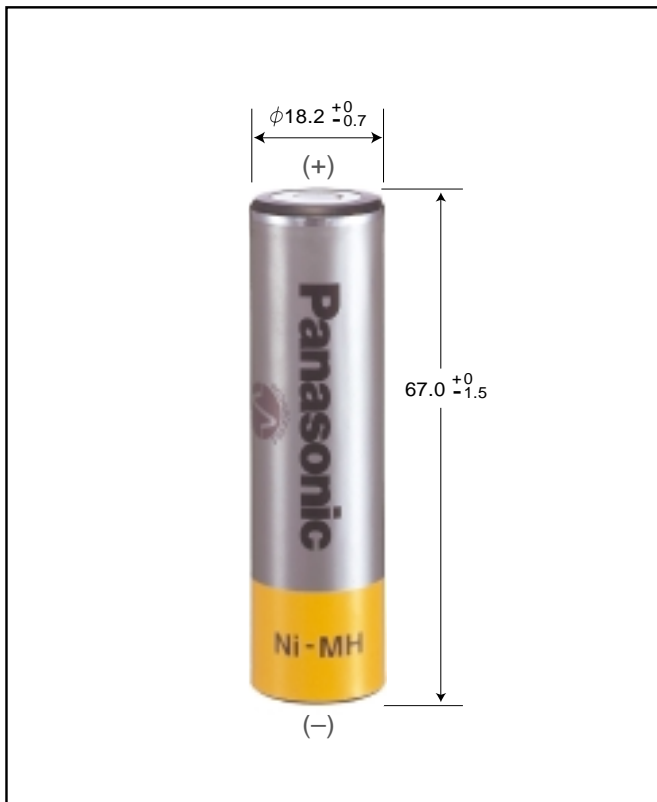


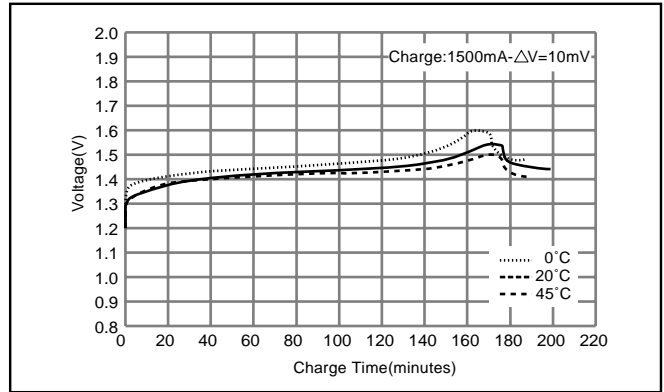
# INDIVIDUAL DATA SHEETS

## HHR450A Cylindrical f/A size

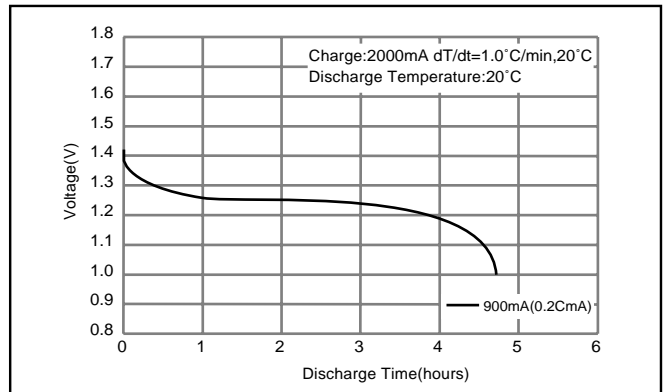
Dimensions (with Tube) (mm)



## Typical Charge Characteristics



## Typical Discharge Characteristics



## Specifications

|                    |                   |
|--------------------|-------------------|
| Diameter           | 18.2 +0 / -0.7 mm |
| Height             | 67.0 +0 / -1.5 mm |
| Approximate Weight | 60g               |

|  |              |                 |               |
|--|--------------|-----------------|---------------|
| Nominal Voltage  |              | 1.2V            |               |
| Discharge Capacity*                                    | Average**    | 4500mAh         |               |
|  | Rated (Min.) | 4200mAh         |               |
| Approx. Internal impedance at 1000Hz at charged state. |              | 25mΩ            |               |
| Charge   | Standard     | 420mA x 16hrs.  |               |
|  | Rapid        | 2000mA dT/dt*** |               |
| Ambient Temperature                                    | Charge       | Standard        | 0°C to 45°C   |
|  |              | Rapid           | 0°C to 40°C   |
|  | Discharge    |                 | -10°C to 65°C |
|  | Storage      | < 1 year        | -20°C to 35°C |
| < 3 months   |              | -20°C to 45°C   |               |
| < 1 month  |              | -20°C to 55°C   |               |

\* After charging at 0.1CmA for 16 hours, discharging at 0.2CmA.

\*\* For reference only.

\*\*\* Please consult Panasonic for details of dT/dt.

Battery performance and cycle life are strongly affected by how they are used. In order to maximize battery safety, please consult Panasonic when determining charge / discharge specs, warning label contents and unit design.

