

1. Description

Rechargeable Nickel Metal Hydride battery packs. 9 x AA, 10.8V, 2200mAh, PVC shrink, 6" wire.

2. Model

H2A09P10V22W

3. Appearance

The appearance of battery cells and pack shall contain no such defects as deformation, flaw, stain, discoloration or electrolyte leakage.

4. General Specifications

Cell Specifications		
Size		AA
Nominal Voltage (V)		1.2
Nominal Capacity (mAh)		2200
Pack Specifications		
Nominal Voltage (V)		10.8
Nominal Capacity (mAh)		2200
Internal Impedance (mΩ)		≤ 500
Discharge Cut-Off Voltage (V)		9.0
Configuration		9 cells in parallel
Connector type		6" Wire
Cover		PVC shrink
Protection Module		PTC
Dimensions (mm)		Length 130±1.0 x Width 14.5±0.5 x Height 52.0±1.0
Weight (g)		270 approx.
Charge Temperature	Standard	0°C / +40°C
	Fast	+10°C / +40°C
Discharge Temperature		-10°C / +50°C
Storage Temperature		
	< 3 months	-10°C / +40°C
	< 1 year	-10°C / +30°C

5. Electrical Characteristics
5.1 Test conditions

Ambient temperature: 20±5°C

Relative humidity: 65±20%

Atmospheric pressure: 960±100mBar

Accuracy of Voltmeter and Amperometer used in test shall be equal to or better than Grade 0.5.

5.2 Approval Standards

Item	Standard	Condition	Standard		
1. Charge	Standard	Charge at 0.1C	~16 hours		
	Fast	Charge at 0.5C to $-\Delta V = 45mV$	~150 minutes		
2. Discharge	Standard	At 0.2C to 9.0V			
3. Discharge cut-off voltage			9.0V		
4. Capacity	Typical	Standard charge / discharge	2200mAh		
	Minimum	Standard charge / discharge	2100mAh		
5. Internal impedance		At 1 hour after fully charged, measured at 1000Hz	$\leq 500m\Omega$		
6. Self discharge		Store the charged battery for 28 days at $20\pm 5^{\circ}C$, @standard discharge	≥ 180 minutes		
7. High temperature test		Store cells at $40^{\circ}C$, $50^{\circ}C$, $60^{\circ}C$, charge/discharge	No leakage		
8. Low temperature test		Store cells at $0^{\circ}C$, then charge/discharge	No leakage		
9. Short circuit test		Short circuit the cells after fully charged	No explosion		
10. Drop test		1 meter free drop on concrete floor after charge	No leakage		
11. Cycle life	Cycle	Charge	Rest	Discharge	
	1	0.1C for 16h	0	0.25C for 2h20min	Capacity retention
	2 – 48	0.25C for 3h10min	0	0.25C for 2h20min	$\geq 60\%$ initial after
	49	0.25C for 3h10min	0	0.2C to 9.0V	500 cycles
	50	0.1C for 16h	1-4h	0.2C to 9.0V	

6. Performance & Dimensions

