DD		
Mac	Made in China		
8 680187 000516			

√\_\_\_\_\_ 根据每次订单更改

根据每箱数量更改根据出货日期更改

条形码格式为: GS1(EAN.UCC)/EAN-13Bar 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: