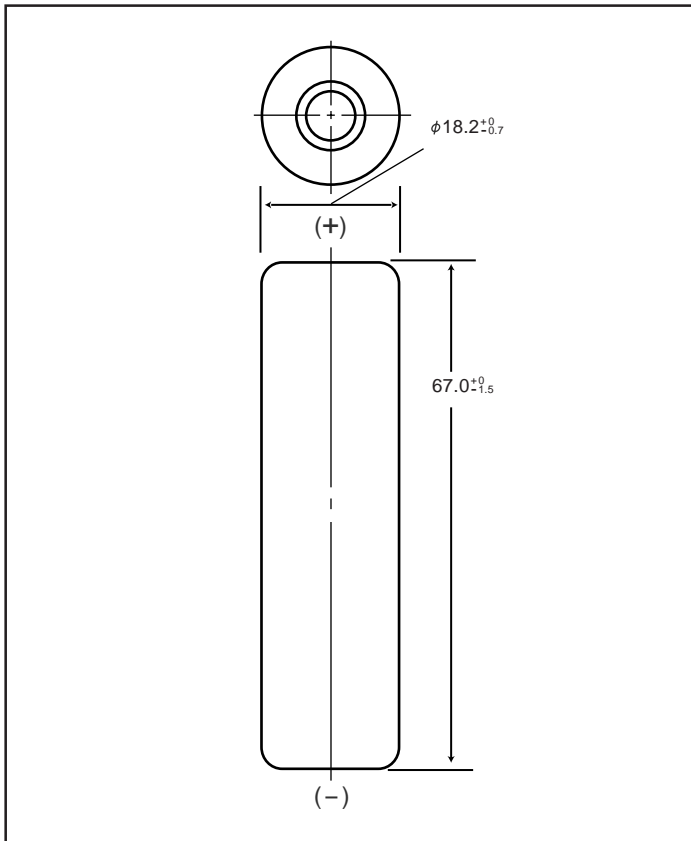


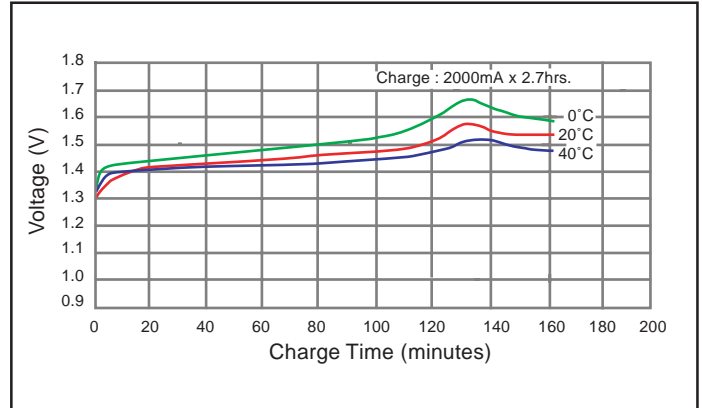
NICKEL METAL HYDRIDE BATTERIES: INDIVIDUAL DATA SHEET

HHR450A Cylindrical L-fat A size

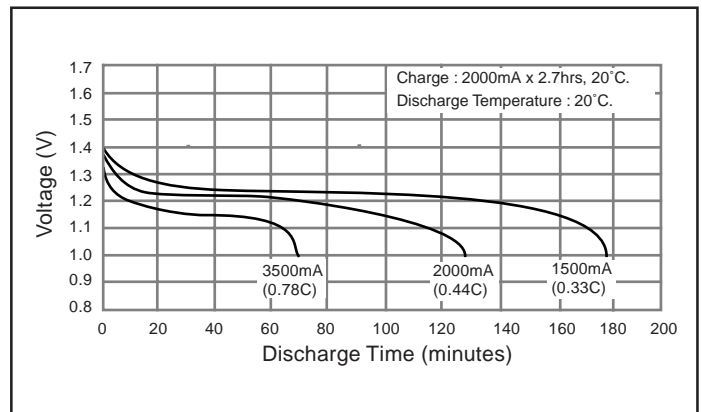
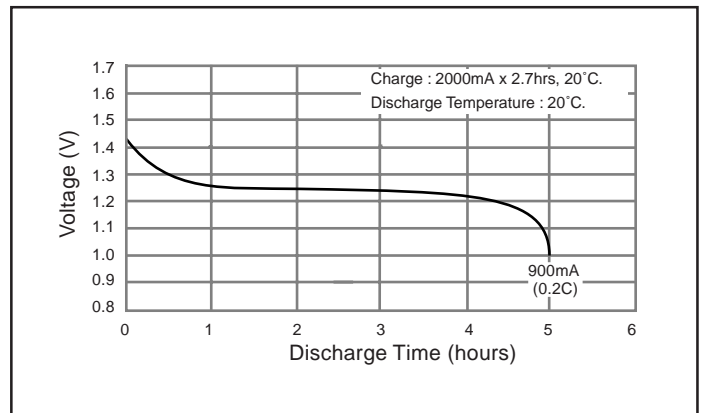
Dimensions (with Tube) (mm)



Typical Charge Characteristics



Typical Discharge Characteristics



Specifications

	mm	inch	
Diameter	18.2 +0 / -0.7	0.72+0 / -0.03	
Height	67.0 +0 / -1.5	2.64 +0 / -0.06	
Approximate Weight	Grams	Ounces	
	60g	2.12	
Nominal Voltage		1.2V	
Discharge Capacity*	Average**	4500mAh	
	Rated (Min.)	4200mAh	
Approx. Internal impedance at 1000Hz at charged state.		25mΩ	
Charge	Standard	420mA (0.1C)x 16hrs.	
	Rapid	2000mA x 2.7hrs.	
Ambient Temperature	Charge	Standard	°C: 0°C to 45°C / °F: 32°F to 113°F
		Rapid	°C: 0°C to 40°C / °F: 32°F to 104°F
	Discharge		°C: -10°C to 65°C / °F: 14°F to 149°F
	Storage	< 1 year	°C: -20°C to 35°C / °F: -4°F to 95°F
< 3 months		°C: -20°C to 45°C / °F: -4°F to 113°F	
< 1 month		°C: -20°C to 55°C / °F: -4°F to 131°F	

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

** 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.