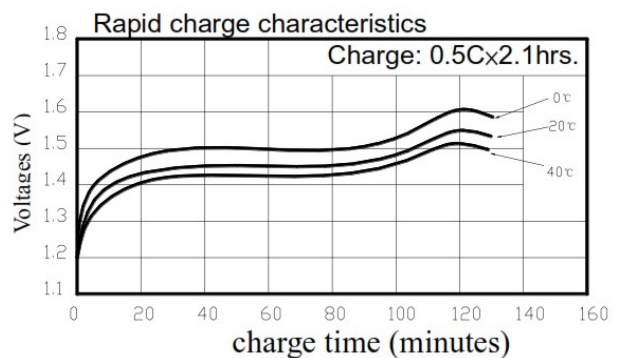
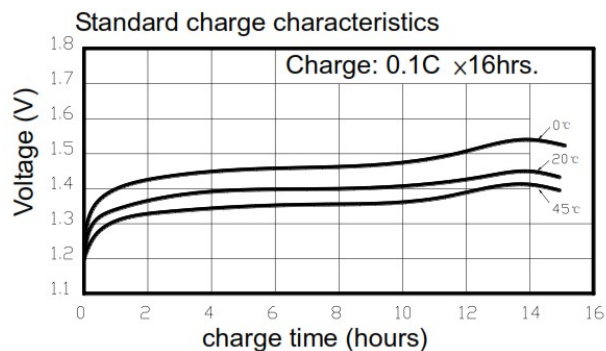


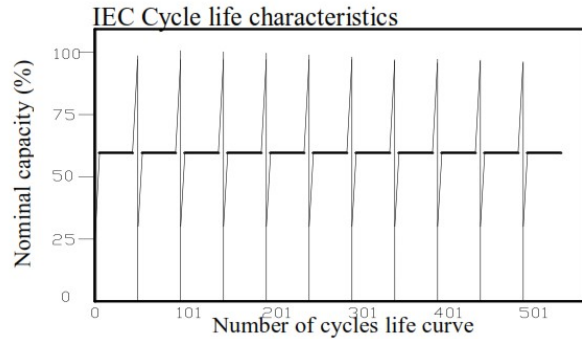
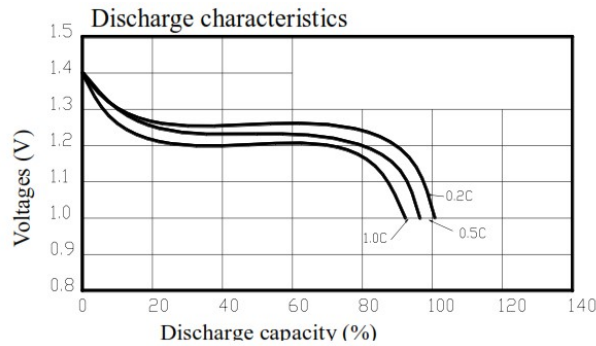


This specification shall be applied to battery cell supplied by AA Portable Power Corp.

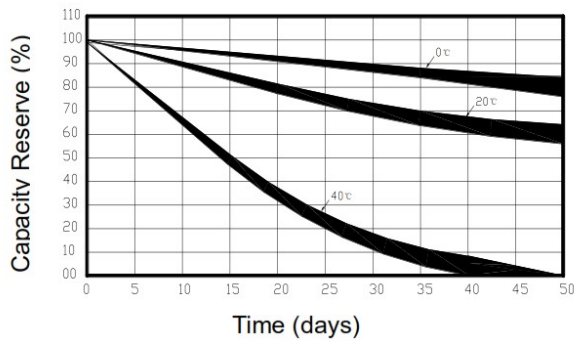
Product Specification

Type	Nimh
Model	MH-AAA1000APZ
Voltage	Nominal: 1.2V
Capacity (0.2C discharge, 20°C)	Nominal: 1000 mAh, average
Standard Charge	100 mA / 0.1C, 16hrs
Fast Charge	200 mA / 0.2C ~ 500mA / 0.5C With charger termination control 6hrs approx.(0.2C) 2.1hrs approx.(0.5C)
Trickle Charge	20 mA / 0.02C ~ 50mA / 0.05C
Max. Discharge	2000 mA / 2C momentary
Discharge cut-off voltage	1V
Internal impedance (23±2°C)	≤ 40 mΩ
Dimension (Including shrink sleeve/label)	Diameter: 10.5 ±0.2mm; Height: 44.5 ±1mm
Operation temperature	Charge: 0~ 40 °C Discharge: - 20 ~ 50 °C
Storage temperature	≤ 1month: -20~ 60 °C 1-3 months: -20~ 30 °C 3-12 months: -20~ 25 °C
Typical Weight	13.9 g





Ni-MH Charge retention curves of Ni-MH cylindrical cell At various storage temperature



Testing environment

Unless otherwise specified, all tests stated in this document shall be performed at $20 \pm 5^\circ\text{C}$,
 Relative Humidity: $65 \pm 20\%$

Performance and test conditions

- Standard charge: 0.1C/100 mA x 16hrs
- Standard discharge: 0.2C/200 mA to 1.0V/cell

Test	Unit	Specification	Condition	Remarks
Capacity	min	≥ 285	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)	m Ω	≤ 40	Upon fully charge at 1kHz	
High Rate	min	N/A	Standard Charge/rest 30min	



Discharge (2.0C)			discharge at 2.0C to 0.9V	
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		0.1C charge for 48hrs	
Charge Retention	min	≥180	Standard charge Storage: 28 days Standard discharge (0.2C)	1.0V/cell Cut-off
IEC Cycle Life Test	Cycle	≥300	IEC61951-2 ED3.0	
Humidity	N/A	No leakage	Standard charged, stand for 14 days at 33±3°C and 80±5% of relative humidity	

Welding allowable part on a cell

Welding is not allowed on cell side wall

Insulation

Can top face (positive terminal) and side is covered with insulation tubing

Charge State of Battery before shipment

Approximately 30% charged

Precautions

- Batteries should be charged prior to use.
- When using a new battery for the first time or after long term storage, please fully charge the battery before use.
- For charging methods please refer to our technical handbook.
- Use the correct charger for Ni-Cd or Ni-MH batteries.
- Do not reverse charge batteries.
- Do not short circuit batteries, permanent damage to batteries may result.
- Do not incinerate or mutilate batteries, may burst or release toxic material.
- Do not solder directly to cells or batteries.
- Do not subject batteries to adverse condition such as extreme temperature, deep cycling



and excessive overcharge/ over discharge.

- Store batteries in a cool dry place.
- Do not mix AA Portable Power batteries with other battery brands or batteries of a different chemistry such as alkaline and zinc carbon.
- Do not mix new batteries in use with semi-used batteries, over-discharge may occur.
- Avoid batteries being used in an airtight compartment. Ventilation should be provided inside the battery compartment; otherwise batteries may generate hydrogen gas, which could cause an explosion if exposed to an ignition source.
- When connecting a battery pack to a charger, ensure correct polarity.
- If find any noise, excessive temperature or leakage from a battery, please stop its use.
- When the battery is hot, please do not touch it and handle it, until it has cooled down.
- Do not remove the outer sleeve from a battery pack nor cut into its housing.
- When find battery power down during use, please switch off the device to avoid over discharge.
- When not using a battery, disconnect it from the device.
- Unplug a battery by holding the connector itself and not by pulling at its cord.
- After use, if the battery is hot, before recharging it, allow it to cool in a well-ventilated place out of direct sunlight.
- Never put a battery into water or seawater.
- During long term storage, battery should be charged and discharged once every 3 months.
- Do not attempt to take batteries apart or subject them to pressure or impact. Heat may be generated or fire may result. The alkaline electrolyte is harmful to eyes and skin, and it may damage clothing upon contact.
- Keep away from children. If swallowed, contact a physician at once.
- Battery failure, may not be thrown away, please recycling.
- During transport and storage, please separate the battery apart, to prevent external short circuit.



AA Portable Power Corp
825 S 19th Street, Richmond, CA 94804
Tel: 510-525-2328 Fax: 510-439-2808
<http://www.batteryspace.com> Sales@batteryspace.com

Please contact us when you need any help for custom battery packs and safety concerns

AA Portable Power Corp/dba BatterySpace.com

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