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EEMB CO., LTD

Polymer Li-ion Battery

Specification

Model: ***LP3834106HD***

Capacity: ***1200mAh***

Prepared	Checked	Approved

Customer:

Customer Approval (Customer confirmation) :

Signature	Checked	Approved

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1. Scope

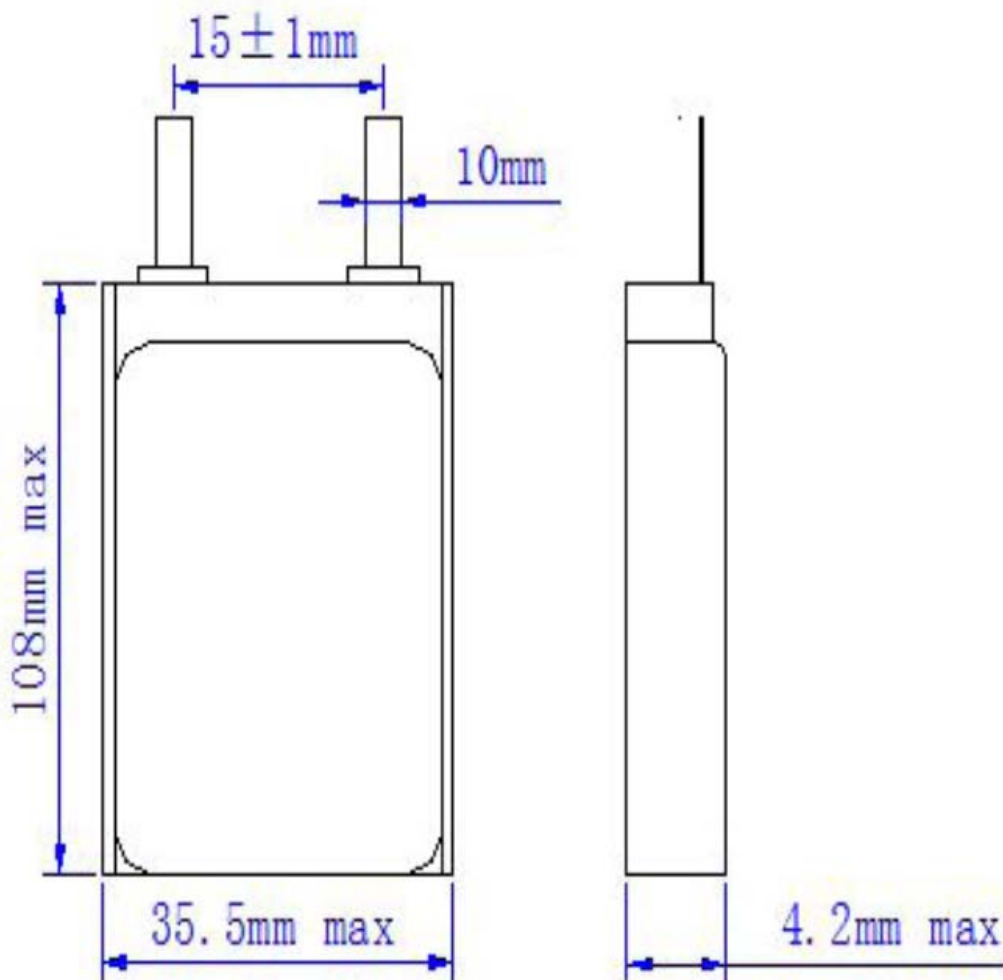
This product specification defines the requirements of the rechargeable polymer lithium-ion battery pack supplied to the customer by EEMB Co., Ltd.

2. Product Basic Characteristics

<i>Item</i>	<i>Specification</i>	<i>Remark</i>
Nominal Capacity	1200 mAh	0.5 C discharge
Minimum. Capacity	1176 mAh	0.5 C discharge
Nominal Voltage	3.7V	
Charge Voltage	4.2± 0.02V	
Charge Current	Standard charge : 0.5 C (600mA) Rapid charge : 1.0C (1200mA)	0~40 °C
Charging Time	Standard charge: 3.0 hours (Ref.) Rapid charge: 2.0 hours (Ref.)	
Max. charge current	1.0 C (1200mA)	
Cont. Discharge Current	20.0C (24A)	0~40 °C
Cutoff Voltage	3V	
Resistance	≤20mΩ	1kHz AC Method
Weight (Approx.)	29g	
Dimensions(T.W.H.)	Thickness: 4.2 mm max Width: 35.5mm. max Length: 108mm max	
Operating Temperature	Charge : 0 ~ 40°C Discharge : -20~40°C	
Storage Temperature	Less than 1 month: -20~45°C More than 1 month : -10~30°C	

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3. Shape and Dimensions (Unit: mm)



Parts list:

No.	Part Name	Description	Q'ty
1	Cell	LP3834106HD-1200mAh	1

4. Appearance

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

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5. Battery Performance Criteria

Unless otherwise specified, all tests stated in this specification are conducted at temperature $25\pm 5^{\circ}\text{C}$ and humidity $60\pm 20\%$.

<i>Test item</i>	<i>Test method</i>	<i>Specification</i>
Standard Discharge Capacity	The standard discharge capacity is the initial discharge capacity of the cell, which is measured with discharge current of 24A with 3V cut-off at $25\pm 5^{\circ}\text{C}$, within 1 hour after the standard charge.	Standard Discharge Capacity $\geq 1080\text{mAh}$
Cycle Life	Each cycle is an interval between the charge at CC-CV (600 mA – 4.2 V) for 3h and the discharge (discharge current 24A) with 3V cut-off. After 100 cycles, measure capacity under the standard condition	Capacity $\geq 960\text{mAh}$ (80% of the capacity at 25°C)
Initial internal impedance	Initial internal impedance measured at AC 1kHz after 50% charge.	Initial internal impedance $\leq 20\text{m}\Omega$
Storage Characteristics	Capacity after storage for 28 days at 25°C from the standard charge, measured with discharge current 240mA with 3V cut-off at 25°C .	Capacity retention (after the storage) $\geq 1020\text{mAh}$ (85% of the capacity at 25°C)
Status of the cell as of ex-factory	The cell should be shipped in 50% charged state	OCV is not less than 3.8V.
Drop Test	as of shipment or full charged) drop onto concrete ground from 1.0m height at a random direction 6 times	No fire, and no explosion
Vibration Test	After standard charging, fixed the cell to vibration table and subjected to vibration cycling that the frequency is to be varied at the rate of 1Hz per minute between 10Hz an 55Hz, the excursion of the vibration is 1.8mm. The cell shall be vibrated for 30 minutes per axis of XYZ axes.	No fire, and no explosion

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Overcharge Test	To charge the standard charged cell with 1200 mA constant current until cell voltage reaches 4.6 V, then be charged at constant voltage of 4.6 V while tapering the charge current at 25°C for 2.5hrs.	No fire, and no explosion
External Short-circuit Test	To short-circuit the standard charged cell by connecting positive and negative terminal by less than 50mΩ wire.	No fire and no explosion.

6. 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 the cell into liquid such as water、gasoline or drink etc, also don't wet the cell.
- Strictly prohibits use or leave the cell close to fire or inside a car where the 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 transport 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.
- 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 serious scar or deformation
- Thoroughly read the user's manual before use, inaccurate handling of polymer lithium-ion rechargeable battery pack may cause heat, fire, explosion, damage, or capacity decreasing.

! Warning

- Strictly prohibits put cell into a microwave oven, washing machine, or high-pressure container.
- Strictly prohibits use cell with dry cells and other primary batteries, or new and old batteries or batteries of a different package, type, or brand together.
- 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 the cell 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 edible oil and go to see a doctor immediately.

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! Caution

- Before using the cell, be sure to read the user's manual and comprehend the cautions on handling thoroughly.
- Charging with specific charger according to the product specification. Charge with CC/CV method. Strictly prohibits reverse charging. Connect cell reverse will not charge the cell. At the same time, it will reduce the charge-discharge characteristics and safety characteristics, this will lead to product heat and leak.
- 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.
- Batteries have life cycles. If the working time of the cell's power equipment becomes much shorter than usual, the cell's life is at an end. Replace the cell with a new same one.
- When not using cell for a long period, remove it from the equipment and store it 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 them with a dry cloth before using the cell.
- Store the battery in storage temperature range as the specifications. After full discharge, we suggest charging to 3.7~4.0V with no using for a long period.
- 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

! Special Notice

Keep the battery 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.