

EEMB CO., LTD

Polymer Li-ion Battery

Specification

Model: LP723048HB

Capacity: 800mAh

Prepared	Checked	Approved

Customer:

Customer Approval (Customer confirmation) :

Signature	Checked	Approved

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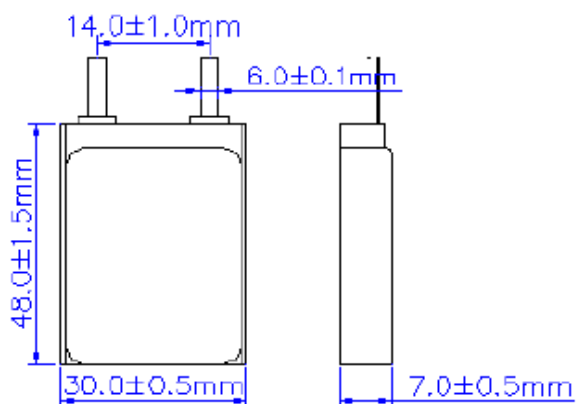
1. Scope

This product specification defines the requirements of the rechargeable polymer lithium-ion battery supplied to the customer by EEMB Co., Ltd..

2. Product Basic Characteristics

No.	Item	Characteristics	Remark
2.1	Nominal Capacity	800 mAh	0.5C ₅ A
2.2	Minimum Capacity	784 mAh	0.5C ₅ A
2.3	Nominal Voltage	3.7 V	
2.4	Charge voltage	4.2±0.02 V	
2.5	Weight	Approx. 19 g	
2.6	Charge current	Standard charge:0.5C(400mA)	0 ~ 40℃
		Rapid charge: 1.0C(800mA)	
2.7	Charge time	Standard charge: 3.0 hours(Ref.)	
		Rapid charge: 1.5 hours(Ref.)	
2.8	Max. charge current	1.0C (800mA)	
2.9	Constant discharge current	15.0C(12 A)	
2.10	Internal Impedance	≤ 35 mΩ	AC 1KHz
2.11	Dimension	Thickness	7.0±0.5 mm
		Width	30.0±0.5 mm
		Length	48.0±1.5 mm
2.12	Cut-off Voltage	2.75 V	
2.13	Operation Temperature	Charge	0 ~ 40 ℃
		Discharge	-20 ~ +40 ℃
2.14	Storage Temperature	Less than 1 month	-20 ~ +45 ℃
		More than 1 month	-10 ~ +30 ℃

3. Shape and Dimensions (Unit: mm)



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No.	Part Name	Description	Quantity
1	Cell	LP723048HB-800mAh	1
2	Wire	/	/
		/	/
3	PCM	/	/
4	PVC	/	/

4. Appearance

It shall be free from any defects such as remarkable scratches, breaks, cracks, discoloration, leakage, or middle deformation.

5. Standard Test Condition

5.1 Environmental conditions

Unless otherwise specified, all test stated in this specification are conducted at temperature $25\pm5^{\circ}\text{C}$ and humidity $60\pm20\%$.

5.2 Measuring equipment

(1) Ammeter and Voltmeter

Standard class specified in the national standard or more sensitive class

(2) Slide caliper

The slide caliper should have 0.02mm scale

(3) Impedance meter

The impedance meter with AC1kHz should be used.

6. Characteristics

6.1 Electrical Characteristics

No.	Item	Criteria	Test Instructions
6.1.1	Standard discharge capacity	Discharge $\geq 720\text{mAh}$	The standard discharge capacity is the initial discharge capacity of the cell, which is measured with discharge current of 12A until 2.75V cut off at $25\pm5^{\circ}\text{C}$, rest for 60 min after standard charge
6.1.2	Initial internal impedance	Initial internal impedance $\leq 35\text{ m}\Omega$	Initial internal impedance measured at AC 1Khz after 50% charge
6.1.3	Storage characteristics	Capacity retention $\geq 680\text{mAh}$ (85% of the capacity at 25°C)	Capacity after storage for 28 days at 25°C from the standard charge, measured with discharge current 160 Ma with 2.75V cut-off at 25°C
6.1.4	Cycle Life	Capacity $\geq 640\text{mAh}$ (80% of the capacity at 25°C)	Each cycle is an interval between the charge at CC-CV(400mA-4.2V) for 3h and the discharge(discharge current 12A) with 2.75V cut-off, After 100cycles, measure the capacity under the same condition in 7.1
6.1.5	Status of cell as of ex-factory	Open circuit $\geq 3.8\text{V}$	The cell should be shipped in 50% charged state. In the case, OCV is not less than 3.8V

6.2 Acclimatization Characteristics

No.	Item	Criteria	Test Instructions
6.2.1	Vibration	No fire or explosion	After standard charging, fixed the cell to vibration table and subjected to vibration cycling frequency is to be varied at the rate of 1HZ per minute between 10Hz and 55Hz, the excursion of the vibration is 1.8mm. The cell shall be vibrated for 30 minutes per axis of XYZ axes.
6.2.2	Drop	No fire or explosion	Batteries are dropped onto concrete ground from 1 meter at a random direction 6 times.

7 Others

7.1 Storage for a long time

If the cell is kept for a long time (3 months or more), It is strongly recommended that the cell is preserved at the temperature range (0-25°C), low humidity, no corrosive gas atmosphere.

7.2 Others

Any matters that this specification does not covered should be conferred between the customers and the SHIDA.

8 Shelf life

One year warranty after the date of production

9 Matters needing attention

Strictly observes the following needing attention. EEMB will not be responsible for any accident occurred by handling outside of the precautions in this specification.

! Danger

- Strictly prohibits heat or throw cell into fire.
- Strictly prohibits throw and wet cell in liquid such as water、gasoline or drink etc.
- Strictly prohibits use leave cell close to fire or inside of a car where temperature may be above 60°C. Also do not charge / discharge in such conditions.
- Strictly prohibits put batteries in your pockets or a bag together with metal objects such as necklaces. Hairpins, coins, or screws. Do not store or transportation batteries with such objects.
- Strictly prohibits short circuit the (+) and (-) terminals with other metals.
- Do not place Cell in a device with the (+) and (-) in the wrong way around.
- Strictly prohibits pierce Cell with a sharp object such as a needle.
- Strictly prohibits disassemble or modify the cell.
- Strictly prohibits welding a cell directly.
- Do not use a Cell with serious scar or deformation.

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- Thoroughly read the user's manual before use, inaccurate handling of lithium ion rechargeable cell may cause leakage, heat, smoke, an explosion, or fire, capacity decreasing.

! Warning

- Strictly prohibits put cell into a microwave oven, dryer, or high-pressure container.
- Strictly prohibits use cell with dry cells and other primary batteries, or new and old battery or batteries of a different package, type, or brand.
- Stop charging the Cell if charging is not completed within the specified time.
- Stop using the Cell if abnormal heat, odor, discoloration, deformation or abnormal condition is detected during use, charge, or storage.
- Keep away from fire immediately when leakage or foul odor is detected.
- If liquid leaks onto your skin or clothes, wash well with fresh water immediately.
- If liquid leaking from the Cell gets into your eyes, do not rub your eyes. Wash them well with clean edible oil and go to see a doctor immediately.

! Caution

- Before using the Cell, be sure to read the user's manual and cautions on handling thoroughly.
- Charging with specific charger according to product specification. Charge with CC/CV method. Strictly prohibits reversed charging. Connect cell reverse will not charge the cel. At the same time, it will reduce the charge-discharge characteristics and safety characteristics, this will lead to product heat and leakage.
- Store batteries out of reach of children so that they are not accidentally swallowed.
- If younger children use the Cell, their guardians should explain the proper handling.
- Before using the Cell, be sure to read the user's manual and cautions on handling thoroughly.
- Batteries have life cycles. If the time that the Cell powers equipment becomes much shorter than usual, the Cell life is at an end. Replace the Cell with a new same one.
- When not using Cell for an extended period, remove it from the equipment and store in a place with low humidity and low temperature.
- While the Cell pack is charged, used and stored, keep it away from objects or materials with static electric charges.
- If the terminals of the Cell become dirty, wipe with a dry clothe before using the Cell.
- Storage the cells in storage temperature range as the specifications, After full discharged, we suggest that charging to 3.7~4.0V with no using for a long time.
- Do not exceed these ranges of the following temperature ranges:
 - Charge temperature range : 0°C to 45°C;
 - Discharge temperature range : -20°C to 60°C.
 - Store less than 1 month : -20°C - +60°C
 - Store less than 3 months : -20°C - +45°C
 - Store less than 1 year : -20°C - +25°C

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! Special Notice

Keep the cells in **50% charged state** during long period storage. We recommend to charge the battery up to 50% of the total capacity every 3 months after receipt of the battery and maintain the voltage 3.7~4.0V. And store the battery in cool and dry place.