

# POWER-XTRA

Model : Power-Xtra 1.2V Ni-Mh 1/3AA 300 Mah Rechargeable Battery

Ver: A1 NO: 900.869.503.082

## 1、SCOPE

This specification governs the performance of the following Power-Xtra Nickel-Metal hydride Cylindrical cell.

Model: 1/3AA300

Cell Size: AA ( $\phi 14.1 \pm 0.2 \times 16.3 \pm 0.5$ )

## 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

Description	Unit	Specification	Conditions
Nominal Voltage	V/Cell	1.2	Unit cell or stack-up batteries
Nominal Capacity	mAh	300	Standard Charge/Discharge
Standard Charge	mA	30 (0.1C)	T <sub>1</sub> =0~45°C(see Note1)
	Hour	14-16	
Fast Charge	mA	300 (1C)	-ΔV=0-5mV/cell or Timer CutOff=120% nominal capacity or Temp.Cutoff=55°C T <sub>1</sub> =10-45°C
	hour	1.2 Approx. (see Note 2)	
Trickle Charge	mA	(0.05C)~(0.1C)	T <sub>1</sub> =0~45°C
Standard discharge	mA	60 (0.2C)	T <sub>1</sub> = -30~60°C Humidity: Max.85%
Discharge Cut-off Voltage	V/cell	1.0	
Storage Temperature	°C	-30~65	Discharged state、Humidity、Max.85%
Typical Weight	Gram	8.5	Unit cell

## 4、PERFORMANCE

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

Ambient Temperature, T<sub>1</sub>: 20±5°C

Relative Humidity: 65±20%

Notes: Standard Charge/Discharge Conditions:

Charge: 30mA(0.1C) × 14 hours

Discharge: 60 mA(0.2C) to 1.0V/cell

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Test	Unit	Specification	Conditions	Remarks
Capacity	mAh	≥300	Standard Charge Discharge	up to 3 cycles are allowed
Open Circuit Voltage(OCV)	V/cell	1.25	Within 1 hour after standard Charge	
Internal Impedance	mΩ/cell	≤47	Upon fully charge(1KHz)	
High Rate Discharge(1C)	minute	≥54	Standard Charge, 1 hour rest Before discharge by 300mA (1C)to 1.0V/cell	up to 3 cycles are allowed
Overcharge	/	No leakage nor explosion	30mA(0.1C)Charge 28 days	
Charge Retention	mAh	≥210(70%)	Standard Charge, Storage: 28 days, Standard Discharge	
IEC Cycle Life	Cycle	≥500	IEC285(1993)4.4.1	(see Note 3)
Accelerated Cycle Life	Cycle	≥400	Charge:300mA(1C) Discharge: 300mA(1C) To 1.0V/cell, End-of:80% nominal Capacity	Cycling charging cut-off condition : -ΔV=0-5mV/cell and Timer cut-off=110% Nominal capacity Input and Temp.cutoff=55 °C
Leakage		No leakage nor deformation	Fully charged at :300mA(1C) for 1.2hrs Stand for 14 days	
Vibration Resistance		Change of voltage should be under 0.02V/cell,Change of impedance should be under 5 milli-ohm/cell	Charge the battery 0.1C 14hrs,then leave for 24hrs,check Battery before/after vibration, Amplitude 1.5mm Vibration 3000 CPM Any direction for 60mins.	
Impact Resistance		Change of voltage should be under 0.02V/cell Change of impedance should be under 5 milli-ohm/cell	Charge the battery 0.1C 14hrs Then leave for 24hrs,check bat-before/after dropped, Height 50cm Wooden board(thickness 30mm) Direction not specified,3 times.	

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## 5、 CONFIGURATION, DIMENSIONS AND MARKINGS

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、 WARRANTY

One year limited warranty against workmanship and material defects.

## 8、 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)  $T_1$ : Ambient Temperature.

(2) Approximate charge time from discharged state, for reference only.

(3) IEC285(1993)4.4.1 Cycle Life:

Cycle No.	Charge	Rest	Discharge
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

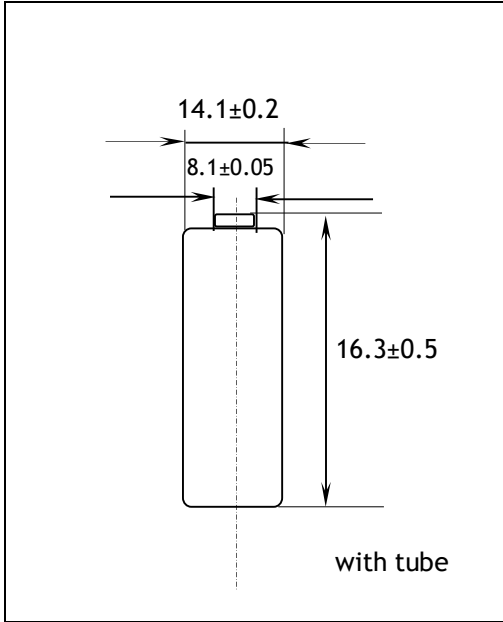
Cycles 1 to so shall be repeated until the discharge duration on any 50th Cycle becomes less than 3 h.

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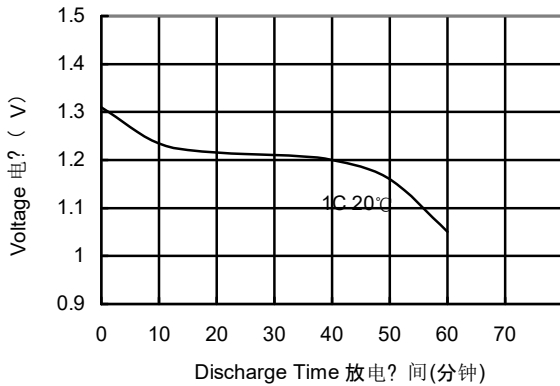
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## Specification

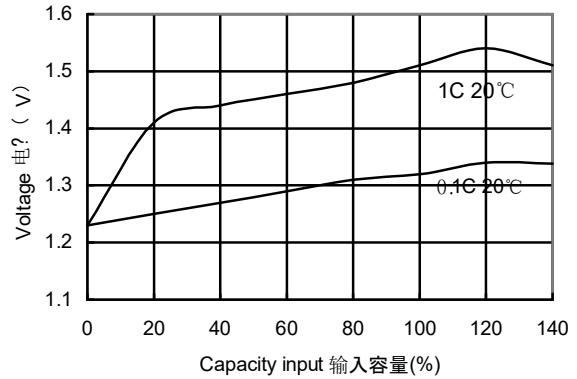


Nominal Capacity 额定容量		300 mAh	
Nominal Voltage 额定电压		1.2 V	
Charge current 充电电流	Standard 标准	30mA	
	Quick 快充	90 mA	
	Fast 急充	300mA	
Charge time 充电时间	Standard 标准	14~16 Hrs	
	Quick 快充	4.0 Hrs	
	Fast 急充	1.2Hrs	
Ambient Temperature 使用温度	Charge 充电	Standard 标准	0°C~45°C
		Quick 快充	10°C~45°C
		Fast 急充	10°C~45°C
	Discharge 放电		-30°C~60°C
Storage 储存		-30°C~65°C	
Internal Impedance(mΩ) (After Charge) 充电后内阻		Max≤47	
Weight 重量		8.5g	

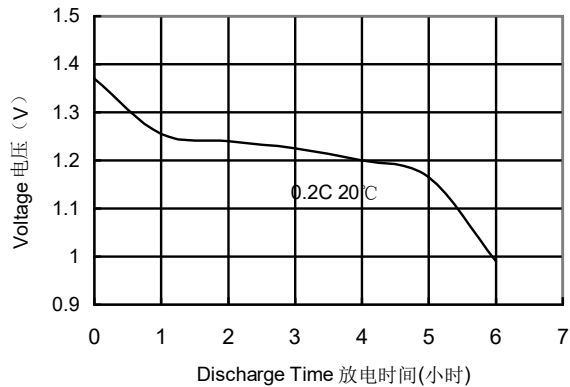
Discharge(at high rate) 高倍率放电



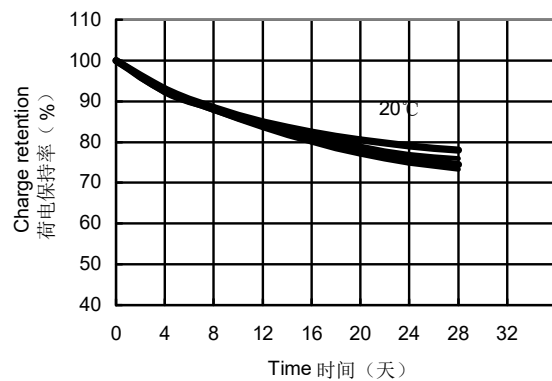
Charge 充电



Discharge(at low rate) 低倍率放电



Charge Retention 荷电保持能力



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## Drawing of Label 标签图.

Spray marking on light green PVC, 浅绿色 PVC 上喷码。日期按出货月份更改。MM 为月, YY 为年, 年在后, 月份在后 (年月), 如: 1709 (2017 年 09 月)。标签格式如下:



## Drawing Packing 包装图

整齐装托盘, 每箱不超 10KG, 内置防潮袋; 带客户 Logo 纸箱, 贴箱唛; 箱唛格式如下:

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ENA-13 Bar code 条形码/箱唛:

贴于纸箱正/背两侧, 侧唛尺寸 130\*100mm (箱唛尺寸视情况而定):

PO NO.	Order
MODEL NO.	
QTY	500PCS
DATE	2017-05-02
Made in China	

← 根据每次订单更改

← 根据每箱数量更改

← 根据出货日期更改