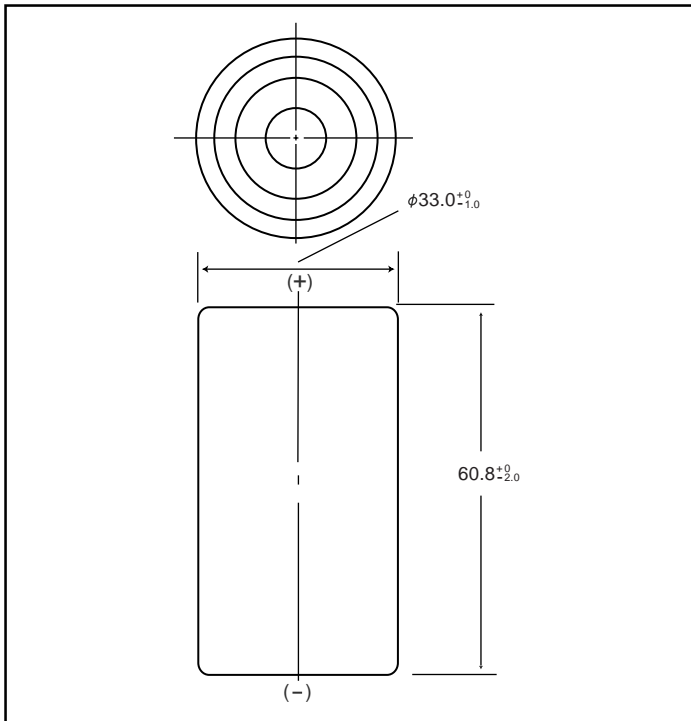


NICKEL METAL HYDRIDE BATTERIES: INDIVIDUAL DATA SHEET

HHR650D Cylindrical D size (HR 33/62)

Dimensions (with Tube) (mm)



Specifications

| | mm | inch |
|--------------------|-------------|--------------|
| Diameter | 33.0+0/-0.1 | 1.3+0/-0.04 |
| Height | 61.0+0/-1.5 | 2.39+0/-0.08 |
| Approximate Weight | Grams | Ounces |
| | 170 | 6.0 |

| | | | | |
|--|--------------|-------------------------|-------------|---------------|
| Nominal Voltage | | 1.2V | | |
| Discharge Capacity* | Average** | 6800 mAh | | |
| | Rated (Min.) | 6500 mAh | | |
| Approx. Internal impedance at 1000Hz at charged state. | | 2mΩ | | |
| Charge | Standard | 650mA (0.1It) x 16hrs. | | |
| | Rapid | 6500mA (1It) x 1.2 hrs. | | |
| Ambient Temperature | Charge | Standard | °C | °F |
| | | | 0°C to 45°C | 32°F to 113°F |
| | Rapid | 0°C to 40°C | | 32°F to 104°F |
| | | Discharge | | -10°C to 65°C |
| Storage | < 2 years | -20°C to 45°C | | -4°F to 113°F |
| | < 6 months | -20°C to 55°C | | -4°F to 131°F |

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

** For reference only.

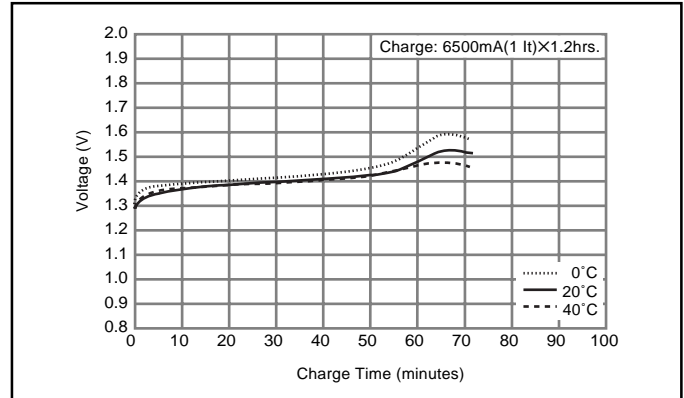
Battery performance and cycle life are strongly affected by how they are used. In order to maximize battery safety, please consult Panasonic when determining charge / discharge specs, warning label contents and unit design.

Note: [It] was previously expressed as [C]. [It] is an IEC standard expression for the amount of charge or discharge current and is expressed as:

$$It(A) = Cn (Ah)/1h.$$

- [It] is the reference test current in amperes
- [Cn] is the rated capacity of the cell or battery in Ampere-hours.
- n = the time base [hours] for which the rated capacity is declared

Typical Charge Characteristics



Typical Discharge Characteristics

