

Product Specification

Lithium Polymer Batteries



Model: 1050165- 10000mAh	Version No. A-0	Issue date: May 22, 2026
Prepared by	Verified by	Approved by

1. Scope

This document describes the performance characteristics and testing methods for lithium polymer batteries produced by LithoGenix GmbH.

2. Product Type and Model Number

2.1 Product Type

Lithium Polymer Battery

2.2 Model Number

1050165

3. Specifications

No.	Item	Characteristics	Criteria
3.1	Nominal Capacity	Nominal: 10000mAh Minimum: 9800mAh	The nominal capacity is measured with discharge current of 0.2C to 3.0V after the rapid charge at 23±2°C.
3.2	Nominal Voltage	3.7V	
3.3	Cut-off Voltage	4.2V	
3.4	Cut-off Voltage	3.0V	
3.5	Maximum Charging Current	1C	
3.6	Maximum Discharging Current	10C	
3.7	Operating Temperature	Charging	5~15°C: 0.2C CC to 4.2V, 4.2V CV to 0.02C
			16~45°C: 1C CC to 4.2V, 4.2V CV to 0.02C
		Discharging	-20~5°C: 0.2C to 3.0V 6~45°C: 10C to 3V 46~55°C: 1C to 3.0V
3.8	Storage Condition (50% DOD)	-10~45°C for 1 month -10~35°C for 6 months	
3.9	Weight	Approximate value: 185g	
3.10	Storage Voltage	3.70-3.80V	
3.11	Environmental request	All product and packaging materials comply with the RoHS Directive. A RoHS compliance mark is printed on the outer box.	

4. Dimensions

Please refer to the drawing in the appendix.

5. Appearance

The product shall be free from visible scratches, dirt, defects, electrolyte leakage, and gassing.

6. Characteristics

6.1 Electrochemical Performance Characteristics

No.	Item	Test Method	Requirements
1	Standard Charge	Charge at a constant current of 0.2C to 4.2V, then charge at a constant voltage of 4.2V until the charge current decreases to 0.02C.	Charge Time ≤ 6.5 hrs
2	Rapid Charge	Charge at a constant current of 1.0C to 4.2V, then charge at a constant voltage of 4.2V until the charge current decreases to 0.02C.	Charge Time ≤ 1.5 hrs
3	Rated Capacity	After standard charge (per 6.1.1) at $23\pm 2^{\circ}\text{C}$, rest for 0.5~1 hour, then discharge at a constant current of 0.2C to 3.0V. The test may be repeated up to 5 cycles; testing can be terminated once the discharge time reaches 5 hours in any cycle.	$\geq 10000\text{mAh}$
4	Cycle Life (23°C)	At an ambient temperature of $23\pm 2^{\circ}\text{C}$, charge and discharge at 1.0C. Rest for 35mins, then repeat cycles for 400 times.	Remaining capacity $\geq 80\%$ of Nominal Capacity
5	Internal Impedance	Measure the internal impedance of a 50% charged cell at 1 kHz AC at an ambient temperature of $23\pm 2^{\circ}\text{C}$.	$\leq 5\text{ m}\Omega$
6	Capacity Retention	After a standard charge, store the cell at $23\pm 2^{\circ}\text{C}$ for 28 days. Discharge at 0.2C to 3.0V to measure residual capacity. Then, perform a standard charge and discharge at 0.2C to 3.0V to measure recovery capacity.	Residual capacity $\geq 85\%$ of Nominal Capacity Recovery capacity $\geq 90\%$ of Nominal Capacity
7	Discharge Rate Characteristic	After standard charge (per 6.1.1), discharge the cell at the specified currents to 3.0V. All tests shall be performed at $23\pm 2^{\circ}\text{C}$.	Discharge at 0.2C: 100% of rated capacity Discharge at 0.5C: 98% of rated capacity

			Discharge at 1.0C: 95% of rated capacity
8	Temperature Characteristic	After standard charge (per 6.1.1), store the cell for 2 hours at the specified temperatures, then discharge at 0.2C to 3.0V.	Temperature Characteristics (at 0.2C Discharge Rate): ● At 25°C (Standard): Delivers 100% of rated capacity. ● At 55°C: Delivers 95% of rated capacity. ● At 0°C: Delivers 85% of rated capacity. ● At -20°C: Delivers 60% of rated capacity (discharge cut-off voltage: 3.0V).
9	Shipment Voltage	Measure the open circuit voltage (OCV) of the cell prior to shipment.	3.70V-3.80V

6.2 Safety characteristic

No.	Item	Test Method	Requirements
1	Overcharge	Discharge the cell to 3.0V at 0.2C, then charge at 3.0C to a voltage limit of 4.6V for 7 hours.	No fire No explosion
2	Over-discharge	After a standard charge (per 6.1.1), discharge the cell to 3.0V at 0.2C at an ambient temperature of 23°C±2°C. Then, connect the cell to an external 30Ω load for 7 hours.	No fire No explosion
3	Temperature Cycling	After a standard charge, store the cell at 75±2°C for 6 hours, followed by storage at -40±2°C for 6 hours. The maximum transfer time between these temperature extremes shall be 30 minutes. Repeat this procedure for 10 cycles. After testing, store the cell at an ambient temperature of 23±2°C for 6 hours.	No leakage, no fire, no explosion
4	Mechanical shock	Secure the cell to the testing equipment. Subject the cell to one shock in each of three mutually perpendicular directions, with at least one direction perpendicular to the wide face of the cell. Each shock shall be applied as follows: within the first 3 ms, the minimum average acceleration shall be 735 m/s ² ; the peak acceleration shall be between 1225 m/s ² and 1715 m/s ² ; the pulse duration shall be 6±1 ms.	No leakage, no fire, no explosion

6.3 Reliability

No.	Item	Test Method	Requirements
1	Humidity Test	After a standard charge (per 6.1.1), store the cells at $40\pm 2^{\circ}\text{C}$ and 90%~95% RH for 48 hours. Then, rest the cells at an ambient temperature of $20\pm 5^{\circ}\text{C}$ for 2 hours. Finally, discharge the cells to 3.0V at 0.2C.	No deformation, no corrosion, no venting, no leakage, no rupture, no fire, and no explosion. Discharge time shall be at least 3 hours.
2	Low Pressure Test	Store the fully charged cell for 6 hours at an absolute pressure of 11.6 kPa and a temperature of $23\pm 2^{\circ}\text{C}$.	No explosion, no fire, no leakage.
3	Drop Test	After a standard charge, rest the cell for 1 hour. Then, drop the cell from a height of 1.2m onto a 20mm thick hardwood board. Drop the cell twice in each direction.	No leakage, no smoke, no fire, no explosion.
4	Vibration	After a standard charge, secure the battery to the vibration table without causing deformation. Subject the cell to sinusoidal vibration with a logarithmic sweep from 7 Hz to 200 Hz and back to 7 Hz in 15 minutes. Apply the vibration along three mutually perpendicular axes (one of which must be perpendicular to the terminal face). Repeat this sweep 12 times for each axis, for a total vibration time of 3 hours. The logarithmic sweep profile is as follows: From 7 Hz to 18 Hz, maintain a peak acceleration of 9.8 m/s^2 . Maintain an amplitude of 0.8 mm (total excursion of 1.6 mm) until the peak acceleration reaches 78.4 m/s^2 (at approx. 50 Hz). Maintain a peak acceleration of 78.4 m/s^2 until the frequency reaches 200 Hz.	No leakage, no fire, no explosion

7. Standard Testing Environment

- **Temperature** : $23\pm^{\circ}\text{C}$
- **Relative Humidity**: $45\pm 20\%$ (unless otherwise specified)

8. Warranty

The warranty period for this product is 12 months from the date of manufacture (as indicated by the manufacturing code).

9. Liability

Users must strictly operate the products according to the instructions printed on the battery label or the guidelines described in this "Product specifications for lithium polymer Batteries" published by LithoGenix GmbH. LithoGenix GmbH will not be liable for any accidents, loss, overheating, fire, or explosion caused by user mishandling or failure to follow these specifications.

LithoGenix GmbH will notify users in writing (along with quality and reliability data) of any changes to the specifications, raw materials, production processes, or production control systems.

10. Battery Packing Label

The following warnings should be indicated on the battery pack labels:

- Use a specified charger.
- Do not throw the battery into fire or heat it.
- Do not short-circuit the battery terminals.
- Do not disassemble the battery.

11. Warnings and Cautions in Handling the Lithium-ion Battery

To prevent potential leaking, overheating, or explosion of batteries, please be advised to take the following precautions:

WARNINGS!

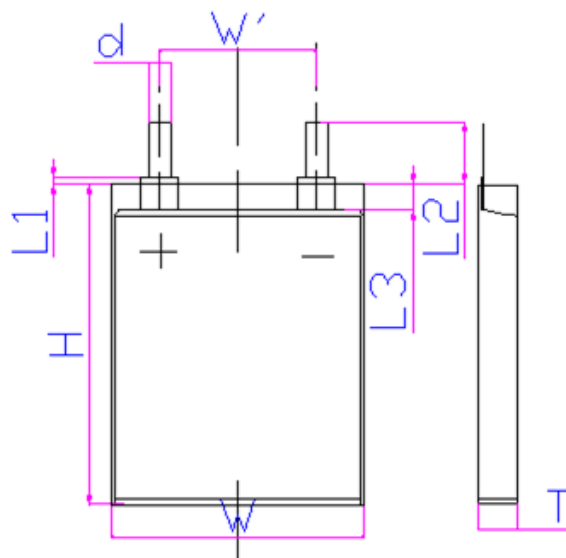
- Do not immerse the battery in water or seawater. Keep the battery in a cool, dry environment when not in use.
- Do not use or leave the battery near a heat source such as a fire or heater.
- When recharging, use a battery charger specifically designed for lithium-ion batteries.
- Do not reverse the positive (+) and negative (-) terminals.
- Do not connect the battery directly to an electrical outlet.
- Do not dispose of the battery in fire or heat it.
- Do not short-circuit the battery by directly connecting the positive (+) and negative (-) terminals with metal objects such as wire.

- Do not transport or store the battery together with metal objects such as necklaces, hairpins, etc.
- Do not strike, throw, or step on the battery.
- Do not directly solder the battery or pierce the battery with a nail or other sharp objects.
- Do not allow external metal conductors to contact the aluminum layer of the Al laminate film, especially when electrified, as this easily causes "black spots" and swelling.

CAUTIONS!

- Do not use or leave the battery at very high temperatures (for example, in strong direct sunlight or in a vehicle in extremely hot weather). Otherwise, it can overheat, catch fire, or its performance will degrade and its service life will be shortened.
- Do not use the battery in a location with strong static electricity or magnetic fields; otherwise, the safety devices may be damaged, creating a safety hazard.
- In case the electrolyte gets into the eyes due to a battery leak, do not rub the eyes! Rinse the eyes with clean running water and seek medical attention immediately. Otherwise, it may cause eye injury or loss of sight.
- If the battery gives off an odor, generates heat, becomes discolored or deformed, or appears abnormal in any way during use, recharging, or storage, immediately remove it from the device or battery charger and stop using it.
- If the battery terminals become dirty, clean them with a dry cloth before use. Otherwise, power failure or charge failure may occur due to a poor connection between the battery and the device.
- Be aware that discarded batteries may cause a fire or explosion. Tape the battery terminals to insulate them before disposal.

Attachment: Unit: mm



Items	Description	Dimension and Spec
T	Thickness before shipping	10.0 +0.3/-1.0 mm
W	Width	50.0 ±1.0 mm
H	Length (excluding sealant)	165.0 ±1.0 mm
L1	Exposed sealant length	0.2~2.0 mm
L2	Exposed tab length (including sealant)	8.0 ±0.5 mm
L3	Top sealing height	4.0±0.5mm
d	Tab width	15.0 ±0.5 mm
W	Distance between tab centers	25.0 ±1.5 mm
Folding	Single fold	
Grouping		

Notes:

1. The positive terminal uses an aluminum-to-nickel-plated-copper tab.
2. The negative terminal uses a nickel-plated-copper tab.
3. The tab thickness is 0.2 mm.

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