File Class:	Honcell Li-ion Polymer Datasheet-HCP Series	Version:	HCV-24-01
File Name:	Li-ion Polymer Rechargeable Cell Specification Sheet	Manufacturer:	Honcell Energy
Standards:	Compliant with IEC 62133-2:2017 (TUV/UL), UN38.3, CE/FCC, UL1642, KC, PSE, BIS, GB31241, BSMI, Wercs, RoHS, Reach	Date of Issue:	2024-05-08

Li-ion Polymer Rechargeable Cell Specification Sheet

Customer's P/N	HCP382025
Honcell's P/N	HCP382025
Voltage/Capacity/Wh	3.7V / 130mAh / 0.48Wh

Prepared By	Checked By	Approved By
Date: 2024-05-08	Date: 2024-05-08	Date: 2024-05-08

Customer Approval:

Comment (please comment and sign here with your approvals)

Signature: Stamp: Date:

Shenzhen Honcell Energy Company Limited
612, Bldg. A, Weidonglong Industrial Zone,
Meilong Ave. 194#, Longhua District,
Shenzhen, Guangdong Province, 518109, China

1. Data Sheet [1]

Model Number: HCP-382025

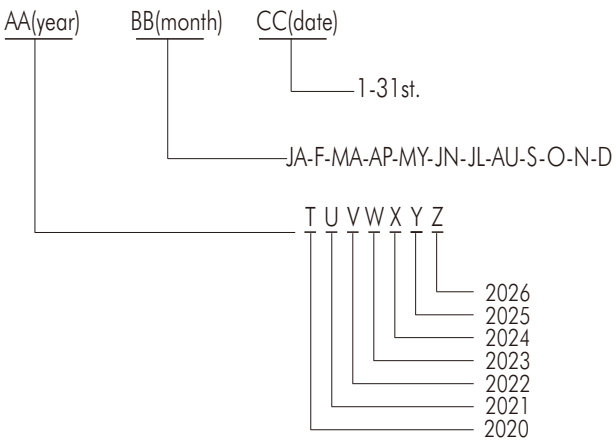
2.Dimensions[mm]

Thickness	T	Max. 4.0 (at delivery)
		Max. 4.32 (after cycling)
Width	W	Max. 20.5
Length	L	Max. 23.0(exclude tabs)
Tab Distance	B	8.0±2.0
Tab Length	A	6.0±1.0
Tab Width	C	2.0±0.2
Top Sealing Width	D	3.0±0.5
Top Sealant Height	E	1.5 for Ref.
Weight Approx. [g]		3.5

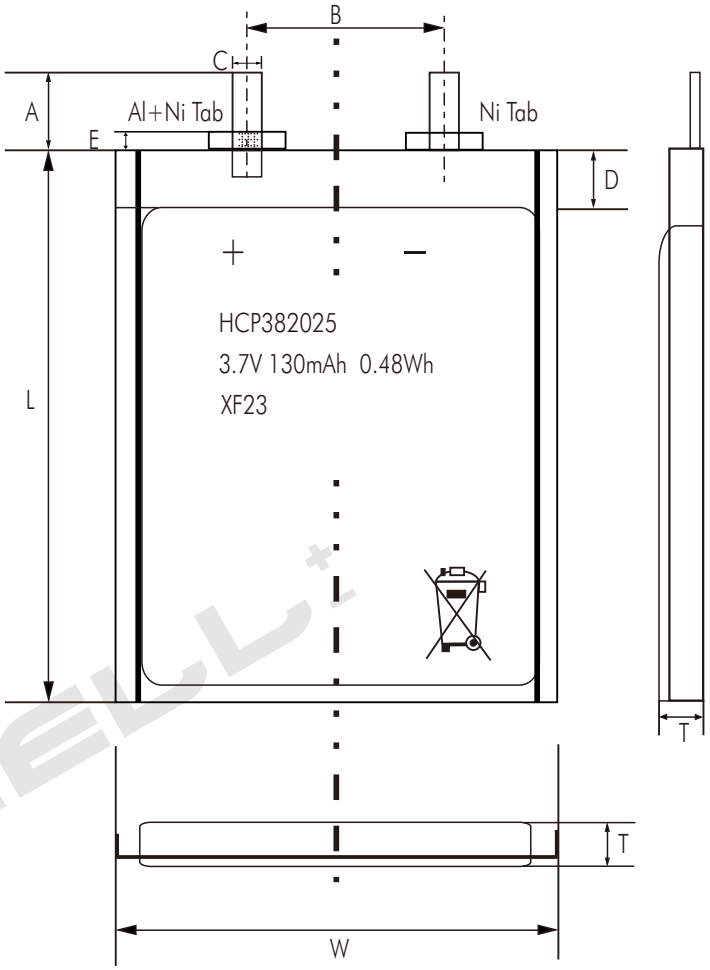
3. Electrical Parameter [2]

Nominal Voltage [V]		3.7 (rated)
Capacity [mAh]	Typ.	135 (0.2C @ 23±2°C)
	Min.	130 (0.2C @ 23±2°C)
Impedance Initial [mΩ]		≤200 @ AC1kHz, 4.2V
Charge Current [3]	Std.	@ 0.2C (26mA) @0~45°C
	Max.	@ 1.0C (130mA) @15~45°C
Discharge Current	Std.	@ 0.2C (26mA) @-20~60°C
	Max.	@ 1.0C (130mA) @10~60°C
	Pulse	@ 2.0C (260mA) 3~4mS @10~60°C
Discharge Cut-off Voltage [V]		3.0
Charge Cut-off Voltage [V]		4.2
Life Expectancy @0.2C, 23±2°C		≥80% after 500 cycles
Operating Temperature	Charge	0 to +45°C
	Discharge	-20 to +60°C
Storage Temperature [4]	12 Months ≥80%	-10 to +25°C
	3 Months ≥85%	-20 to +35°C
	1 Month ≥90%	-20 to +45°C

4. Date Code Nomenclature



5. Mechanical Drawing (Not in Scale)



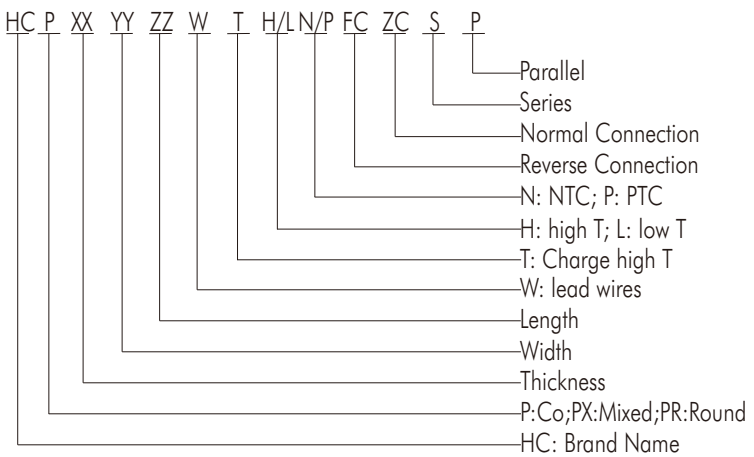
6. Safety Standards

- IEC62133-2017(TUV-CB), UN38.3, UL1642, BSMI, KC, PSE, BIS
- MSDS, GB31241, REACH, RoHS, WERCS, CE, FCC

7. Delivery Status

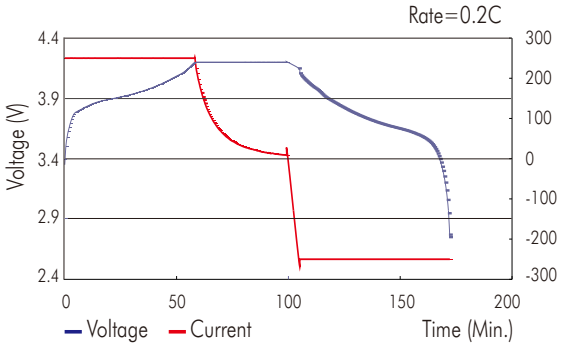
Cell Voltage	[V]	3.70-3.95
Cell Capacity	[%]	30-70

8. Model No. Nomenclature

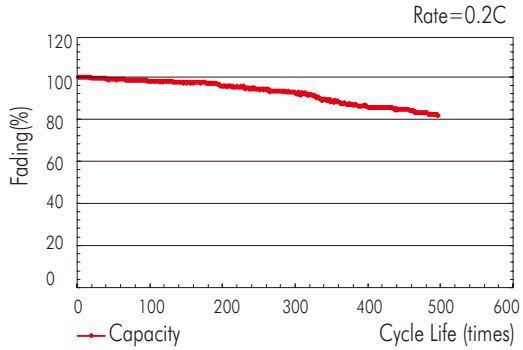


9. Curves (Reference)

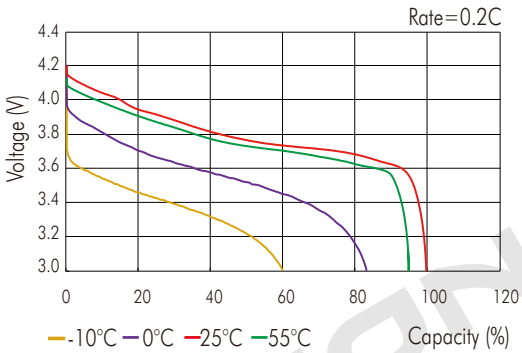
Charge & Discharge (23±2°C)



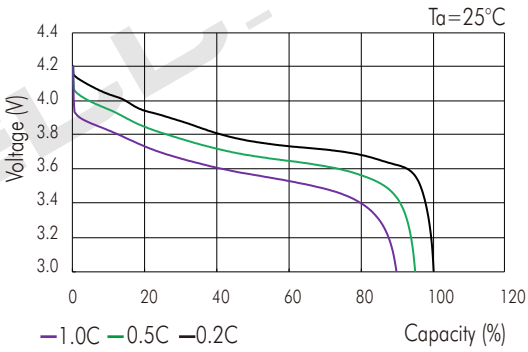
Cycle Life (23±2°C)



Discharge Characteristics (by Temp.)



Discharge Characteristics (by rate)



10. Storage

Store the Cell in a cool and well-ventilated area away from heat source, open flames, corrosive chemicals, food and drink. Since short circuit can cause fire and generate heat, burn, leakage and rupture. Keep batteries in original packing until use and do NOT jumble them.

Keep the cells in half-charged state, SOC 50%. The cells shall be stored at -20 to 50°C. Should the cells will be stored for 3 months or even longer time unused, transfer them to a dry and cool place. It is highly recommended to activate the cell at least 1 time every 3 months according to the following steps:

1) CC/CV charge @ 0.2C to 4.2V,till charge current declines to 0.02C.
2) then rest 5~10 min.
3) CC discharge @ 0.2C to 3.0V .
4) then rest 5~10 min.
5) CC charge again @ 0.2C to 3.9V

The voltage for a long time storage shall be 3.7V to 3.9V range. The environmental condition is preferred at ambient temperature 23±2°C and relative humidity 45-75%RH and 86-106KPa pressure

11. Mechanical Testing of Bare Raw Cell

No.	Item	Testing Condition and Method	Acceptance Criteria
1	Free Fall	At 23±2°C, after standard charge, drop the cell 3 times from a height of 1.0M onto a flat concrete floor or metal floor. The cells are dropped so as to obtain impacts in random orientations. Put the cells on rest for a Min. 1hr after drop, and then a visual inspection shall be performed.	No Fire, No Explosion
2	Vibration	Firmly fix the fully charged cell to the platform of vibration machine without distorting them in such a manner as to faithfully transmit the vibration. Test cells shall be subjected to sinusoidal vibration and the cycle shall be repeated 12 times for a total of approximately 3 hrs for each of 3 mutually perpendicular mounting positions. One of the directions shall be perpendicular to the terminal face. The frequency is to be varied at the rate of 1Hz per minute between 10 to 55Hz, the excursion of the vibration is 0.8mm.	No Fire, No Explosion No Leakage
3	Crush	After standard charge, immediately transfer and crush the cells between two flat surfaces in an ambient temperature. The force for the crushing is applied by a device exerting a force of 13kN±0.78kN. Once the maximum force has been applied, or an abrupt voltage drop of 1/3 of the original voltage has been obtained, the force is then released.	No Fire No Explosion No Rupture No Leakage or Venting
4	Mechanical Shock	After standard charge, secure the cells to the testing machine by means of a rigid mount which will support all mounting surfaces of each test cell. Each shall be subjected to 3 shocks in each direction of 3 mutually perpendicular mounting positions of the cell for a total of 18 shock. acceleration: 100m/s^2; frequency: 40 to 80 times / min; pulse duration: 6mS; impact times: 1000±10.	No Leakage No Venting No Rupture No Explosion No Fire
5	Needling	After standard charge at 1C, stab the cell with stainless steel needle with diameter 3-5mm on the biggest flat surface of the cell, the stab speed should be more than 40mm/s.	No Fire, No Explosion

12. Safety Testing for Bare Raw Cell

No.	Item	Testing Condition and Method	Acceptance Criteria
1	Over Charge	Discharged to the cut off voltage, and then charged at constant current of 3C and constant voltage of 4. 6V while the voltage reaches its maximum and the current declines to zero, if the charge continues over 7 hours or the temperature is 20% less than the top , stop the test.	No Fire No Explosion
2	Over Discharge	At 23±2°C, discharged at 1C constant current , keep 6hrs.	No Fire No Explosion
3	External Short Circuit	At 23±2°C, short circuit the positive and negative terminals of the cells with a total external resistance of 80±20mm. The cells remain on test for 24 hrs or until the case temperature of the cell declines by 20% of the maximum temperature rise, whichever is the sooner. Typically refers to a condition where the per cell voltage below 0.8V.	No Fire No Explosion
4	Forced Discharge	Discharge a cell to the lower limit cut off voltage specified in this datasheet and then to be subjected to a forced discharge at 1C to the negative value of the upper limit charging voltage. The total duration for the forced discharge testing is 90 Mins.	No Fire No Explosion

13. Reliability Testing of Bare Raw Cells

No.	Item	Testing Condition and Method	Acceptance Criteria
1	Discharged at High Temperature	After standard charge, store the cells at 55±2°C for 2 hrs, and then discharged to the cut off voltage at a constant current of 0.2C, record the discharging time and capacity.	No distortion, no rupture, no fire, no smoke or no leakage. The discharge time ≥51 Mins.
2	Discharged at Low Temperature	After standard charge, store the cells at -20±2°C for 16hrs, and then discharged to the cut off voltage at a constant current of 0.2C, record the discharge time and capacity	No distortion, no rupture, no fire, mo smoke or no leakage. Discharge time ≥180 Mins.
3	Thermal Abuse	After standard charge, place the cells in a gravity or circulating air-convection oven, in an ambient temperature of 20±3°C for 1h. Then the oven temperature is raised at a rate of 5±2°C per minute to a temperature of 130±2°C. The cells remain at this temperature for 30 Mins. before the test is terminated.	No fire, no explosion.
4	Constant Temperature & Humidity	After standard charge, store the cells at ambient temperature of 40±2°C and the relative humidity between 90-95% for 48 hrs. After that, take out the cells and place it at ambient temperature of 23±2°C for 2hrs, and then discharged to the cut off voltage at a constant current of 0.2C.	No distortion, no rupture, no fire, no smoke or no leakage. Discharge time ≥180 Mins.

Above tests of safety characteristics must be performed with protective devices

14. The Requirements of Measurements and Instrumentations

1: voltage instrumentation requirements

the voltage measuring meter accuracy no less than 0.5 magnitude

2: current instrumentation requirements

the current measuring meter accuracy no less than 0.5 magnitude

3: time instrumentation requirements

the time measuring meter accuracy no less than 0.1%

4: temperature instrumentation requirements

the temperature measuring meter accuracy no less than 0.5

5: impedance instrumentation requirements

the impedance measuring should by sinusoidal alternating (1 kHz) test

6: instrument for measuring dimension

accuracy must be more than 0.02mm, measuring rang is 150-200mm

7: instrument for measuring weight

accuracy must be more than 0.1g, measuring rang is 1.5kg

8: CC

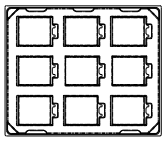
the current of the constant flow source must be constant and adjusted, and the variation of the current must be within ±1% when charging or discharging

9: CV

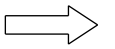
the voltage of the constant voltage source must be adjusted, and the variation of the voltage must be within ±0.5%

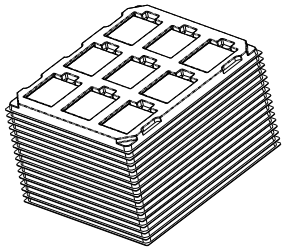
15. Packing

Cell



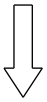
PVC TRAY

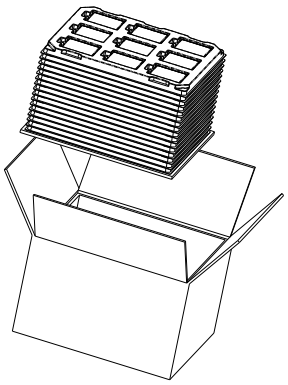




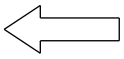
① Pack the qualified battery into PVC Tray(9PCS/Tray)

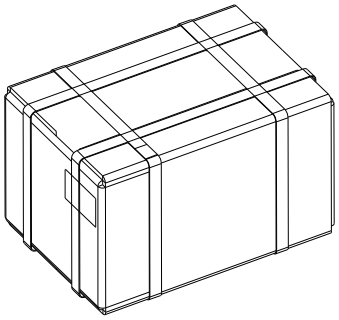
② Cell Tray 18 layers a total of 162PCS batteries, the top and then covered with 1PCS empty blister tray, can not be leaked more than installed.





③ Each carton has a total of 19 Layers /162PCS finished Products





④ Sealing out Carton

16.Disposal

When the battery life expires, the battery is first put out of the air and the second insulated container device is placed in the inventory, The warehouse needs to be dry and fireproof. Do not place combustible materials with the battery,Do not put the battery into are, Do not Pierce the battery with sharp objects, so as not to cause the battery explosion,Contact the battery collector to recycle.

***[1]: Prior to read Honcell "Handling Precautions and Guidelines For Lithium-ion Polymer Rechargeable Batteries" subject to change without prior notice

[2]: Technical information and contents in this datasheet are for reference purpose only but do NOT constitute any warranty or presentation and subject to change without prior notice. For most current information and further details, please contact us

***[3]: Charging the cell initially with Constant Current (CC) at 0.2C and then with Constant Voltage (CV) at 4.2V till charge current declines to 0.02C.

***[4]: At SOC 50%, cell capacity recovery rate in time V.S %, battery is always recommended to be stored at 23±2°C