

BELNIMHAA2200

1.2V 2200 mAh

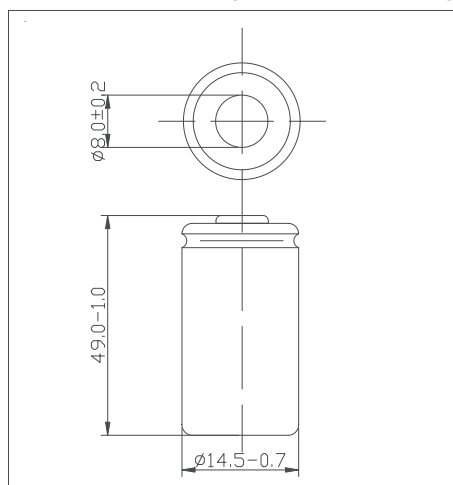


(Type): **LS49AA2200P**

Specifications of single cell

Nominal voltage		1.2V
Capacity		0.5C Discharge
	Minimum	116min
	Typical	121min
Dimensions		mm
	Diameter	14.5 ^{-0.7}
	Height	49.0 ^{-1.0}
Weight(Approximately)		gram
		28.0
Internal Impedance At 1000 Hz		30mΩ(Max) (After Charge)
Charge	Standard	220mA(0.1C)×16hrs
	Rapid	1100mA(0.5C)×2.1hrs
Ambient temperature	Charge	°C
		standard
		0°C to 40°C
	Discharge	Rapid
		0°C to 40°C
	Storage	
	-20°C to 50°C	
	-20°C to 30°C	

PVC (Dimensions with tube)

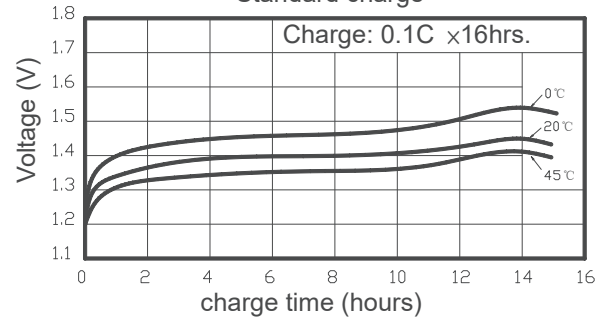


Note:

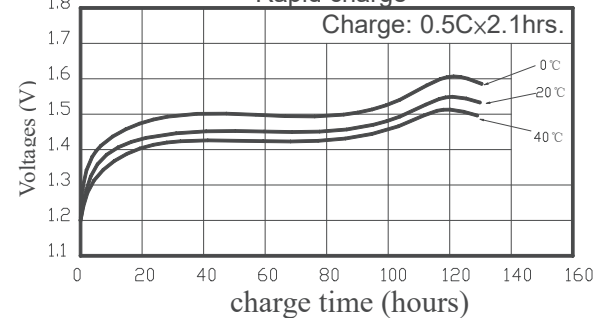
1. Nominal capacity, rated at 0.2C 20°C.
2. Average capacity, for reference only.
3. Weight and internal impedance are For reference.
4. Standard according as IEC of test cycle

Typical characteristics

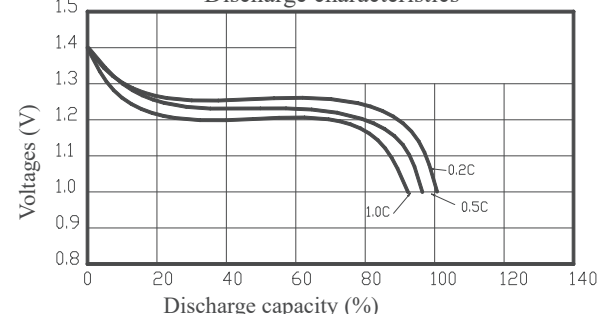
Standard charge



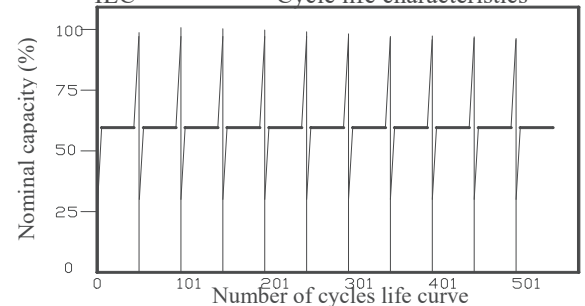
Rapid charge



Discharge characteristics

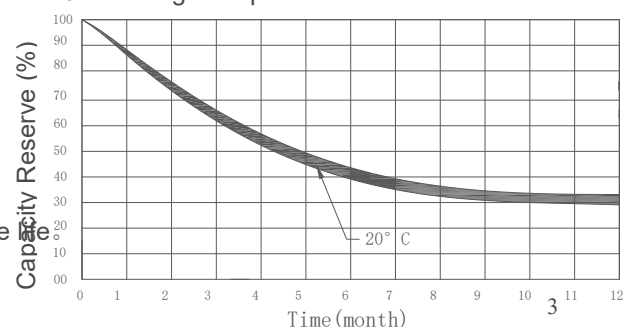


IEC Cycle life characteristics



Ni-MH

Charge retention curves of Ni-MH cylindrical cell At 20°C storage temperature



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4.

Standard according as IEC of test cycle life.

1. PREFACE

Time (month)

The specification is suitable for the performance of NI-MH rechargeable battery produced by the SHENZHEN FBTECH CO., LTD.

2. MODEL

AA2200mAh 1.2V

3. APPEARANCE

There shall be no such details as discoloration or electrolyte leakage or 0 voltage.

4. RATINGS

Description	Unit	Specification	Condition
Nominal Voltage	V	1.2	Unit cell
Typical Capacity	min	121	Standard Charge/Discharge
Nominal Capacity	mAh	2200	Standard Charge/Discharge
Minimum Capacity	min	116	Standard Charge/ Discharge
Standard Charge	mA	220(0.1C)	Ta=0~40℃ (see note)
	hour	16	
Fast Charge	mA	1100(0.5C) With charge termination control	-ΔV=5mV/cell Timer cutoff=110%input capacity Temp. cutoff=40~45℃ dT/dt=0.8℃/min(0.5 to 1.0C); 0.8~1℃/min(1C)
	hour	2.1 approx.(0.5C)	
Trickle Charge	mA	44(0.02C)~110(0.05C)	Ta=0~40℃ (see note 1)
Discharge Cut-off Voltage	V	1.0	Unit cell
Maximum Discharging Current	mA	4400(2.0C)	Ta =0~50℃ 0.8v cut off
Storage Temperature	℃	-20~+25(within 1 year) -20~+30(within 3 month) -20~+40(within 1 month) -20~+50(within 1 week)	*
Typical Weight	g	29 approx	*

5. PERFORMANCE

Before proceed the following tests, the cells should be discharged at 0.2C to 1.0V cutoff. Unless otherwise stated, tests should be done within one month of delivery under the following conditions:

Ambient temperature: $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$

Relative Humidity: $65 \pm 20\%$

Note Standard Charge/Discharge Conditions:

Charge: $220 \text{ mA}(0.1\text{C}) \times 16\text{hrs}$

Discharge: $440\text{mA}(0.2\text{C})$ to 1.0V/cell

Test	Unit	Specification	Condition	Remarks
Capacity	min	≥ 300	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	≤ 30	Upon fully charge at 1kHz	*
High Rate Discharge (2.0C)	min	$\geq \text{N/A}$	Standard Charge/rest 30min discharge at 2.0C to 0.8V	*
Low Temperature Discharge	min	≥ 240	Standard Charge, Storage:24hrs at $0 \pm 2^{\circ}\text{C}$ 0.2C discharge at $0 \pm 2^{\circ}\text{C}$	1.0V/cell Cut-off
Overcharge	N/A	No conspicuous deformation and/or leakage	0.1C charge for 48hrs	*
Charge Retention	mAh	$\geq 30\%$ First capacity)	Standard charge Storage at 20 degree: 1 year Standard discharge (0.2C)	1.0V/cell Cut-off
IEC Cycle Life Test	Cycle	≥ 500	IEC61951-2 ED3.0	*

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Humidity	N/A	No leakage	Standard charged, stand for 14 days at 33 $\pm 3^{\circ}\text{C}$ and 80 $\pm 5\%$ of relative humidity	*
External Short Circuit	N/A	No fire and no explosion	After standard charge, short-circuit the cell at 20 $\pm 5^{\circ}\text{C}$ until the cell temperature returns to ambient temperature.(cross section of the wire or connector should be more than 0.75mm ²)	*
Safety Device Operation	N/A	No explosion	Forced discharge at 0.2C to a final voltage of 0V,then the current be increased to 1C and forced discharge continue for 60 min	Leakage of electrolyte and Deformation are acceptable
Free falling(drop)	N/A	$\Delta V < 0.02\text{V}/\text{cell}$ $\Delta Ri < 5\%/\text{cell}$	Charge at 0.1C for 16hrs,and then leave for 24hrs,check battery before / after drop Height: 50 cm Thickness of wooden board: 30mm Direction is not specified Test for 3 times	*

Notes:

1.

Ta: Ambient Temperature

2.

Approximate charge time from discharged state, for reference only.

3.

Please activate the battery once every 3 months according to the following method. Otherwise, may cause the battery capacity attenuation, reducing the battery service life and so on.

Charge at 0.1C for 16 hrs, rest 10 min, then discharge with 0.2C to 1.0V/cell,rest 10 min, then charge at 0.2C to 150min.