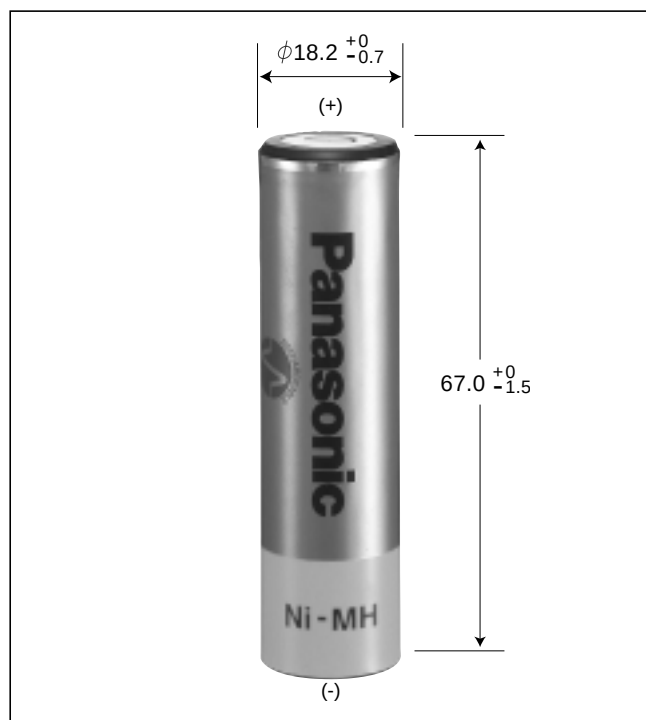
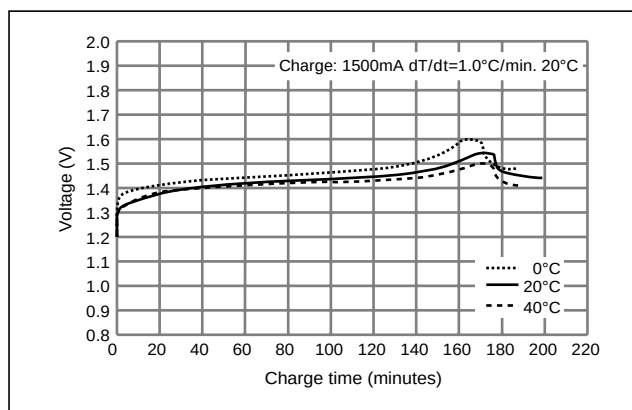
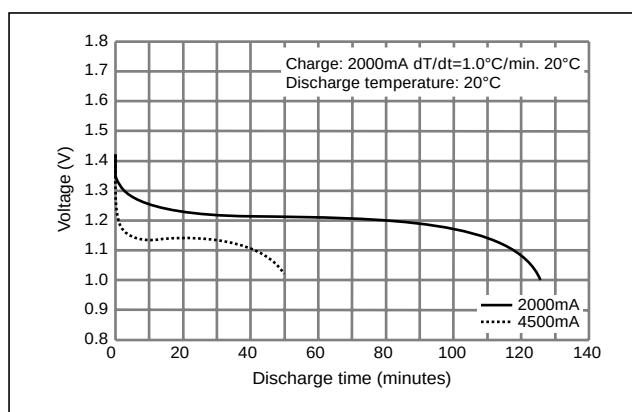
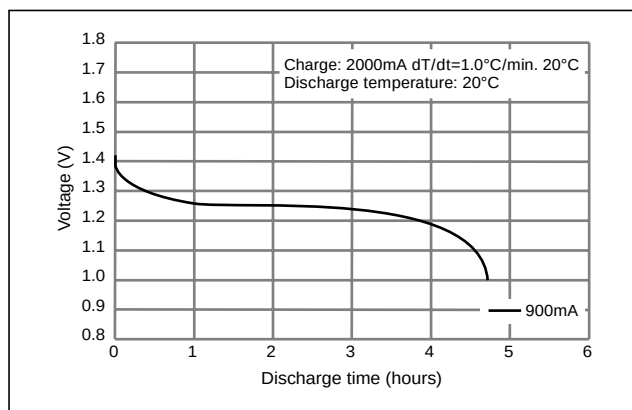


HHR-450A/FT Cylindrical LFat/A size**Dimensions (with tube)** (mm)**Typical charge characteristics****Typical discharge characteristics****Specifications**

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

Nominal Voltage		1.2V	
Discharge Capacity ^{*1}		Average ^{*2}	4,500mAh
		Rated (min)	4,200mAh
Approx. Internal impedance at 1000Hz at charged state		25mΩ	
Charge		Standard	420mA x 16hrs.
		Rapid ^{*3}	2,000mA 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

^{*1} After charging at 0.1It for 16 hours, discharging at 0.2It.

^{*2} For reference only.

^{*3} Need specially designed control system. Please contact Panasonic for details.

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 design.

*The data in this document are for descriptive purposes only and are not intended to make or imply any guarantee or warranty.