

**AA Portable Power Corp.**

2700 Rydin Road, Unit D, Richmond CA 94804

Tel: 510-525-4710 Fax: 510-525-4728

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Email: sales@oportablepower.comWeb: www.aoportablepower.com**SPECIFICATION FOR JJJ-LC14500****1、 SCOPE**

- 1.1 This Specification applies to the Li-ion rechargeable Battery HCT14500.
1.2 This Specification shall be applied to single cell.

2、 TYPE AND MODEL**2.1 TYPE**

Li-ion Rechargeable Battery

2.2 MODEL

HCT14500(insulation tube is available upon request)

3、 SPECIFICATION

Item	Specification	
	Standard	Test condition
3.1 Nominal capacity	750 mAh	Discharge current 0.2C ₅ A, cut-off voltage 2.75V
3.2 Nominal voltage	3.7 V	
3.3 Charge cut-off voltage	4.2 V	
3.4 Discharge cut-off voltage	2.75 V	
3.5 Max current of constant charge	2C ₅ A	
3.6 Max current of constant discharge	2C ₅ A	
3.7 Standard weight	20.0±0.5 g	Cell only
3.8 Operating temperature range	Charge	0 °C ~+45 °C
	Discharge	-20 °C ~+60 °C

4、 DIMENSION& APPEARANCE**4.1 DIMENSION**

Diameter: 14.1±0.2 mm

Length: 48.7±0.5 mm

4.2 APPEARANCE

There shall be no defects such as remarkable scratches, leakage or deformation.

5、 PERFORMANCE**5.1 STANDARD TEST CONDITION**

Test shall be carried out at 23±2 °C temperature with 25% to 85% relative humidity, unless



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otherwise specified.

Humidity can be discharged unless it affects test result.

5.2 STANDARD CHARGE

Charge the cell with the constant current of $0.2C_5A$ to 4.2 V, then charge with 4.2 V until the current approaching $0.01C_5A$.

5.3 STANDARD DISCHARGE

Discharge the cell with the constant current of $0.2C_5A$ to the end-voltage 2.75V.

5.4 ELECTRICAL CHARACTERISTIC

Item	Standard	Test Condition
5.4.1 Open-Circuit Voltage	3.6V Minimum	The open-circuit voltage is measured within two weeks after half charge at $23 \pm 2^\circ C$
5.4.2 Internal Resistance	80 m Ω Maximum (Cell with PTC)	The internal resistance is measured within one hour after half charge with 1 KHz AC at $23 \pm 2^\circ C$.
5.4.3 Battery Capacity 1	300 min Minimum	Discharge the cell with the constant current of $0.2C_5A$ to the end-voltage 2.75V after standard charge at $23 \pm 2^\circ C$
5.4.4 Battery Capacity 2	120 min Minimum	Discharge the cell with the constant current of $0.5C_5A$ to the end-voltage 2.75V after standard charge at $23 \pm 2^\circ C$
5.4.5 Battery Capacity 3	57 min Minimum	Discharge the cell with the constant current of $1C_5A$ to the end-voltage 2.75V after standard charge at $23 \pm 2^\circ C$
5.4.6 Cycle Life	300 cycles Minimum	Charge the cell with the constant current of $1C_5A$ to 4.2 V and charge with 4.2 V until the current approaching $0.01C_5A$, after 0.5~1 hour discharge with $1C_5A$ to the end-voltage 2.75V.
5.4.7 Self Discharge	255 min Minimum	Discharge with the current of $0.2C_5A$ to 2.75V after the storage of 28 days for the fully charged battery at $23 \pm 2^\circ C$.
5.4.8 Temperature Characteristics	55 min Minium	Discharge with the current of $1C_5A$ to 2.75V at $55 \pm 2^\circ C$ after standard charge.
	210 min Minium	Discharge with the current of $0.2C_5A$ to 2.75V at $-20 \pm 2^\circ C$ after standard charge.

5.5 RELIABILITY

Item	Standard	Test condition
5.5.1 Heat Cycle Test	No leakage	10 cycles exposure of the following condition after standard charge. $60^\circ C, 1h \longleftrightarrow -20^\circ C, 2h$



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		1h
5.5.2 Drop Test	No leakage No deformation	Drop the battery half charged from 1m height onto concrete board of 18~20mm 2 times at $23 \pm 2^{\circ}\text{C}$
5.5.3 Vibration	No leakage No deformation	The battery fully charged is tested at the following condition. Vibration at an amplitude of 0.38mm and a frequency of 10~30Hz is continued in any direction for 30 minutes.

6、 VENT (RUPTURE)

The most possible danger would be the sudden rise of internal pressure witch causes the explosion or the cell.

A Safety device is built inside the cell to prevent the cell from such an explosion, when the internal pressure of the call increased abnormally.

7、 CALL CONDITION AT THE SHIPMENT

About half charged.

8、 HANDLING INSTRUCTIONS

8.1 TEMPERATURE RANGE

*charging: 0 °C ~45 °C

*discharge: -20 °C ~60 °C

*storage: -20 °C ~45 °C

8.2 CHARGING

*The lithium-ion rechargeable battery must be charged with a maximum limit of voltage and current limit.

* Maximum limit voltage: 4.25V

*Maximum charging current: $2C_5A$

8.3 DISCHARGING TURN ON ELECTRICITY THE ANNOUNCEMENTS

* Maximum charging current: $2C_5A$

* Avoid discharging below 2.75 V

8.4 OPERATION

*The battery must not be connected with the charger not exclusively designed for this battery

*The battery must not be applied for other equipment.

8.5 PROTECT CIRCUITS

The battery must posses three types of protective circuits follows.

8.5.1 Over-charging protective circuit



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The over-charging protective circuit shall operate at 4.25 to 4.35 volts, lower voltage is desirable;

8.5.2 Over-discharging protective circuit

The over-discharging protective circuit shall operate at 2.3to 2.75 volts, then discharge current must decrease to less than 10 micro amperes.

8.5.3 Excessive-current protective circuit

The protective circuit must operate at charging or discharging at over 3C current

9、 WARNING FOR USING THE LI-ION RECHARGEABLE BATTERY

9.1 Observe the following in using the battery

- *Do not beat or throw into the fire.
- * Do not disassemble
- * Do not set up or leave in high temperature (80°C or more) in device
- * Do not short positive (+) and negative(-) terminal with a metal
- * Do not wet in the water
- * Do not give a hard shock or drop
- * Do not solder lead lines to the battery in directs

9.2 CHARGING

- *Charge within the limits of 0°C to +45°C temperature
- * Do not charge reversibly
- * Charge only with charge exclusively designed for this battery

9.3 DISCHARGING

- *Discharge with the limits of -20°C to +60°C temperature
- *Avoid discharging below 2.75V, do not over-discharge below 1.0V
- *Discharge within a designated current
- *Use only as a power source for a designated device

9.4 STORAGE

- *Discharge completely for the long-term storage
- *Store dry and low temperature area, do not store in a high temperature area.



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SPECIFICATIONS

Nominal Voltage		3.70V	
Nominal Capacity		750mAh	
Capacity(1C ₅ A discharge)		713mAh	
Temperature Performance		55°C	
		-20°C	
		687 mAh	
		525 mAh	
Diameter		14.1±0.2mm	
Height		48.7±0.5mm	
Weight		20.5±0.5g	
Internal Resistance		≤80mΩ (Cell with PTC)	
Cycle Life		>300 次 (1C ₅ A)	
Charge	Standard	23±2 °C,150mA/4.2V	
	Quick	23±2 °C,750mA/4.2V	
Ambient Temperature	Charge	Standard	
		Quick	
	Discharge		-20 °C~65 °C
	Storage		0 °C~45 °C

