

1. Preface

This specification is suitable for the performance of the Ni-MH rechargeable battery pack.

2. Model

8PH-AA1800-H-K16

3. Appearance

There shall be no such defects as deformation, flaw, stain, discoloration or electrolyte leakage.

4. Nominal specification

Description		Specification	
Pack model		8PH-AA1800-H-K16	
Cell size		AA	
Dimensions	Length(mm)	57.5 ± 1.0	
	Width(mm)	14.5 ± 0.5	
	Height(mm)	102 ± 1.5	
	Weight(g)	Approx.225g	
Nominal Voltage(V)		9.6	
Nominal capacity(mAh)		1800	
Internal Impedance(m Ω)		≤ 280	
Discharge Cut-off Voltage		8.0V	
Ambient temperature	Charge	standard	0°C to 40°C
		fast	10°C to 40°C
	Discharge		-10°C to 50°C
	Storage	< 1 year	-10°C to 30°C
		< 3 months	-10°C to 40°C
		The relative humidity should keep with in $65 \pm 20\%$	

5.Characteristics

Unless otherwise specified, the standard range of atmospheric conditions for test as follows:

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

Relative humidity $65 \pm 20\%$

Atmospheric pressure $960 \pm 100\text{mbar}$

Accuracy of voltmeters and amperometers to be used in testing shall be equal to or better than the grade 0.5.

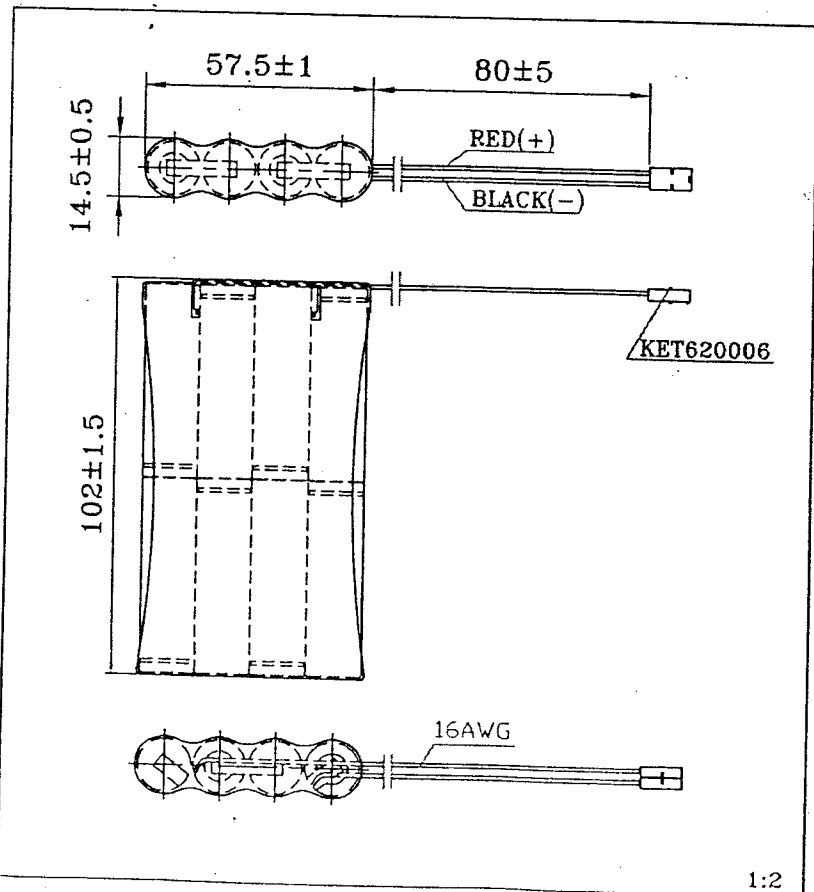
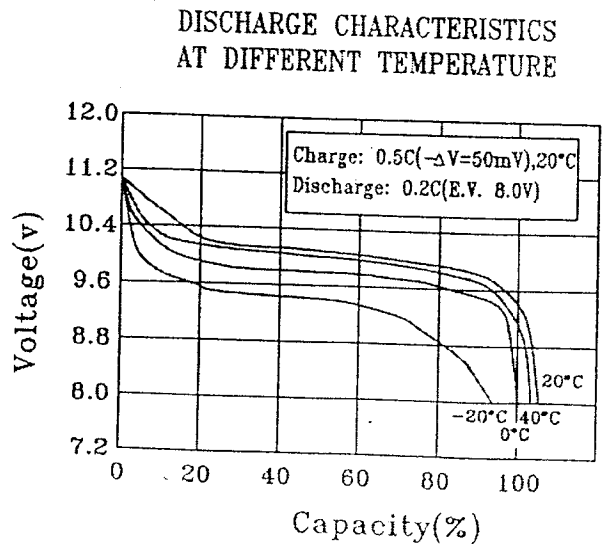
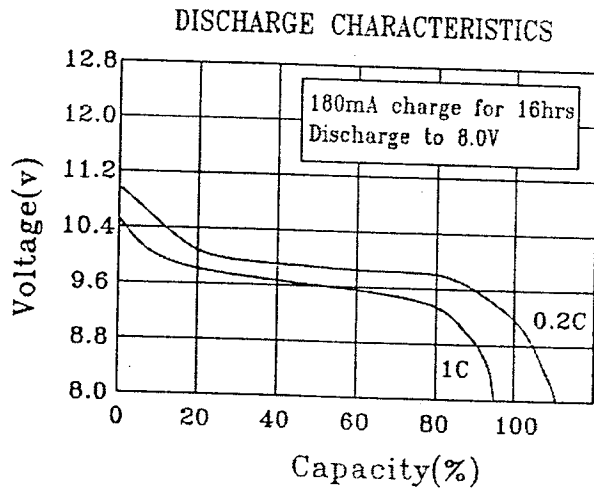
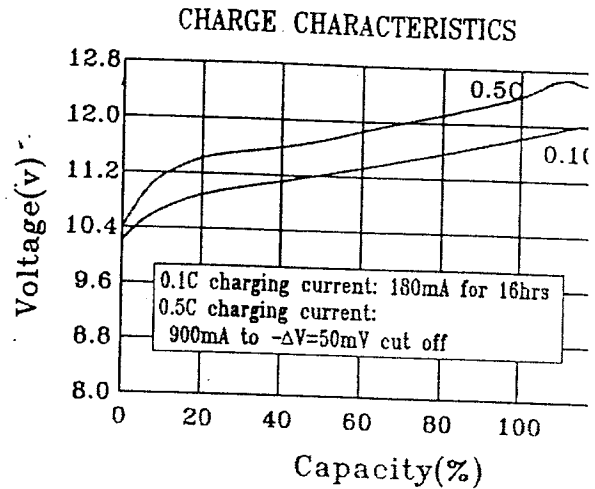
Test item		Condition		Specification	
1. Charge	Standard	Charge at 0.1C for 16 hours			
	Fast	Charge at 1C to $-\Delta V=50\text{mV}$			
2. Discharge		At 0.2C to 8.0V			
3. Discharge cut-off voltage				8.0V	
4. Capacity (mAh)	Minimun	Standard charge/discharge		800mAh	
	Typical	Standard charge/discharge		850mAh	
5. Internal resistance		After fully charge, rest 1 hour, measured at 1000Hz		$\leq 320\text{m}\Omega$	
6. Self-Discharge		The charged battery is stored for 28 days at $20^\circ\text{C} \pm 5^\circ\text{C}$. And the discharge time is measured at standard discharge		$\geq 225\text{minutes}$	
7. High temperature test		Store at 40°C 、 50°C 、 60°C for 2 hours then charge/discharge		No leakage	
8. Low temperature test		Store at 0°C for 2 hours then charge/discharge		No leakage	
9. Short circuit test		Short circuit after fully charge		No explode	
10. Drop test		Free fall on the concrete floor from 1 meter after fully charged		No leakage No short-circuit	
11. Cycle life	Charge		Rest	Capacity retention $\geq 60\%$ after 500cycles	
	1	0.1C for 16h	0		0.25C for 2h20min
	2~48	0.25C for 3h10min	0		0.25C for 2h20min
	49	0.25C for 3h10min	0		0.2C to 8.0V
	50	0.1C for 16h	1~4h		0.2C to 8.0V

8PH-AA1800-H-K16

Ni-MH rechargeable cylindrical battery pack (Data Sheet)

Specification

Nominal Voltage		9.6V	
Dimensions	Length	57.5±1.0mm	
	Width	14.5±0.5mm	
	Height	102±1.5mm	
	Apx. Weight	225g	
0.2C Discharge Capacity	Typical	1850mAh	
	Nominal	1800mAh	
Typical Internal Impedance		Less than 280mΩ	
Charge	Standard	180mA for 16hrs	
	Fast	900mA for about 150min	
Life expectancy		500 cycles	
Operating Temperature	Charge	Standard	0°C to 40°C
		Fast	10°C to 40°C
	Discharge		-10°C to 50°C
	Storage	< 1 year	-10°C to 30°C
< 3 months		-10°C to 40°C	



The chemical component

1. Ni-MH Bttery

Component content (%)			
	9V250	AA1800 AA2000 AA2300	SC3000 SC3300
Ni (OH) ₂	21	31	30
Ni (grid)	5	4	4
MH alloy(La, Ni, Al, Co, Mn)	25	37	36
Co	2	1.6	1.6
Fe (case, cover, grid)	28	18	21
KOH	2	2	2
PP seperator	1.5	2	2
PP plastic	12	-	-

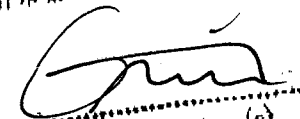
2. Ni-Cd Bttery

Component content (%)	
	SC2000/SC2400
Ni (OH) ₂	28
Co	1.6
Cd	30
Ni (grid)	3
Fe (case, cover, grid)	29
PAM seperator	2.6
KOH	2

3. Ni-Cd Battery

Component content (%)		
	AA800/AA1100	SC1600
Ni(OH) ₂	24	26
Co	1.3	1.3
Cd	28	28
Ni (grid)	3	3
Fe (case, cover, grid)	32	32
PAM seperator	2	2.5
KOH	2	2

For and on behalf of
广州市超能电池有限公司



Authorized Signature(s)