

Lithium-Ion Dry Cell Product Specification

Product Model: CU-PO-L1-3SG101

Version: V1.0

Release Date: 20250922

1. Basic Product Information

Item	Specification	
Cell Model	425868	
Nominal Voltage	3.85V	
Nominal Capacity	>=1000 mAh (0.2C)	
Dimensions (L x W)	130mm*75mm	
Electrochemical System	613/Gr	
Active Material Content	613 96.7%	Gr 95.7%
Single-Side Coating Areal Density (mg/cm2)	613 15.12	Gr 9.90
Electrode Compaction Density (g/cc)	613 3.35	Gr 1.50
Cell Structure	Stacked (6 Cathode / 7 Anode Sheets)	
Recommended Electrolyte Filling Amount	4.0g	
Recommended Electrolyte	KLD-1230C	

2. Charge/Discharge Parameters

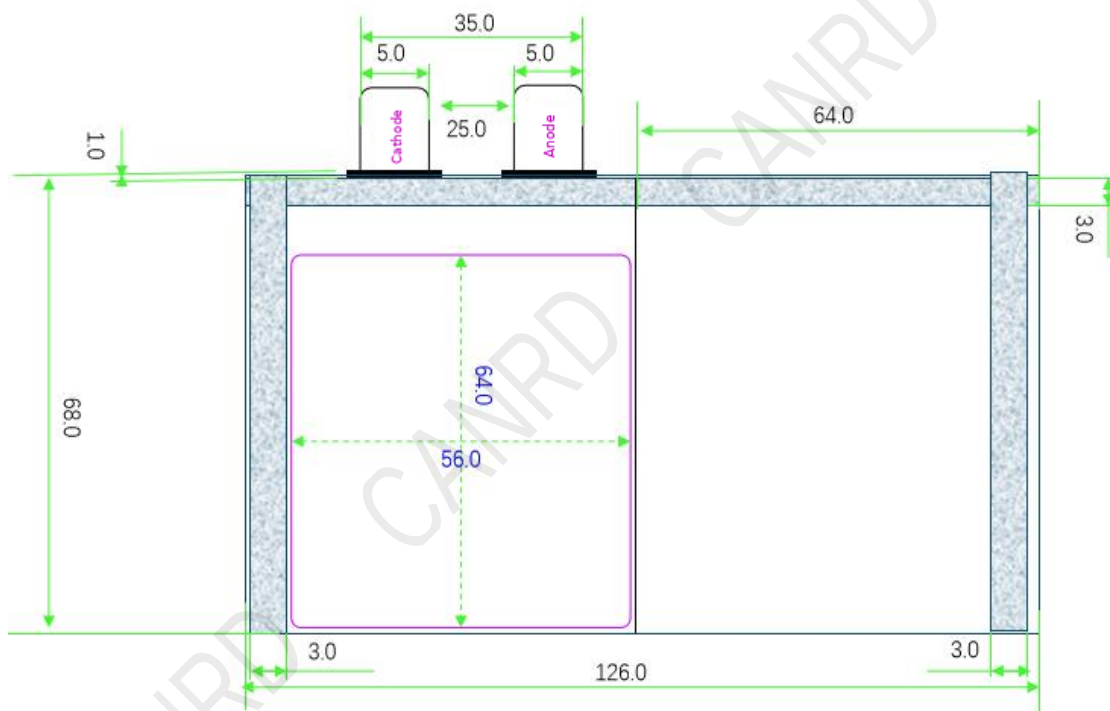
Charging Voltage: 4.4 V	Standard Charge Current: 0.5C
Discharge Cut-off Voltage: 3.0 V	Standard Discharge Current: 1.0C

3. Environmental Adaptability

Item	Parameter Range
Charging Operating Temperature	10°C ~ 60°C
Discharging Operating Temperature	0°C ~ 45°C
Storage Temperature	25°C (Recommended)
Relative Humidity	<=85% RH (Non-condensing)

4. Figure

Dimensional Diagram:



5. Dry Cell Post-Processing

The following instructions use manual electrolyte filling as an example.

Perform the operation in a dry room or glovebox.

The cell orientation shown below is the front side.

1) Inspection: Before operation, check the cell for abnormalities, such as:
(1) broken tabs; (2) gas leakage; (3) damage to the aluminum-laminated pouch, etc.

2) Create the Filling Port: Cut a filling opening 5-10 mm from the edge of the gas pouch.

Note: It is strongly recommended to retain part of the gas pouch during the first electrolyte filling!

3) Electrolyte Filling: Rotate the cell 90° counterclockwise from the orientation shown, with the cut gas-pouch opening facing upward. Place the cell vertically (a battery holder may be used). Place it on a balance and tare it, then use a pipette or disposable dropper to inject the required amount of electrolyte through the filling port.

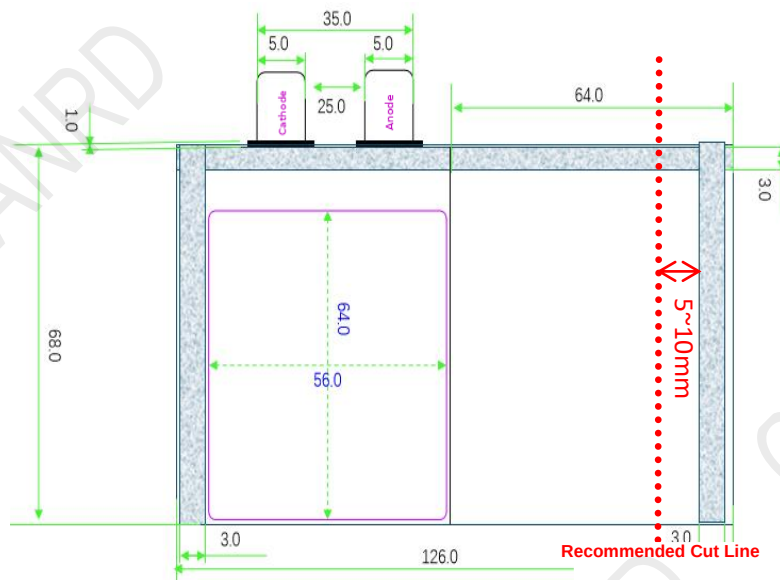
4) Vacuum Resting: Place in a vacuum resting chamber, evacuate to ≤ -85 kPa, and rest for 3 min.

5) Vacuum Pre-Sealing: Vacuum-seal the pouch at ≤ -85 kPa.

6) Measure OCV after Electrolyte Filling: Before charge/discharge, the open-circuit voltage is around 0 V. Depending on the chemistry, a positive or negative voltage may be observed.

7) Resting: Recommended: 48 h at room temperature or 24 h at 45°C. Depending on cell size, electrolyte wetting and filling amount, the temperature and time may be adjusted appropriately as needed.

8) After resting, proceed with formation and capacity grading (initial charge/discharge / activation). See the recommended procedure below.



6. Recommended Formation and Capacity Grading Procedure:

6.1 Hot-Press Formation and Capacity Grading Conditions:

Formation: 75°C, 0.9 MPa

- 1) Rest for 60 min (until the cell body reaches 75°C);
- 2) 0.2C CC, cut off after 14 min;
- 2) Rest for 3 min;
- 3) 0.5C CC, cut off after 74 min;

After the cell body cools to 25°C, degas and perform the second sealing.

Capacity Grading: 25°C, atmospheric pressure

(If the gas pouch is retained after degassing, apply 0.2 MPa pressure during capacity grading.)

- 1) Rest for 3 min;
- 2) Charge at 0.5C CC-CV to 4.40 V, cut-off current 0.02C;
- 2) Rest for 3 min;
- 3) Discharge at 0.2C CC to 3.00 V;

(Complete the first charge/discharge cycle and calculate the initial Coulombic efficiency.)

6.2 Formation and Capacity Grading Conditions without Hot Pressing:

NEWARE Test System: 25°C, 0.2 MPa;

- 1) Rest for 3 min;
- 2) Charge at 0.05C CC to 4.40 V;
- 3) Rest for 3 min;
- 4) Discharge at 0.05C CC to 3.00 V;

(Complete the first charge/discharge cycle and calculate the initial Coulombic efficiency.)

6.3 Note: If the cell will remain in standby for an extended period after capacity grading, an additional half-charge is recommended after grading.

Charge/Discharge Curve:

Rate Performance:

Cycling Performance: