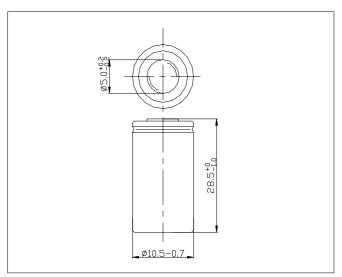
日期 (DATE):08/11/2008

### TYSONIC TY-2/3AAA300

### 单颗电池规格 Specifications of single cell

	标称电压 lominal vo		1.2V	
			0.2C 放电	1.0C 放电
容量 Capacity			Discharge	Discharge
		最小 Minimum	300min	58min
		典型 Typical	310min	62min
尺寸 Dimensions			mm	
		直径 Diameter	10.5 <sup>-0.7</sup>	
		高 Height	28.5 <sup>-1.0</sup>	
大约重量			克 gram	
Weight(Approximately)			6.8	
	电阻		80mΩ(Max)	
Internal Impedance At 1000 Hz			(充电后 After Charge)	
充电 标》		E Standard	30mA(0.1C)×15hrs	
Charge	快 速 Rapid		300mA(1.0C)×1.1hrs	
	nperature 充电 Charge	4-: VA:	$^{\circ}\mathbb{C}$	
环境温度 Ambient temperature		标准 standard	0°C to	<b>40</b> ℃
		快速 Rapid	0°C to	o 40°C
	放电 Discharge		-20°C to 50°C	
	贮藏 Storage		-20°C to 30°C	

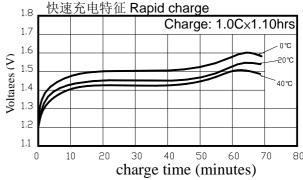
# 单颗电池尺寸包括 PVC (Dimensions with tube)

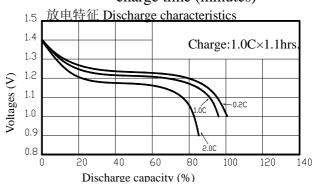


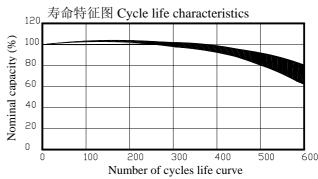
# 备注 Note:

- 标称容量是指 20℃时 0.2C 放电容量
   Nominal capacity, rated at 0.2C 20℃.
- 容量只作为参考
   Average capacity, for reference only.
- 重量和内阻也作为参考
   Weight and internal impedance are For reference.
- 4. 寿命测试依照 IEC 标准 Standard according as IEC of test cycle life。

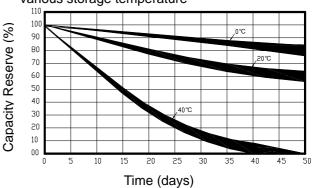
# 典型特征 Typical characteristics







Ni-MH 圆柱型电池在不同的温度荷电保持曲线图 Charge retention curves of Ni-MH cylindrical cell At various storage temperature



### **BAO TONG USA INC. dba TYSONIC BATTERIES**

### 1. PREFACE

The specification is suitable for the performance of NI-MH rechargeable battery produced by **Bao Tong USA Inc. dba TYSONIC BATTERIES.** 

#### 2. MODEL

TY-2/3AAA300

### 3. APPEARANCE

There shall be no such details as discoloration or electrolyte leakage or 0 voltage.

### 4. RATINGS

Description	Unit	Specification	Condition	
Nominal Voltage	V	1.2	Unit cell	
Typical Capacity	min	310	Standard Charge/Discharge	
Nominal Capacity	mAh	300	Standard Charge/Discharge	
Minimum Capacity	min	300	StandardCharge/ Discharge	
Standard Charge	mA	30(0.1C)	—— Ta=0~40°C	
	hour	15		
Fast Charge	mA	60(0.2C)~300(1.0C) with charge termination control	-△V=5mV/cell Timer cutoff=110%input capacity Temp. cutoff=40~45°C dT/dt=0.8°C/min(0.5 to 1.0C); 0.8~1°C/min(1C)	
	hour	6.0 approx.(0.2C) 1.1 approx(1.0C)		
Trickle Charge	mA	15(0.05C)~30(0.1C)	Ta=0~40°C	
Discharge Cut-off Voltage	V	1.0	Unit cell	
Maximum Discharging Current	mA	600(2.0C)	Ta =0~50°C 0.9v cut off	
Storage Temperature	$^{\circ}$	-20~+25(within 1 year) -20~+30(within 3 month) -20~+40(within 1 month) -20~+50(within 1 week)	*	
Typical Weight	g	6.8approx	*	

### 5. PERFORMANCE

Before proceed the following tests, the cells should be discharged at 0.2C to 1.0V cutoff. Unless otherwise stated, tests should be done within one month of delivery under the following conditions:

Ambient temperature:  $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$ 

Relative Humidity:  $65\pm20\%$ 

Standard Charge/Discharge Conditions:

Charge: 30 mA(0.1C)×15hrs

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

Test	Unit	Specification	Condition	Remarks
Capacity	min	300	Standard Charge / Discharge	Up to 3 cycles are allowed
Open circuit Voltage (OCV)	V	1.25	Within 1 hr after standard charge	Unit cell
Internal Impedance (Ri)	mΩ	80	Upon fully charge at 1kHz	*
High Rate Discharge (1.0C)	min	58	Standard Charge/rest 30min discharge at 1.0C to 1.0V	Up to 3 cycles are allowed
High Rate Discharge (2.0C)	min	N/A	Standard Charge/rest 30min discharge at 2.0C to 0.9V	Up to 3 cycles are allowed
Low Temperature Discharge	min	240	Standard Charge, Storage:24hrs at 0±2°C 0.2C discharge at 0±2°C	1.0V/cell Cut-off
Overcharge	N/A	No conspicuous deformation and/or leakage	0.1C charge for 48hrs	*
Charge reserve	min	180min	Standard charge Storage: 28 days Standard discharge (0.2C)	1.0V/cell Cut-off
IEC Cycle Life Test	Cycle	500	IEC61951-2(2003)7.4.1.1	*
Humidity	N/A	No leakage	Standard charged, stand for 14 days at 33 ±3°C and 80±5% of relative humidity	*
External Short Circuit	N/A	No fire and no explosion	After standard charge, short-circuit the cell at $20^\circ\!$	*
Safety Device Operation	N/A	No explosion	Forced discharge at 0.2C to a final voltage of 0V,then the current be increased to 1C and forced discharge continue for 60 min	Leakage of electrolyte and Deformation are acceptable
Free falling(drop)	N/A	△V<0.02V/cell △Ri<5%/cell	Charge at 0.1C for 16hrs,and then leave for 24hrs,check battery before / after drop Height: 50 cm Thickness of wooden board: 30mm Direction is not specified Test for 3 times	*