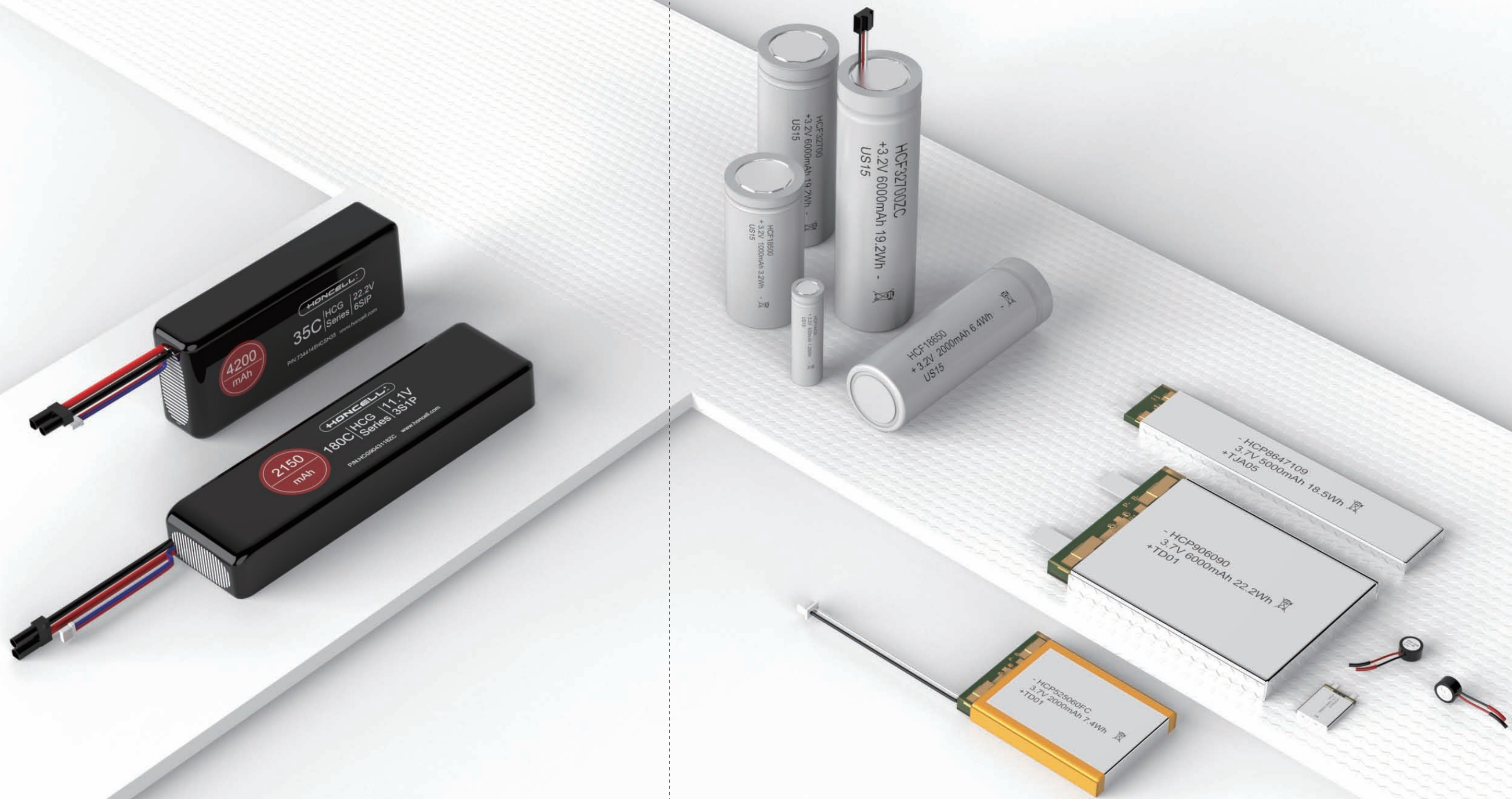


HONCELL⁺

Excellence in Energy Solution

SHENZHEN HONCELL ENERGY CO., LTD.

Professional Manufacturer of Lithium Cobalt (Li-po) Battery and Lithium Iron Battery (LiFePO4)



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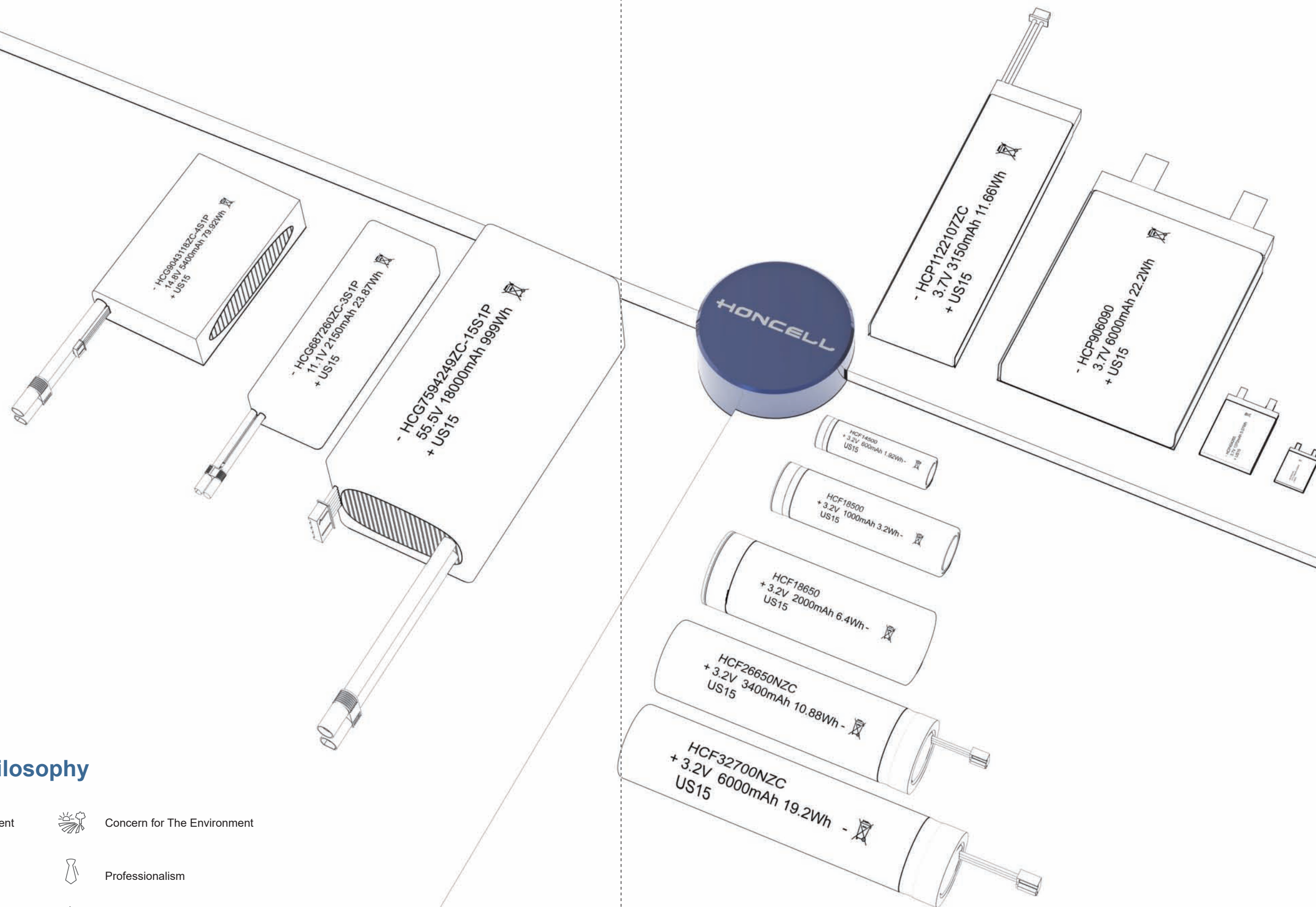


HONCELL ENERGY-PROFESSIONAL



| About Us

Honcell Energy Co., Ltd. founded in autumn 2010 in Shenzhen, is a clean energy company focused on the development, manufacturing and marketing of lithium-ion polymer batteries (Li-Po Battery), Lithium Iron Phosphate (LiFePO4) rechargeable batteries and packs, and related products for consumer, industrial, medical and automotive applications to support their portable power needs. Our production lines include high capacity battery, standard consumer battery, high drain battery, high and low temperature battery, power battery, etc.. We are dedicated to providing first-class, safe and environmentally friendly clean energy solutions to our customers. Honcell Energy presents a full set of consultations and post-delivery services to the customers.



Corporate Philosophy



Innovation for Improvement



Concern for The Environment



Customer Value



Professionalism

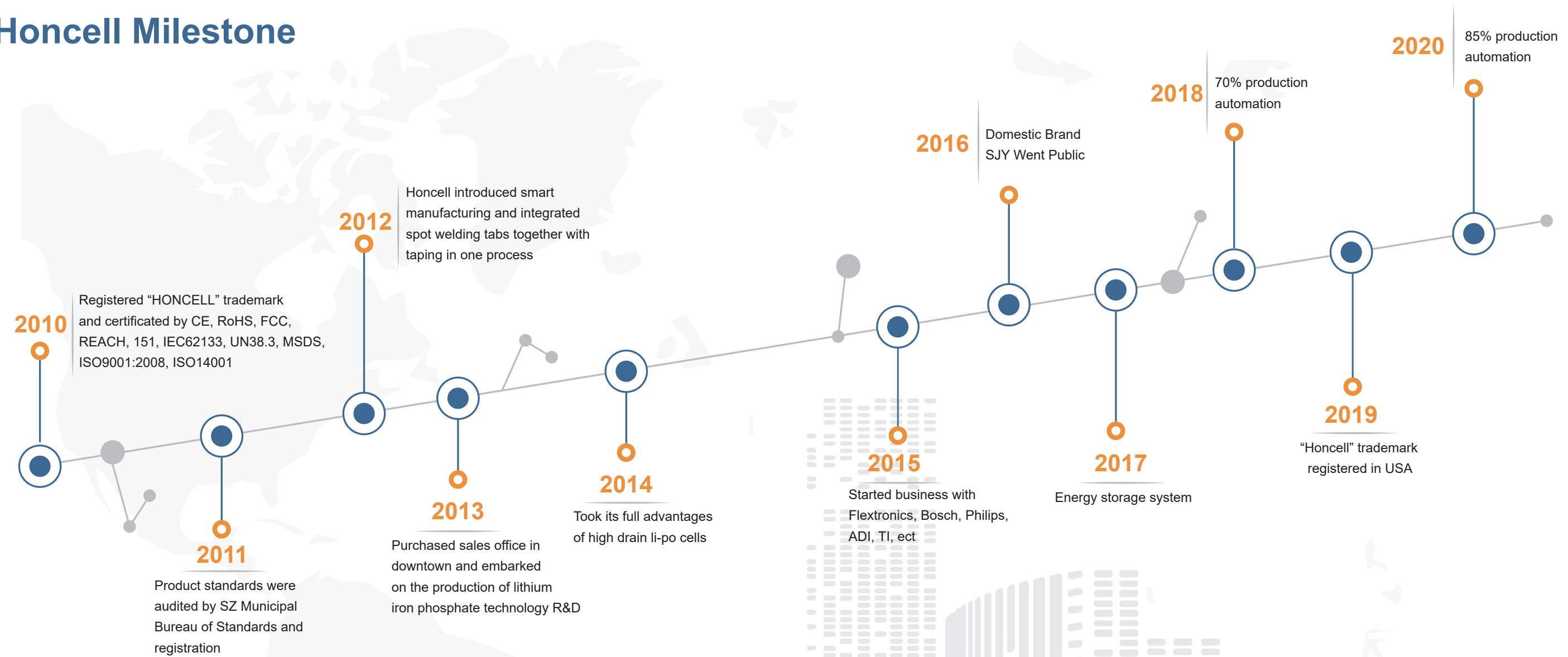


Green Products



Enthusiasm

Honcell Milestone



Quality Policy

Focus on customers' requirements and expectations, improve all working aspects continuously through efforts and win the complete satisfaction and long term co-operation by competitive price, reliable quality and comprehensive services.



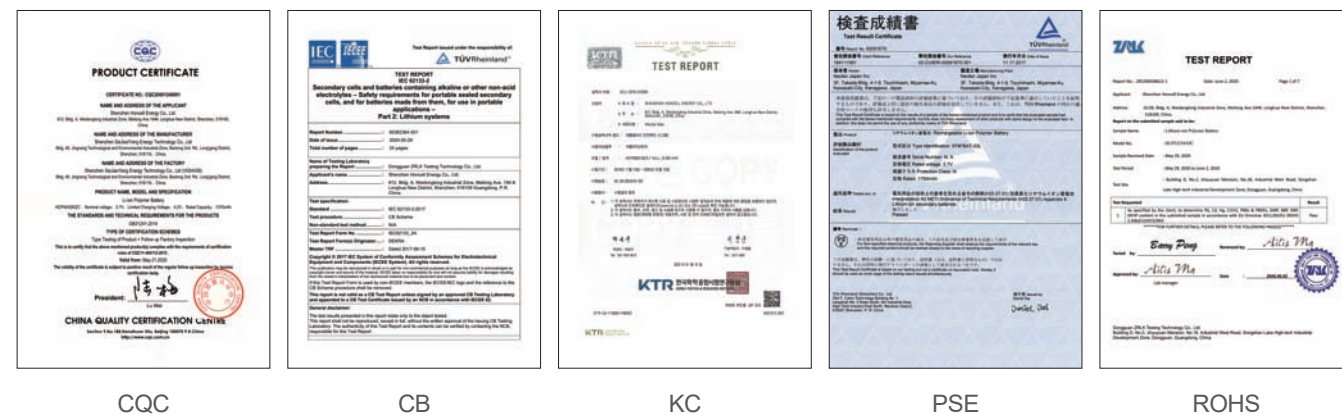
- 1: Understand and meet the potential and specific requirements and expectations in its proper.
- 2: Quantify the working details in every direction and improve it continuously.
- 3: Fully implemented and carry out 6σ management system; Pursue first class quality and cost deadline; Satisfy customers with the both requirements of good quality and lower price.
- 4: Provide all-dimensional services; Win the complete satisfaction and strategic partnership co-operation with customers.

Company Certificates

We have passed CE / FCC / KC / PSE / IEC62133 / UL / UN38.3 / GB31241 / RoHS / MSDS / CTIA / WEEE / REACH / BATTERY DIRECTIVE certification and adopt advanced international standards to produce and provide high quality products, we also have perfect quality assurance, after-sales service system, together to build a solid brand credit.

We will always keep firmly in mind that:

- 1: the quality is the foundation for the survival of an enterprise
- 2: the innovation is the original power for the development of an enterprise
- 3: the service is the head-spring for the survival of an enterprise



CQC

CB

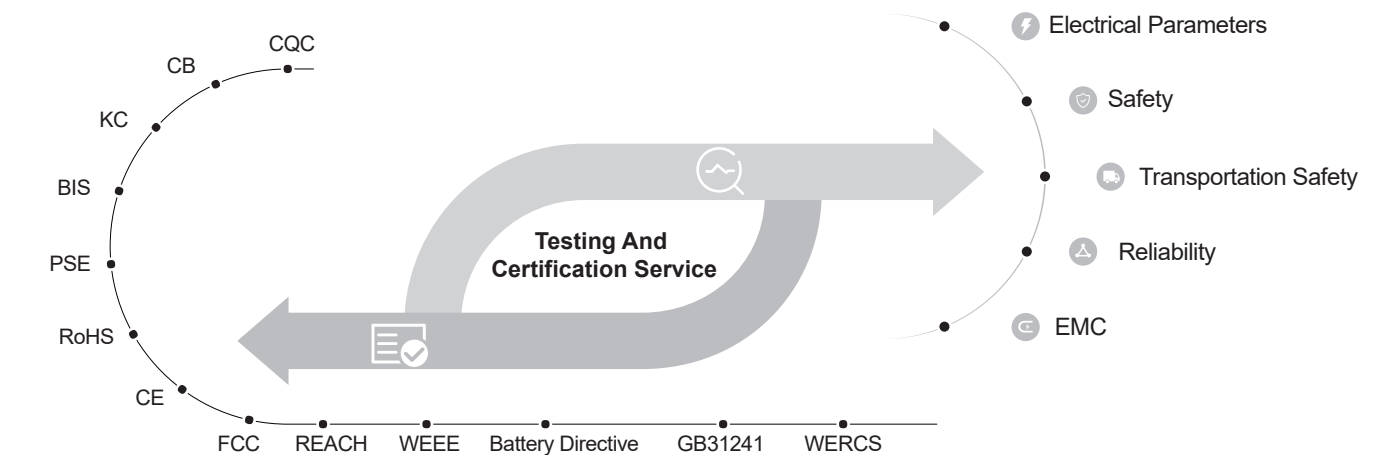
KC

PSE

ROHS

Battery Testing Item

- | | |
|--------------------------|---------------------------------|
| • Environmental Testing | • Impact |
| • Low Pressure | • Wash |
| • Temperature Cycling | • ESD |
| • Thermal Abuse | • Electric Testing |
| • Mechanical Testing | • Rated Capacity |
| • Vibration | • Discharge Performance |
| • Mechanical Shock | • Over Discharge |
| • Free Fall | • Over Charge |
| • Crush | • Forced Discharge |
| • High Rate Charging | • Internal Resistance |
| • External Short Circuit | • Charge Retention And Recovery |
| • Endurance | • EMC Testing |



Battery Testing Standards

UN 38.3

United Nations Recommendations on the Transport of Dangerous Goods; Manual of Dangerous Goods; Manual of Tests and Criteria Rev.6 Amend1 Section 38.3

IEC 62133/EN62133

Secondary Cells And Batteries Containing Alkaline Or Other Non-Acid Electrolytes-Safety Requirements For Portable Sealed Secondary Cells And For Batteries

GB31241

Safety Certification Rules for Lithium-ion Cells and Batteries Used in Portable Electronic Equipment

UL1642

UL Standard for Safety for Lithium Batteries

UL 2054

UL Standard for Safety for Household and Commercial Batteries



UL

UL1642-TUV

MSDS

HONCELL-14001

HONCELL-9001

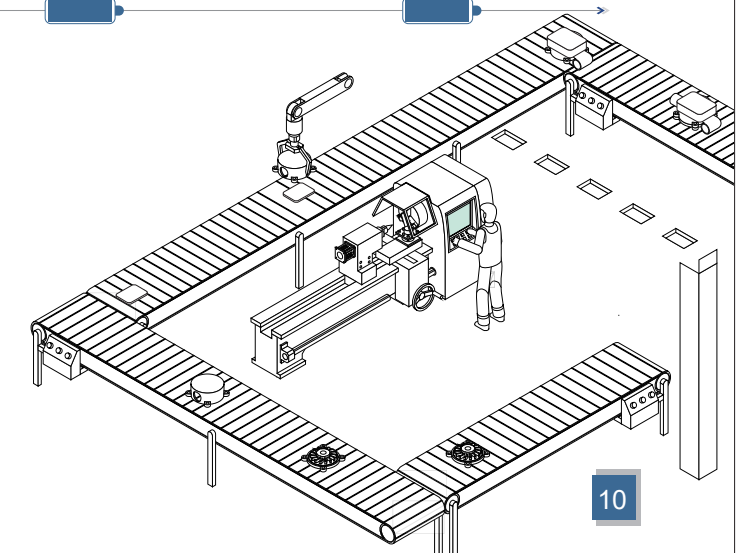
Certification for Safe Transport

Production Flowchart



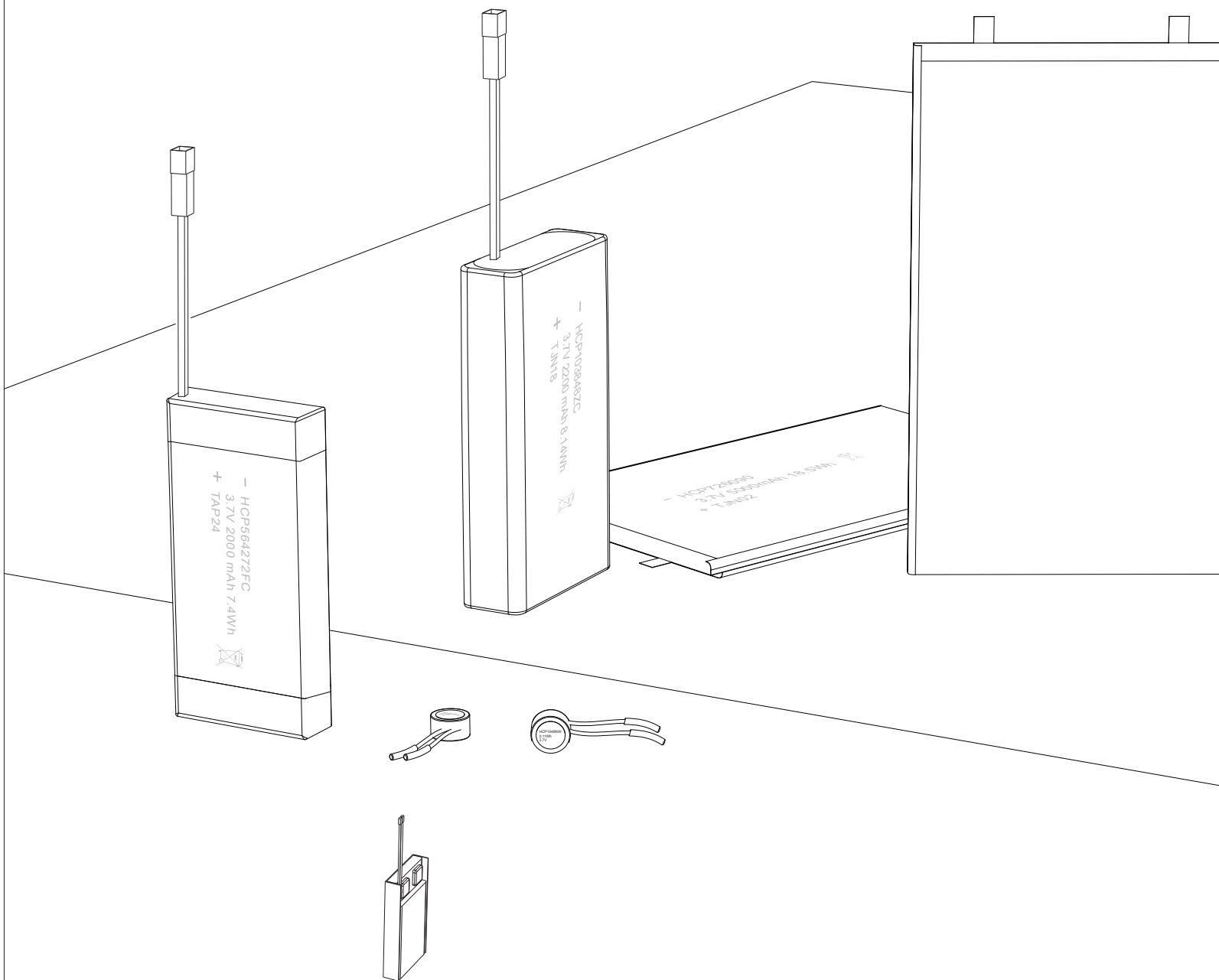
Smart Manufacturing

We implement a smart traceable system so that we may monitor the incoming materials, production batches, key operations, critical machinery, and processes for all our products. Coupled with advanced flexibility and a high degree of specialized automation, Honcell's smart manufacturing concept allows us to maintain superior quality control while ensuring that we can meet our customers' volume requirements in a timely manner.



Product Description

The Lithium-ion polymer batteries, polymer lithium ion or more commonly lithium polymer batteries abbreviated Li-poly, Li-pol, LiPo, LiP, PLI or LiP, are rechargeable secondary batteries, and are being one of the most popular types of battery nowadays for both of industrial and commercial applications.



1. Data Sheet ¹

Model Number: HCP-3849133

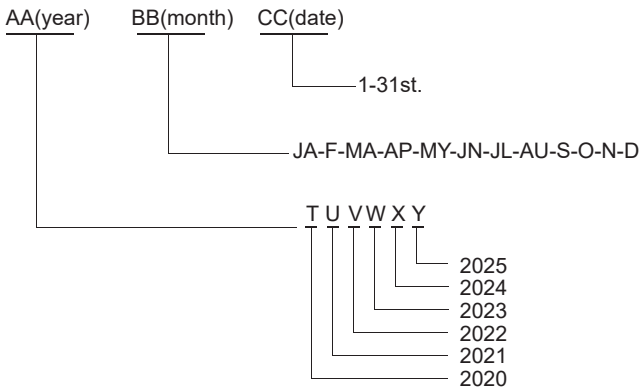
2. Dimensions [mm]

Thickness	T	Max. 3.8 (at delivery) Max. 4.1 (after cycling)
Width	W	Max. 49.5
Length	L	Max. 133.5 (exclude tabs)
Tab Distance	B	33.0±2.0
Tab Length	A	4.0±0.5
Tab Width	C	5.0±0.2
Top Sealing Width	D	3.0
Top Sealant Height	E	1.5 for Ref.
Weight Approx. [g]		68.4

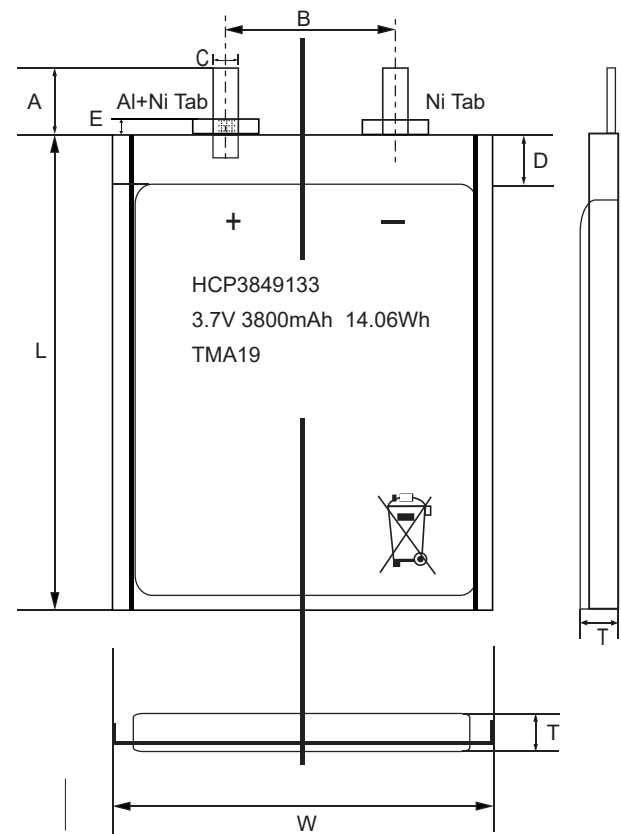
3. Electrical Parameter ²

Nominal Voltage [V]		3.7 (rated)
Capacity [mAh]	Typ.	3820 (0.2C @ 23±2°C)
	Min.	3800 (0.2C @ 23±2°C)
Impedance Initial [mΩ]		≤40 @ AC1kHz, 4.2V
Charge Current ³	Std.	@ 0.2C (760mA)
	Max.	@ 1.0C (3800mA)
Discharge Current	Std.	@ 0.2C (760mA)
	Max.	@ 1.0C (3800mA)
	Pulse	@ 2.0C (7600mA), 3-4mS
Discharge Cut-off Voltage [V]		3.0
Charge Cut-off Voltage [V]		4.25±0.03
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 ≥85%	-10 to +25°C
	3 Months ≥85%	-20 to +45°C
	1 Month ≥90%	-20 to +50°C

4. Date Code Nomenclature



5. Mechanical Drawing (Not in Scale)



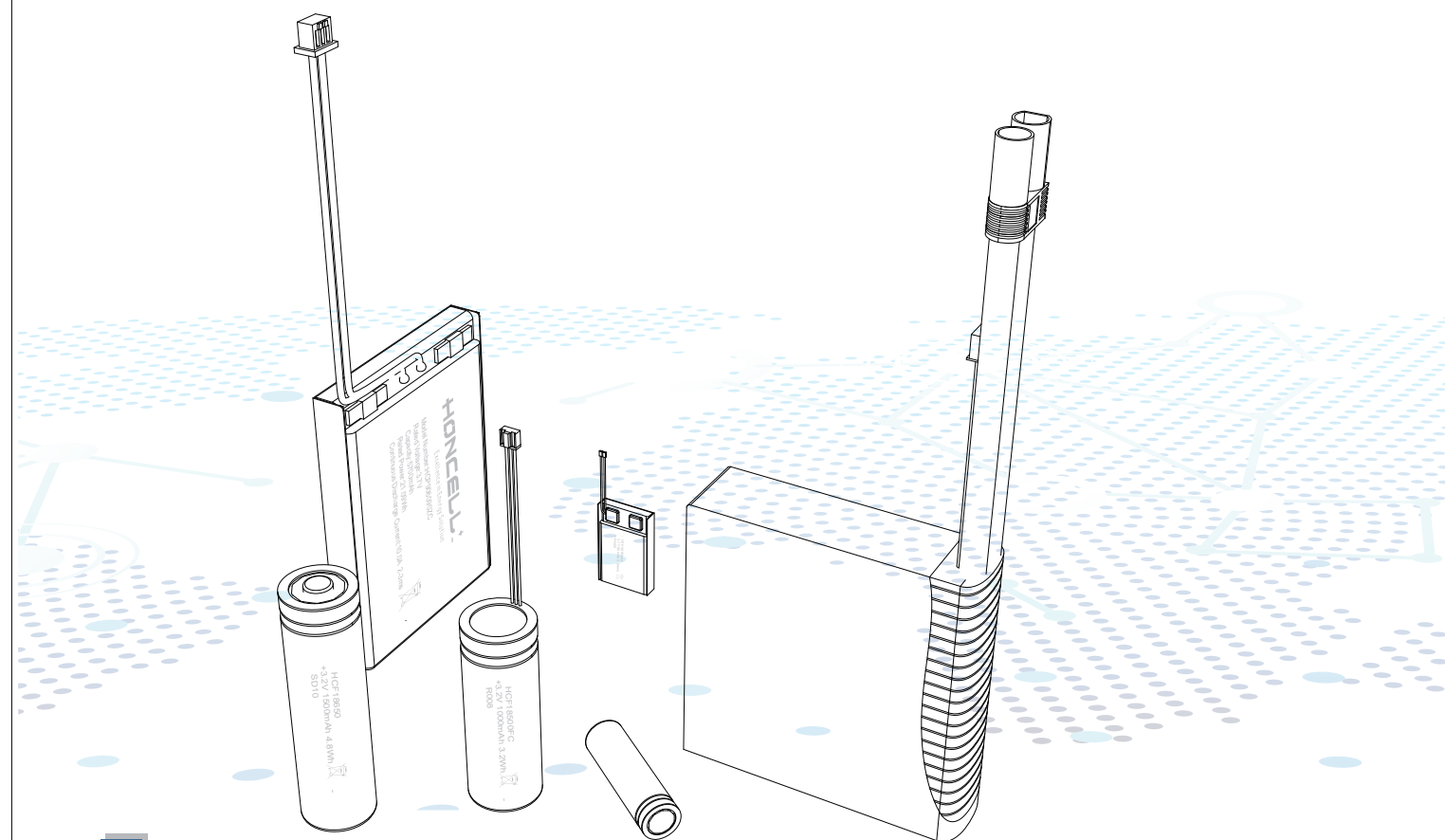
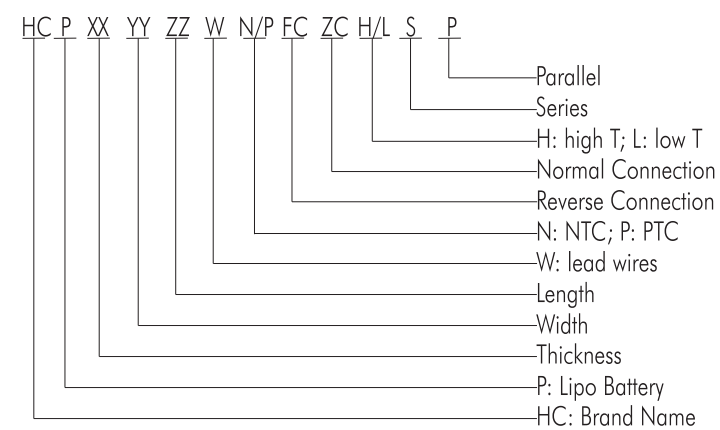
6. Safety Standards

- IEC62133-2017(TUV-CB), UN38.3, UL1642, UL2054, KC, PSE, BIS
- MSDS, GB31241, REACH, RoHS, WERCS, CE, FCC

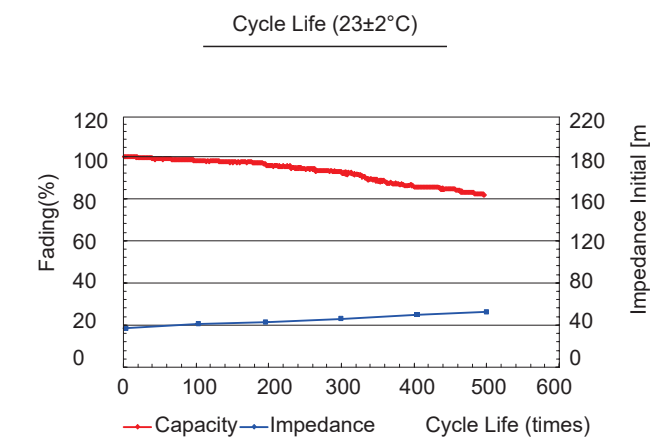
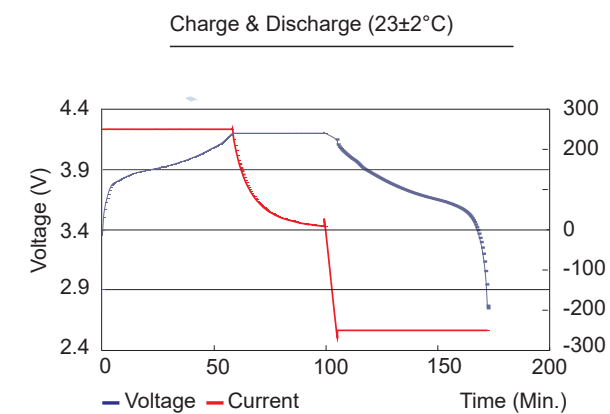
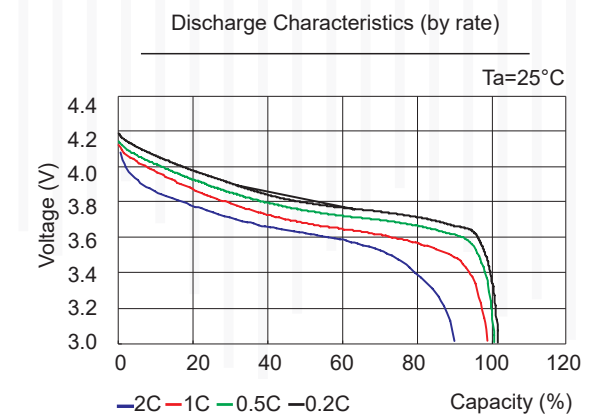
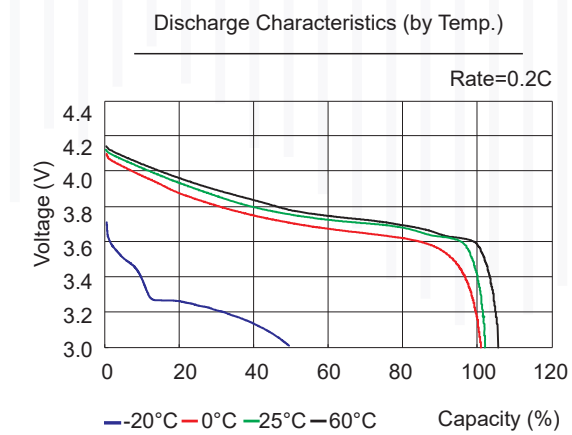
7. Delivery Status

Cell Voltage [V]	3.75-3.96
Cell Capacity [%]	50-70

8. Model No. Nomenclature



9. Curves



This Specification sheet describes the basic performance, technical parameters, testing methods, warnings and cautions of the Li-ion Polymer rechargeable battery. The specification sheet only applies to the products manufactured by Shenzhen Honcell Energy Company Limited. Technical information in this datasheet are for reference purpose only but NOT constitute any warranty or presentation and subject to change without prior notice.

Electrical Parameters

No.	Item		Spec.	Remark
1	Base Cell Model		HCP7080138	3.7V, 11600mAh, 42.92Wh
2	Capcity [mAh]		Typ.	11620
			Min.	11600
3	Rated Voltage [V]		3.7	Cell voltage at 3.75 to 3.96V before shipping
4	Charge Cut-off Voltage [V]		4.25±0.03	
5	Discharge Cut-off Voltage [V]		3.0	
6	Impedance (mΩ)	Cell	60	Measure the internal resistance with AC=1kHz (Since Wave) after standard charge
		Cell+PCM	180	
7	Charge Current [mA]	Std.	@0.2C (2320)	Constant Current (CC) and then with Constant Voltage (CV)
		Max.	@0.5C (5800)	
		Pulse	@0.86C (10000)	
8	Discharge Current [mA]	Std.	@0.2C (2320)	Max. continuously discharge current
		Max.	@0.5C (5800)	
		Pulse	@0.86C (10000)	
9	Operating Temp. [°C]	Charge	0 to 45	
		Discharge	-20 to 60	
10	Storage Temp. [°C]	12 Months	@ -10 to 25°C ≥80%	@ SOC 50%, cell capacity recovery rate in time V.S %. Battery is always recommended to be stored at 23±2°C
		3 Months	@ -20 to 45°C ≥85%	
		1 Month	@ -20 to 50°C ≥90%	
11	Cycle Life		≥500 times	CC@0.2C charges to 4.20V, and then with CV till the current declines to 0.02C. In 5 Mins., CC@0.2C, discharges to 3.0V. In 10Mins., repeat continuously till the capacity remained less than 80% of initial
12	Self-discharge	Cell	95%	Store the batteries for 1 month at 23±2°C after std. charge and then discharged @0.2C to 3.0V cut off, or 0.08mV/h as a reference
		Cell+PCM	90%	
13	Retention Capability		≥270 Mins.	Store the batteries for 28 days at 23±2°C, then record the discharge time @0.2C to a cut off voltage at 3.0V

No.	Item		Spec.	Remark
14	Std. Condition	Temp.	15 to 35°C	
		Humidity	45-75%RH	
		Pressure	86-106KPa	
15	Approx. Weight [g]		155.5	

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 froma 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.1 hr 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 No Fire
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 Explosion No Rupture No Leakage or Venting
4	Mechanical Shock	After standard charge,secure the cells to testing machine by means of a rigid mount which will support all mounting surfaces of test cell. Each shall be subjected to 3 shocks in each direction of 3mutually positions of the cell for a total of 18 shock.acceleration:100m/s²; frequency:40 to 80 times/min;pulse duration:6ms;impact times: 1000±.	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

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±20mΩ . 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

Reliability Testing of Bare Raw Cell

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 discharge 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 ***
Above tests are all tested according to UL1642 and or IEC62133-2017 for cells, and UL2054 or IEC62133-2017 for battery packs, and UN38.3 for shipping and packing instructions,

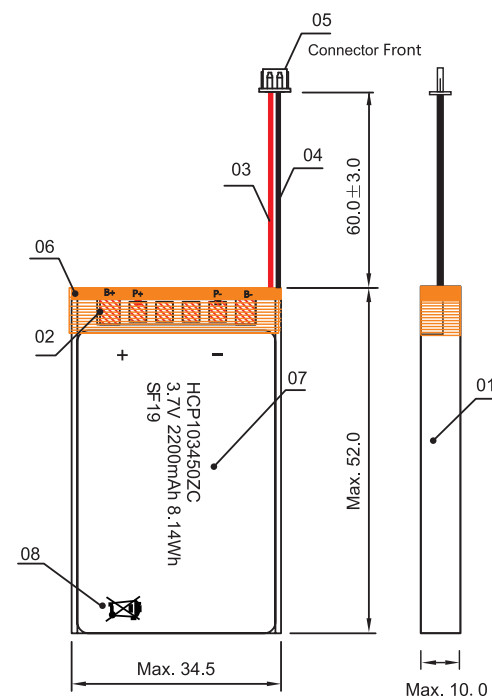
The Requirements Of Measurements And Instrumentations

- 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 range is 150-200mm
- 7: Instrument For Measuring Weight**
accuracy must be more than 0.1g, measuring range 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%

+ Li-ion Polymer Battery HCP SERIES

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
1	8.0	15.0	300815	HCP	15	3.7V	3.10	8.00	15.00	1.5	3.0	1500.0
2		34.5	250834	HCP	40	3.7V	2.73	8.60	34.50	2.0	4.0	550.0
3		46.5	350846	HCP	80	3.7V	3.60	8.50	46.50	2.0	4.0	450.0
4	9.0	23.0	340923	HCP	40	3.7V	3.40	9.30	23.00	2.0	4.5	500.0
5	10.0	13.5	351013	HCP	15	3.7V	3.50	9.80	13.50	2.0	4.0	1200.0
6		18.0	381018	HCP	35	3.7V	3.80	10.00	18.00	2.0	4.0	900.0
7		22.5	151020	HCP	12	3.7V	1.50	16.00	22.50	1.5	5.0	1350.0
8		35.5	431035	HCP	110	3.7V	4.30	10.50	35.50	3.0	5.0	270.0
9	11.0	58.5	371058	HCP	160	3.7V	3.70	10.80	58.50	3.0	4.5	250.0
10		13.8	371114	HCP	21	3.7V	3.60	10.90	13.80	2.0	5.0	1400.0
11		20.5	401120	HCP	55	3.7V	4.10	11.50	20.50	1.5	5.0	350.0
12		25.0	401124	HCP	80	3.7V	4.15	11.30	25.00	2.0	5.0	300.0
13		35.5	401135	HCP	120	3.7V	4.00	11.50	35.50	3.0	5.3	220.0
14	12.0	41.5	631141	HCP	185	3.7V	6.30	11.50	41.50	3.0	5.5	200.0
15		65.5	431165	HCP	250	3.7V	4.50	11.20	65.50	3.0	20.0	120.0
16		15.5	301215	HCP	25	3.7V	3.20	12.50	15.50	2.0	5.0	700.0
17		21.0	401220	HCP	65	3.7V	4.15	12.30	21.00	2.0	5.0	350.0
18		32.5	501232	HCP	145	3.7V	5.00	12.50	32.50	2.0	5.0	300.0
19		40.5	501240	HCP	170	3.7V	5.20	12.30	40.50	3.0	5.0	170.0
20	13.0	45.5	701245	HCP	300	3.7V	6.60	12.50	45.50	3.0	5.0	130.0
21		65.0	601265	HCP	450	3.7V	6.15	12.30	65.00	2.0	5.0	80.0
22		16.0	301317	HCP	40	3.7V	3.50	12.50	16.00	2.0	5.0	500.0
23		20.0	301320	HCP	50	3.7V	3.20	13.50	20.00	1.5	5.0	420.0
24		41.5	301341	HCP	130	3.7V	3.00	13.50	41.50	2.0	5.5	170.0
25		58.5	551358	HCP	400	3.7V	5.50	13.50	58.50	2.0	6.0	80.0
26		62.0	681362	HCP	530	3.7V	6.80	13.50	62.00	3.0	4.0	120.0

NO.	Item Name	Model	Qty.
1	Cell	HCP103450	1
2	PCM	SEIKO DAI	1
3	Red Wire (P+)	UL3302-28AWG#	1
4	Black Wire (P-)	UL3302-28AWG#	1
5	Connector	JST-ACHR-02V-S	1
6	Insulating Tape	Orange	2
7	Printing	***	***
8	Label	Crossed Wheel Bin	1



No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
27	14.0	16.0	451416	HCP	50	3.7V	4.50	14.50	16.00	2.0	5.0	400.0
28		26.5	301426	HCP	75	3.7V	3.20	14.50	26.50	2.0	7.0	300.0
29		30.5	501430	HCP	170	3.7V	5.20	14.50	30.50	2.0	7.5	220.0
30		39.5	401440	HCP	190	3.7V	3.90	14.30	39.50	2.0	6.0	160.0
31		47.5	601447	HCP	350	3.7V	6.00	14.00	47.50	2.0	6.5	95.0
32		52.5	651452	HCP	420	3.7V	6.50	14.50	52.50	3.0	5.5	100.0
33	15.0	71.5	401471	HCP	360	3.7V	4.00	14.50	71.50	2.0	6.5	120.0
34		15.5	661515	HCP	85	3.7V	6.60	15.00	15.50	1.5	7.0	390.0
35		25.3	321525	HCP	80	3.7V	3.20	15.30	25.30	1.5	6.5	300.0
36		37.5	501537	HCP	230	3.7V	5.10	15.50	37.50	2.0	5.5	130.0
37		50.5	401550	HCP	280	3.7V	4.20	15.50	50.50	2.0	6.5	110.0
38		58.0	801558	HCP	650	3.7V	8.00	15.50	58.00	2.0	8.0	100.0
39	16.0	75.0	451575	HCP	450	3.7V	4.50	15.40	75.00	2.0	6.0	100.0
40		24.5	351624	HCP	90	3.7V	3.50	16.50	24.50	2.0	6.5	300.0
41		35.5	351635	HCP	140	3.7V	3.50	16.50	35.50	2.0	6.5	200.0
42		46.5	501646	HCP	300	3.7V	5.00	16.50	46.50	2.0	8.0	120.0
43		57.0	521657	HCP	420	3.7V	5.20	16.80	57.00	2.0	7.0	90.0
44		63.5	601663	HCP	560	3.7V	6.00	16.50	63.50	3.0	6.5	90.0
45	17.0	80.0	701680	HCP	750	3.7V	6.90	16.00	80.00	3.0	7.0	80.0
46		95.5	801695	HCP	1400	3.7V	8.00	16.50	95.50	3.0	7.0	80.0
47		16.0	401716	HCP	60	3.7V	4.00	17.00	16.00	2.0	9.0	360.0
48		22.0	101722	HCP	270	3.7V	10.00	17.00	22.00	3.0	7.0	150.0
49		30.5	451730	HCP	180	3.7V	4.50	17.50	30.50	2.0	6.5	150.0
50		40.5	501740	HCP	300	3.7V	5.20	17.20	40.50	2.0	7.5	120.0
51	18.0	52.0	601752	HCP	470	3.7V	6.00	17.00	52.00	3.0	8.0	60.0
52		60.5	831760	HCP	890	3.7V	8.20	17.60	60.50	3.0	7.0	60.0
53		72.5	631772	HCP	800	3.7V	6.30	17.50	72.50	3.0	7.5	70.0
54		80.0	541780	HCP	680	3.7V	5.40	17.00	80.00	3.0	8.0	70.0

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
55	18.0	18.5	601818	HCP	135	3.7V	6.00	18.00	18.50	3.0	8.0	180.0
56		23.0	611823	HCP	190	3.7V	6.10	17.80	23.00	2.0	6.0	180.0
57		34.5	451834	HCP	220	3.7V	4.50	18.50	34.50	2.0	5.5	160.0
58		37.2	651837	HCP	400	3.7V	6.50	18.00	37.20	2.0	8.0	120.0
59		41.5	851841	HCP	610	3.7V	8.50	18.50	41.50	3.0	6.0	80.0
60		60.5	631860	HCP	715	3.7V	6.30	17.60	60.50	3.0	7.5	80.0
61	19.0	63.5	501866	HCP	420	3.7V	4.90	16.50	63.50	3.0	8.5	90.0
62		85.8	451885	HCP	730	3.7V	4.60	19.00	85.80	3.0	7.0	80.0
63		20.0	381920	HCP	90	3.7V	3.80	19.50	20.00	2.0	8.0	300.0
64		27.5	501927	HCP	210	3.7V	5.00	19.50	27.50	2.0	8.5	130.0
65		38.5	321938	HCP	200	3.7V	3.20	19.70	38.50	2.0	8.0	150.0
66		44.5	601945	HCP	450	3.7V	6.00	19.50	44.50	2.0	7.5	80.0
67		60.0	701960	HCP	800	3.7V	7.10	19.00	60.00	3.0	8.5	60.0
68	19.0	80.0	801980	HCP	1200	3.7V	8.00	19.00	80.00	3.0	8.0	45.0

+ Li-ion Polymer Battery HCP SERIES

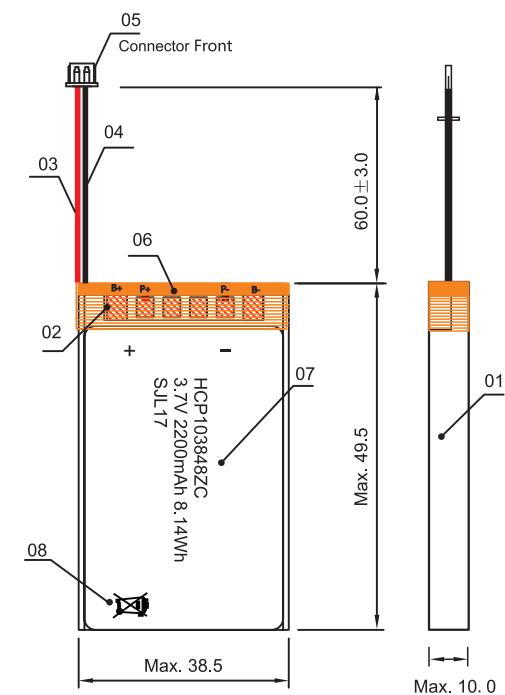
No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (± 1.0) mm	Impedance (mΩ)
69	20.0	18.5	362018	HCP	90	3.7V	3.60	19.80	18.50	2.0	9.5	300.0
70		25.5	202025	HCP	50	3.7V	2.70	20.50	25.50	2.0	10.0	400.0
71		30.0	502030	HCP	250	3.7V	5.00	20.00	30.00	3.0	7.7	100.0
72		40.5	602040	HCP	420	3.7V	6.00	20.50	40.50	3.0	7.5	140.0
73		49.5	402050	HCP	360	3.7V	4.10	20.00	49.50	2.0	8.0	120.0
74		55.5	852055	HCP	970	3.7V	8.40	20.50	55.50	3.0	8.5	60.0
75		60.5	602060	HCP	770	3.7V	6.00	20.00	60.50	3.0	7.5	90.0
76		65.5	352065	HCP	350	3.7V	3.50	20.50	65.50	2.0	9.0	60.0
77		70.0	752070	HCP	1000	3.7V	7.50	20.00	70.00	3.0	8.0	65.0
78		83.5	302083	HCP	420	3.7V	3.00	20.50	83.50	3.0	10.0	110.0
79	21.0	27.3	922126	HCP	400	3.7V	9.20	21.50	27.30	3.0	8.0	100.0
80		43.0	402143	HCP	350	3.7V	4.00	21.50	43.00	2.0	11.0	180.0
81		48.5	492148	HCP	470	3.7V	4.90	21.50	48.50	2.0	9.0	85.0
82		74.0	702176	HCP	1300	3.7V	7.00	21.00	74.00	4.0	10.0	60.0
83		95.0	742195	HCP	1500	3.7V	7.40	21.00	95.00	4.0	8.0	55.0
84	22.0	22.5	302222	HCP	100	3.7V	3.00	22.50	22.50	2.0	8.0	260.0
85		26.5	402227	HCP	180	3.7V	4.10	22.50	26.50	2.0	12.0	150.0
86		37.0	662237	HCP	480	3.7V	6.60	22.00	37.00	3.0	8.0	75.0
87		40.5	552240	HCP	450	3.7V	5.50	22.50	40.50	2.0	8.0	100.0
88		50.0	702250	HCP	800	3.7V	7.00	22.00	50.00	2.0	7.9	75.0
89		58.7	682258	HCP	950	3.7V	6.90	22.50	58.70	3.0	8.0	65.0
90		60.0	952260	HCP	1350	3.7V	9.50	22.50	60.00	4.0	12.0	40.0
91		72.5	652272	HCP	1000	3.7V	6.50	22.30	72.50	3.0	8.6	65.0
92		95.0	802294	HCP	1650	3.7V	8.30	22.50	95.00	4.0	7.0	70.0
93		107.0	1122107	HCP	3150	3.7V	11.00	22.00	107.00	3.0	8.0	45.0
94		125.0	8022125	HCP	2400	3.7V	8.00	22.00	125.00	4.0	6.4	40.0

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (± 1.0) mm	Impedance (mΩ)
95	23.0	24.5	902323	HCP	380	3.7V	9.00	23.50	24.50	4.0	8.0	100.0
96		32.5	272332	HCP	165	3.7V	2.70	23.50	32.50	2.0	8.0	180.0
97		35.5	252335	HCP	150	3.7V	2.70	23.50	35.50	2.0	13.0	150.0
98		40.0	422340	HCP	360	3.7V	4.30	23.00	40.00	2.0	12.7	150.0
99		70.0	832370	HCP	1400	3.7V	8.30	23.00	70.00	3.0	8.5	50.0
100	24.0	74.5	832375	HCP	1650	3.7V	8.30	23.00	74.50	3.0	10.0	60.0
101		83.0	702383	HCP	1500	3.7V	7.00	23.50	83.00	3.0	8.0	50.0
102		26.7	622425	HCP	320	3.7V	6.10	24.50	26.70	3.0	12.0	110.0
103		30.0	662430	HCP	450	3.7V	6.60	24.00	30.00	3.0	9.2	75.0
104		38.5	402438	HCP	350	3.7V	4.00	23.50	38.50	2.0	13.0	100.0
105		48.5	562448	HCP	600	3.7V	5.60	24.00	48.50	3.0	9.0	90.0
106		50.0	122450	HCP	60	3.7V	1.20	24.50	50.00	1.5	8.0	360.0
107		66.0	592466	HCP	1000	3.7V	5.90	24.00	66.00	3.0	10.0	50.0
108		71.0	462471	HCP	800	3.7V	4.60	24.00	71.00	3.0	11.0	60.0
109		87.0	252487	HCP	370	3.7V	2.50	24.00	87.00	2.0	11.0	120.0
110		120.0	1524122	HCP	180	3.7V	1.35	23.80	120.00	3.0	10.5	150.0

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (± 1.0) mm	Impedance (mΩ)
111	25.0	25.5	252525	HCP	95	3.7V	2.50	25.50	25.50	3.0	15.0	280.0
112		30.5	402530	HCP	250	3.7V	4.20	25.50	30.50	2.0	13.0	120.0
113		33.5	502533	HCP	370	3.7V	5.20	25.50	33.50	2.0	13.5	80.0
114		35.5	602535	HCP	500	3.7V	6.00	25.50	35.50	2.0	12.0	150.0
115		40.5	602540	HCP	580	3.7V	6.00	25.50	40.50	2.0	11.0	90.0
116		50.5	802550	HCP	950	3.7V	8.00	25.50	50.50	3.0	9.5	70.0
117		55.0	552555	HCP	800	3.7V	5.50	25.00	55.00	3.0	11.5	60.0
118	26.0	74.0	762573	HCP	1500	3.7V	7.60	25.50	74.00	3.0	10.0	50.0
119		25.0	452625	HCP	320	3.7V	4.55	26.50	25.00	3.0	14.3	110.0
120		28.5	502628	HCP	330	3.7V	5.00	26.50	28.50	2.0	14.0	120.0
121		34.5	232634	HCP	150	3.7V	2.30	28.50	34.50	2.0	17.0	200.0
122		42.0	532642	HCP	600	3.7V	5.30	26.00	42.00	3.0	12.4	80.0
123		55.0	402655	HCP	540	3.7V	4.00	26.00	55.00	2.0	14.0	80.0
124		63.5	602663	HCP	1000	3.7V	6.20	26.30	63.50	3.0	12.0	70.0
125	27.0	84.0	602684	HCP	1000	3.7V	6.00	26.00	84.00	3.0	11.5	60.0
126		99.0	502699	HCP	1400	3.7V	5.00	26.00	99.00	4.0	11.8	50.0
127		24.0	552724	HCP	340	3.7V	5.50	27.00	24.00	3.0	14.2	100.0
128		38.5	382738	HCP	350	3.7V	3.80	27.50	38.50	2.0	16.5	120.0
129		45.5	402745	HCP	480	3.7V	4.00	27.50	45.50	2.0	14.5	80.0
130		60.0	602760	HCP	1100	3.7V	6.00	27.00	60.00	3.0	12.7	60.0
131		67.0	722767	HCP	1400	3.7V	7.20	27.00	67.00	4.0	10.7	55.0
132	28.0	76.0	372775	HCP	750	3.7V	3.70	27.17	76.00	3.0	14.0	70.0
133		27.0	402827	HCP	250	3.7V	3.85	28.30	27.00	2.0	17.0	120.0
134		38.5	482839	HCP	560	3.7V	5.00	28.50	38.50	2.0	12.0	80.0
135		45.0	852845	HCP	1100	3.7V	8.50	28.00	45.00	3.0	11.4	60.0
136		50.0	602850	HCP	950	3.7V	6.00	28.00	50.00	3.0	12.5	60.0
137		65.0	652865	HCP	1400	3.7V	6.50	28.00	65.00	4.0	12.4	60.0
138		74.0	422874	HCP	900	3.7V	4.20	28.00	74.00	3.0	15.8	60.0
139		80.5	402880	HCP	850	3.7V	4.00	29.00	80.50	3.0	16.0	60.0
140		97.5	752897	HCP	2250	3.7V	7.50	28.50	97.50	4.0	11.5	45.0
141		101.0	6628101	HCP	2600	3.7V	6.60	28.00	101.00	4.0	12.5	40.0

All the below materials shall be environmental friendly and RoHS compliant (unit: mm)

NO.	Item Name	Model	Qty.
1	Cell	HCP103848	1
2	PCM	R5478N187CD	1
3	Red Wire (P+)	UL1007-26AWG#	1
4	Black Wire (P-)	UL1007-26AWG#	1
5	Connector	JST-PHR-020	1
6	Insulating Tape	Orange	2
7	Printing	***	***
8	Label	Crossed Wheel Bin	1



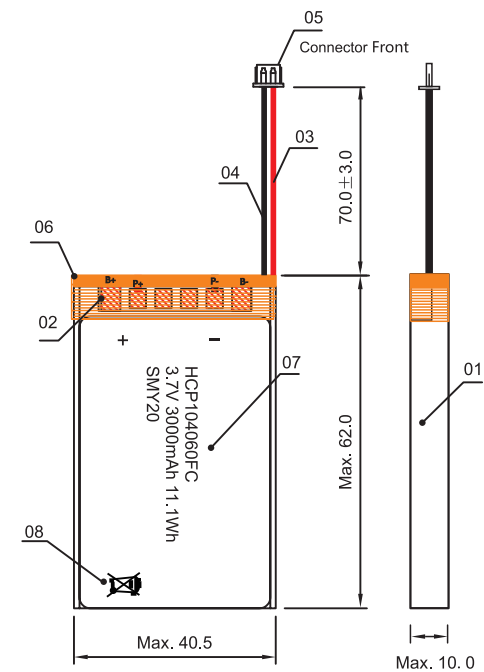
+ Li-ion Polymer Battery HCP SERIES

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (± 1.0) mm	Impedance (mΩ)
142	29.0	33.0	692933	HCP	650	3.7V	6.90	29.50	33.00	3.0	14.8	70.0
143		35.0	692935	HCP	650	3.7V	6.90	29.00	35.00	3.0	13.9	70.0
144		38.5	302938	HCP	310	3.7V	3.00	29.50	38.50	2.0	16.0	150.0
145		40.0	682940	HCP	800	3.7V	6.80	29.00	40.00	3.0	14.3	70.0
146		46.0	342946	HCP	450	3.7V	3.45	28.00	46.00	3.0	16.5	90.0
147		50.0	652950	HCP	900	3.7V	6.50	29.50	50.00	3.0	15.0	70.0
148		90.0	702990	HCP	1500	3.7V	7.00	29.00	90.00	4.0	12.8	45.0
149	30.0	127.5	6029127	HCP	2500	3.7V	6.20	29.50	127.50	4.0	13.0	50.0
150		27.0	753027	HCP	550	3.7V	7.50	30.00	27.00	3.0	15.0	70.0
151		30.5	503030	HCP	400	3.7V	5.00	30.50	30.50	2.0	17.0	100.0
152		33.0	803033	HCP	800	3.7V	8.00	30.00	33.00	3.0	14.0	60.0
153		35.0	403035	HCP	400	3.7V	4.00	30.00	35.00	3.0	17.9	80.0
154		38.5	453038	HCP	530	3.7V	4.50	30.30	38.50	2.0	17.5	90.0
155		40.0	503040	HCP	650	3.7V	5.00	30.00	40.00	3.0	17.3	70.0
156		45.8	603045	HCP	850	3.7V	6.20	30.50	45.80	3.0	16.0	75.0
157		48.0	503048	HCP	800	3.7V	5.00	30.00	48.00	3.0	18.0	60.0
158		49.5	553050	HCP	820	3.7V	5.50	30.50	49.50	3.0	17.0	70.0
159		55.0	303055	HCP	500	3.7V	3.00	30.00	55.00	3.0	20.3	80.0
160		60.5	703060	HCP	1400	3.7V	7.00	30.50	60.50	3.0	15.0	60.0
161		78.0	403078	HCP	1050	3.7V	4.00	30.00	78.00	3.0	13.0	40.0
162		80.5	753080	HCP	2000	3.7V	7.50	30.50	80.50	4.0	13.0	50.0
163		85.0	623085	HCP	1300	3.7V	6.50	30.00	85.00	4.0	14.4	50.0
164		94.0	373094	HCP	1300	3.7V	3.70	30.00	94.00	3.0	19.6	50.0
165		100.0	7030100	HCP	2500	3.7V	7.00	30.00	100.00	4.0	14.0	50.0
166		134.5	8530134	HCP	3800	3.7V	8.50	30.50	134.50	5.0	12.0	50.0
167		160.5	8030160	HCP	4100	3.7V	7.80	30.00	160.50	4.0	10.0	40.0
168		185.0	9030185	HCP	6000	3.7V	9.00	30.00	185.00	5.0	10.5	40.0

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (± 1.0) mm	Impedance (mΩ)
169	31.0	28.5	263128	HCP	180	3.7V	2.80	31.50	28.50	2.0	22.0	200.0
170		35.5	503135	HCP	500	3.7V	5.00	31.50	35.50	2.0	18.0	80.0
171		44.0	103144	HCP	1600	3.7V	10.00	31.00	44.00	4.0	11.8	75.0
172		57.5	553157	HCP	950	3.7V	5.50	31.00	57.50	3.0	18.0	65.0
173		79.0	903179	HCP	2300	3.7V	9.00	31.00	79.00	4.0	13.0	45.0
174	32.0	94.0	663196	HCP	2600	3.7V	6.60	31.00	94.00	4.0	15.6	40.0
175		100.0	7231100	HCP	1600	3.7V	7.20	31.00	100.00	3.0	14.5	40.0
176		25.0	103225	HCP	800	3.7V	10.40	32.00	25.00	3.0	13.3	60.0
177		34.2	103233	HCP	1020	3.7V	9.80	32.50	34.20	3.0	13.0	60.0
178		40.5	563240	HCP	750	3.7V	5.60	32.50	40.50	2.0	18.5	80.0
179		48.0	653248	HCP	1200	3.7V	6.50	32.00	48.00	4.0	16.3	50.0
180		50.0	723250	HCP	1300	3.7V	7.20	32.00	50.00	4.0	13.0	60.0
181		54.0	403254	HCP	780	3.7V	4.00	32.00	54.00	3.0	20.0	80.0
182		60.0	403260	HCP	950	3.7V	4.00	32.00	60.00	3.0	13.0	55.0
183		70.5	603270	HCP	1500	3.7V	6.00	32.00	70.50	3.0	17.0	50.0
184	32.0	80.0	603280	HCP	1800	3.7V	6.00	32.00	80.00	4.0	16.9	40.0
185		84.5	343285	HCP	950	3.7V	3.40	32.00	84.50	3.0	19.0	70.0
186		93.0	323293	HCP	1000	3.7V	3.20	32.00	93.00	3.0	19.0	50.0
187		100.0	8032100	HCP	2250	3.7V	7.60	31.80	100.00	3.0	14.5	35.0
188		134.0	7532134	HCP	4000	3.7V	7.50	32.50	134.00	5.0	11.0	40.0

All the below materials shall be environmental friendly and RoHS compliant (unit: mm)

NO.	Item Name	Model	Qty.
1	Cell	HCP104060	1
2	PCM	SEIKO DAA	1
3	Red Wire (P+)	UL3302-24AWG#	1
4	Black Wire (P-)	UL3302-24AWG#	1
5	Connector	JST-PHR-02	1
6	Insulating Tape	Orange	2
7	Printing	***	***
8	Label	Crossed Wheel Bin	1



+ Li-ion Polymer Battery

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (± 1.0) mm	Impedance (mΩ)
189	33.0	28.5	943328	HCP	810	3.7V	9.50	33.50	28.50	3.0	15.5	70.0
190		35.0	353335	HCP	450	3.7V	3.50	33.00	35.00	3.0	21.8	60.0
191		43.0	703343	HCP	1100	3.7V	7.00	33.00	43.00	4.0	16.8	60.0
192		49.0	473349	HCP	900	3.7V	4.65	33.00	49.0	3.0	20.7	55.0
193		56.0	473356	HCP	1100	3.7V	4.70	33.00	56.00	4.0	17.0	55.0
194		66.0	453366	HCP	1100	3.7V	4.5	33.0	66.0	4.0	18.0	66.0
195		73.0	103373	HCP	2800	3.7V	10.00	33.00	73.00	4.0	13.7	50.0
196	34.0	82.0	383382	HCP	1200	3.7V	3.80	33.00	82.00	4.0	15.0	55.0
197		32.0	553432	HCP	630	3.7V	5.30	34.00	32.00	3.0	15.0	60.0
198		36.5	503436	HCP	550	3.7V	5.00	34.50	36.50	2.0	21.0	85.0
199		50.0	103450	HCP	1550	3.7V	10.00	34.00	50.00	3.0	15.7	40.0
200		45.0	503445	HCP	750	3.7V	5.30	33.70	45.00	3.0	18.0	80.0
201		50.0	603450	HCP	1250	3.7V	6.00	34.00	50.00	4.0	14.0	60.0
202		60.0	503460	HCP	1080	3.7V	4.80	34.00	60.00	3.0	21.0	60.0
203		65.5	703465	HCP	1700	3.7V	7.00	34.50	65.50	4.0	18.0	50.0
204		70.0	703470	HCP	2000	3.7V	7.00	34.00	70.00	4.0	15.0	50.0
205		75.0	343475	HCP	1100	3.7V	3.40	34.00	75.00	4.0	22.0	60.0
206		85.0	103485	HCP	3900	3.7V	10.00	34.00	85.00	5.0	14.0	40.0
207		88.0	653488	HCP	2000	3.7V	6.50	34.00	88.00	4.0	18.4	35.0
208		98.0	383498	HCP	1600	3.7V	3.80	34.00	98.00	4.0	15.0	50.0
209		100.0	3834100	HCP	1700	3.7V	3.80	34.00	100.00	4.0	17.0	55.0

✚ Li-ion Polymer Battery HCP SERIES

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
210	35.0	35.0	833535	HCP	950	3.7V	8.30	35.00	35.00	3.0	18.0	65.0
211		40.0	493540	HCP	900	3.7V	4.90	35.00	40.00	3.0	22.8	60.0
212		50.0	603550	HCP	1250	3.7V	6.00	35.00	50.00	4.0	14.0	45.0
213		62.5	553560	HCP	1260	3.7V	5.50	35.50	62.50	3.0	18.0	60.0
214		66.0	523566	HCP	1100	3.7V	5.20	35.00	66.00	3.0	18.0	50.0
215		72.0	103572	HCP	3500	3.7V	10.60	35.00	72.00	4.0	14.0	40.0
216		148.0	4235148	HCP	2900	3.7V	4.20	35.00	148.00	4.0	18.0	45.0
217	36.0	36.0	953636	HCP	1500	3.7V	9.50	36.00	36.00	4.0	17.0	50.0
218		40.0	553640	HCP	850	3.7V	5.45	36.00	40.00	3.0	14.0	60.0
219		50.0	603650	HCP	1200	3.7V	6.00	36.00	50.00	4.0	13.0	50.0
220		60.0	113660	HCP	3050	3.7V	11.00	36.00	60.00	5.0	14.0	45.0
221		56.0	123656	HCP	3000	3.7V	12.00	36.00	56.00	5.0	12.0	45.0
222		65.0	583665	HCP	1650	3.7V	5.80	36.00	65.00	4.0	14.0	45.0
223		86.5	473686	HCP	1550	3.7V	4.50	36.50	86.50	3.0	22.5	60.0
224	37.0	97.0	583697	HCP	2200	3.7V	5.80	36.00	97.00	3.0	17.0	50.0
225		103.0	4236103	HCP	2000	3.7V	4.20	36.00	103.00	4.0	20.0	45.0
226		130.0	6536130	HCP	2900	3.7V	6.50	36.00	130.00	4.0	21.3	35.0
227		37.5	433737	HCP	600	3.7V	4.40	38.00	37.50	3.0	25.0	100.0
228		46.3	383746	HCP	740	3.7V	3.80	37.50	46.30	2.0	26.0	70.0
229		59.5	503759	HCP	1200	3.7V	5.10	37.50	59.50	3.0	23.0	55.0
230		64.0	643764	HCP	1800	3.7V	6.40	37.00	64.00	3.0	22.1	45.0
231	38.0	74.0	523774	HCP	1800	3.7V	5.20	37.00	74.00	4.0	20.0	50.0
232		84.0	653784	HCP	2500	3.7V	6.50	37.00	84.00	4.0	14.0	50.0
233		107.5	6037107	HCP	2500	3.7V	6.20	37.50	107.50	4.0	20.0	25.0
234		132.0	1237132	HCP	7000	3.7V	11.90	37.00	132.00	5.0	11.0	30.0

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
235	38.0	40.0	103840	HCP	1850	3.7V	10.50	38.00	40.00	4.0	18.4	55.0
236		45.0	653845	HCP	1400	3.7V	6.50	38.00	45.00	4.0	17.0	50.0
237		48.5	103848	HCP	2200	3.7V	10.00	38.50	48.50	4.0	22.0	50.0
238		54.0	663854	HCP	1400	3.7V	6.30	38.00	54.00	4.0	20.0	45.0
239		60.0	503860	HCP	1400	3.7V	5.00	38.00	60.00	4.0	20.0	55.0
240		65.0	803865	HCP	2300	3.7V	8.00	38.00	65.00	4.0	18.0	50.0
241		70.0	633870	HCP	2000	3.7V	6.30	37.00	70.00	3.0	23.0	50.0
242	39.0	80.0	503880	HCP	1500	3.7V	5.00	38.00	80.00	4.0	24.0	50.0
243		96.0	353896	HCP	1600	3.7V	3.50	38.00	96.00	4.0	20.0	50.0
244		108.0	5038108	HCP	2600	3.7V	5.00	38.00	108.00	5.0	19.5	50.0
245		114.0	1038114	HCP	5000	3.7V	10.00	38.00	114.00	5.0	20.0	20.0
246		122.0	4738122	HCP	3000	3.7V	4.70	38.00	122.00	4.0	22.0	50.0
247		39.0	953939	HCP	1750	3.7V	9.50	39.00	39.00	3.0	20.0	40.0
248		41.0	553941	HCP	1100	3.7V	5.50	38.50	41.00	4.0	24.0	55.0
249	39.0	45.0	603945	HCP	1350	3.7V	6.00	39.00	45.00	4.0	24.0	50.0
250		50.0	713950	HCP	1500	3.7V	7.10	39.50	50.00	4.0	20.0	55.0
251		56.0	103956	HCP	3000	3.7V	10.70	39.00	56.00	3.0	15.5	55.0
252		66.0	483966	HCP	1500	3.7V	4.80	39.00	66.00	4.0	25.0	60.0
253		73.5	403973	HCP	1300	3.7V	4.00	39.50	73.50	3.0	23.0	100.0
254		78.0	313978	HCP	1200	3.7V	3.10	39.00	78.00	4.0	23.0	45.0
255		86.0	703986	HCP	2800	3.7V	7.00	39.00	86.00	4.0	23.0	50.0
256	39.0	92.5	113993	HCP	5200	3.7V	11.00	39.30	92.50	5.0	18.4	35.0

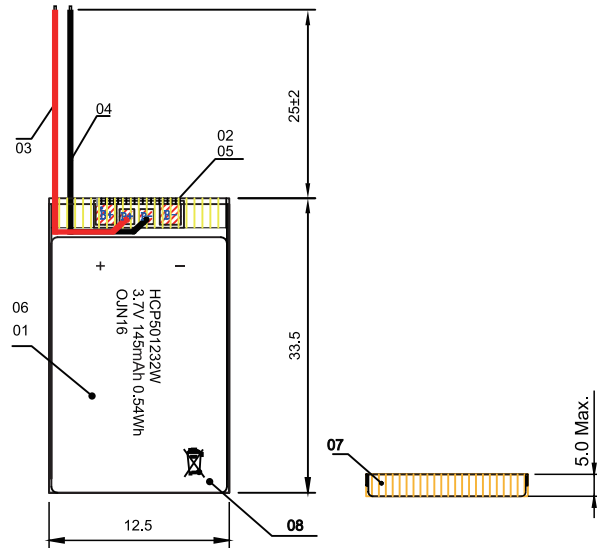
No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
257	40.0	38.0	974038	HCP	1800	3.7V	9.70	40.00	38.00	3.0	18.5	55.0
258		40.0	104040	HCP	1650	3.7V	10.00	40.00	40.00	4.0	20.9	30.0
259		45.0	454045	HCP	800	3.7V	4.50	40.00	45.00	3.0	27.5	60.0
260		52.5	124052	HCP	3100	3.7V	12.00	40.50	52.50	5.0	24.0	80.0
261		55.0	604055	HCP	1450	3.7V	6.00	40.00	55.00	4.0	24.0	50.0
262		60.0	104060	HCP	3000	3.7V	10.00	40.00	60.00	4.0	17.0	45.0
263		65.0	724065	HCP	2100	3.7V	7.20	40.00	65.00	4.0	16.0	45.0
264	41.0	70.0	554070	HCP	1800	3.7V	5.50	40.00	70.00	4.0	25.0	45.0
265		75.0	824075	HCP	3000	3.7V	8.20	40.00	75.00	4.0	17.0	40.0
266		85.0	704085	HCP	3100	3.7V	7.00	40.00	85.00	5.0	23.0	45.0
267		90.0	104090	HCP	4600	3.7V	10.00	40.00	90.00	5.0	20.0	50.0
268		97.0	694097	HCP	3500	3.7V	6.90	40.00	97.00	5.0	18.0	45.0
269		35.0	104135	HCP	1600	3.7V	10.30	41.00	35.00	4.0	21.0	50.0
270		39.5	764139	HCP	1200	3.7V	7.60	41.00	39.50	3.0	26.5	60.0
271	42.0	50.0	904152	HCP	2000	3.7V	9.00	40.00	50.00	4.0	20.0	50.0
272		55.5	724155	HCP	1680	3.7V	7.20	41.50	55.50	4.0	23.0	40.0
273		66.0	654166	HCP	2000	3.7V	6.50	41.50	66.00	4.0	22.0	50.0
274		69.5	654169	HCP	2000	3.7V	6.50	41.50	69.50	4.0	24.0	70.0
275		73.5	304173	HCP	800	3.7V	2.95	40.80	73.50	3.0	30.0	70.0
276		80.0	104180	HCP	4300	3.7V	10.00	41.00	80.00	5.0	20.0	40.0
277		85.0	364185	HCP	1450	3.7V	3.60	41.00	85.00	4.0	27.5	40.0
278	42.0	90.0	364190	HCP	1500	3.7V	3.60	41.00	90.00	4.0	27.8	45.0
279		106.0	3241107	HCP	1800	3.7V	3.20	41.00	106.00	4.0	24.0	50.0
280		41.0	704241	HCP	1550	3.7V	7.00	42.00	41.00	4.0	22.0	45.0
281		50.0	604250	HCP	1500	3.7V	6.00	42.00	50.00	4.0	20.0	45.0
282		53.0	704255	HCP	2000	3.7V	6.90	42.00	53.00	4.0	22.0	45.0
283		65.5	404265	HCP	1370	3.7V	4.00	42.50	65.00	4.0	22.0	150.0
284		75.5	854275	HCP	3100	3.7V	8.70	42.00	75.50	5.0	23.0	45.0
285	42.0	89.5	504289	HCP	2100	3.7V	5.00	42.50	89.50	4.0	26.5	40.0
286		100.0	6142100	HCP	3550	3.7V	6.10	42.00	100.00	5.0	19.5	45.0
287		113.5	6842113	HCP	3600	3.7V	6.80	42.50	113.50	5.0	23.0	40.0
288		130.0	7842130	HCP	5300	3.7V	7.80	42.00	130.00	5.0	20.0	40.0
289		138.0	5042138	HCP	3000	3.7V	4.50	42.00	138.00	4.0	25.0	45.0

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (± 1.0) mm	Impedance (mΩ)
290	43.0	45.0	644345	HCP	1600	3.7V	6.40	43.00	45.00	4.0	28.3	50.0
291		50.0	604350	HCP	1500	3.7V	6.00	42.00	50.00	3.0	23.0	45.0
292		55.8	684355	HCP	1750	3.7V	6.80	43.50	55.80	4.0	28.0	60.0
293		60.5	674360	HCP	1950	3.7V	6.70	43.50	60.50	4.0	27.5	50.0
294		65.0	804365	HCP	2700	3.7V	8.00	43.00	65.00	4.0	26.0	45.0
295		70.0	754370	HCP	2500	3.7V	7.50	43.00	70.00	4.0	26.4	35.0
296		88.0	864388	HCP	4200	3.7V	8.60	43.00	88.00	5.0	23.5	45.0
297		96.0	604396	HCP	2600	3.7V	6.00	43.00	96.00	4.0	27.3	36.0
298		37.0	654437	HCP	1250	3.7V	6.40	44.00	37.00	4.0	28.9	60.0
299		45.0	694445	HCP	1650	3.7V	6.90	44.00	45.00	4.0	27.9	50.0
300	44.0	50.8	904450	HCP	2200	3.7V	9.00	44.50	50.80	4.0	25.0	50.0
301		55.5	374455	HCP	1000	3.7V	3.90	44.50	55.50	3.0	31.0	70.0
302		60.0	554460	HCP	1200	3.7V	5.50	44.00	60.00	4.0	24.0	40.0
303		69.0	554469	HCP	2120	3.7V	5.50	44.00	69.00	4.0	22.0	45.0
304		75.0	804475	HCP	3000	3.7V	8.00	44.00	75.00	5.0	25.7	32.0
305		78.0	864480	HCP	3950	3.7V	8.60	44.00	78.00	5.0	20.0	40.0
306		107.0	4544107	HCP	2500	3.7V	4.50	44.00	107.00	4.0	30.0	50.0
307		145.0	4744145	HCP	4000	3.7V	4.60	44.00	145.00	5.0	28.0	45.0

✦ Li-ion Polymer Battery HCP SERIES

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
308	45.0	45.0	104545	HCP	2600	3.7V	10.00	45.00	45.00	4.0	26.0	50.0
309		50.0	804550	HCP	2000	3.7V	8.00	45.00	50.00	4.0	23.0	50.0
310		55.0	554555	HCP	1700	3.7V	5.50	45.00	55.00	4.0	25.0	45.0
311		61.5	334561	HCP	900	3.7V	3.30	45.50	61.50	3.0	33.0	75.0
312		64.0	474564	HCP	1700	3.7V	4.70	45.00	64.00	4.0	28.0	55.0
313		67.0	724568	HCP	2500	3.7V	7.20	45.00	67.00	4.0	28.7	45.0
314		80.0	554580	HCP	1900	3.7V	5.50	45.00	80.00	4.0	30.0	40.0
315		94.0	504594	HCP	2300	3.7V	5.00	45.00	94.00	4.0	30.7	31.0
316		125.0	9545125	HCP	7500	3.7V	9.50	45.00	125.00	5.0	25.0	40.0
317		143.0	5945143	HCP	5000	3.7V	5.90	45.00	143.00	5.0	22.0	30.0
318	46.0	43.0	604643	HCP	1500	3.7V	6.10	46.00	43.00	4.0	15.0	50.0
319		50.0	654650	HCP	1700	3.7V	6.50	46.00	50.00	4.0	30.3	40.0
320		62.0	824662	HCP	2700	3.7V	8.20	46.00	62.00	5.0	28.5	40.0
321		70.0	504670	HCP	2100	3.7V	5.00	46.00	70.00	4.0	26.0	40.0
322		80.0	834680	HCP	4000	3.7V	8.30	46.00	80.00	5.0	27.0	45.0
323		100.0	3546100	HCP	1550	3.7V	3.50	47.00	100.00	4.0	32.6	40.0
324	47.0	146.0	4546146	HCP	3400	3.7V	4.60	46.00	146.00	4.0	29.0	50.0
325		40.0	534740	HCP	1000	3.7V	5.30	47.80	40.00	3.0	34.0	60.0
326		59.5	854759	HCP	2500	3.7V	8.50	47.00	59.50	4.0	28.0	60.0
327		71.5	474771	HCP	1700	3.7V	4.70	47.50	71.50	3.0	33.0	60.0
328		78.0	644778	HCP	3000	3.7V	6.40	47.00	78.00	4.0	27.0	45.0
329		90.0	714790	HCP	3900	3.7V	7.10	47.00	90.00	5.0	30.0	45.0
330		109.5	8047109	HCP	5000	3.7V	8.00	47.00	109.50	5.0	27.0	35.0
331		135.0	3347135	HCP	2500	3.7V	3.30	47.00	135.00	4.0	30.0	50.0
332	48.0	142.0	7247142	HCP	5800	3.7V	7.20	47.00	142.00	5.0	29.7	25.0
333		37.0	444837	HCP	900	3.7V	4.40	48.00	37.00	3.0	36.0	55.0
334		55.0	584855	HCP	1650	3.7V	5.80	48.00	55.00	4.0	30.0	50.0
335		70.0	454870	HCP	1800	3.7V	4.50	48.00	70.00	4.0	30.0	40.0
336		80.0	504880	HCP	2300	3.7V	5.00	48.00	80.00	4.0	34.4	35.0
337		87.0	624887	HCP	3300	3.7V	6.20	48.00	87.00	5.0	28.0	45.0
338		100.0	4548100	HCP	2600	3.7V	4.50	48.00	100.00	4.0	34.9	35.0
339		116.0	1048116	HCP	7000	3.7V	10.00	48.00	116.00	5.0	27.9	25.0
340		126.0	5448126	HCP	3600	3.7V	5.40	48.00	126.00	4.0	32.9	30.0
341		147.0	4348147	HCP	3800	3.7V	4.30	48.00	147.00	4.0	34.1	30.0

NO.	Item Name	Model	Qty
1	Cell	HCP501232	1
2	PCM	SEIKO S8261	1
3	Red Wire (P+)	UL1571-AWG28#	1
4	Black Wire (P-)	UL1571-AWG28#	1
5	Insulating Tape	Orange	1
6	Printing	***	***
7	Insulating Tape	Orange	2
8	Label	Crossed Wheel Bin	1



✦ Li-ion Polymer Battery HCP SERIES

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
342	49.0	46.0	794947	HCP	2300	3.7V	7.90	49.00	46.00	4.0	32.0	50.0
343		54.0	484954	HCP	1500	3.7V	4.80	49.00	54.00	4.0	29.0	60.0
344		65.5	404965	HCP	1450	3.7V	4.00	49.50	65.50	3.0	30.0	60.0
345		69.0	804969	HCP	3000	3.7V	8.00	49.00	69.00	5.0	30.0	40.0
346		75.0	604975	HCP	2700	3.7V	6.00	49.00	75.00	4.0	33.7	35.0
347		80.0	554980	HCP	2800	3.7V	5.50	49.00	80.00	4.0	34.9	40.0
348		101.0	8049101	HCP	4800	3.7V	8.00	49.00	101.00	5.0	31.0	28.0
349		116.0	7949116	HCP	6050	3.7V	7.95	49.50	116.00	5.0	25.0	40.0
350		133.0	6849133	HCP	5000	3.7V	6.80	49.00	133.00	5.0	28.0	60.0
351	50.0	40.0	855040	HCP	2000	3.7V	8.50	50.00	40.00	5.0	27.0	40.0
352		50.0	505050	HCP	1400	3.7V	5.00	50.00	50.00	4.0	35.5	40.0
353		60.5	525060	HCP	2000	3.7V	5.20	50.50	60.50	4.0	30.0	100.0
354		70.0	475070	HCP	2050	3.7V	4.70	50.00	70.00	4.0	37.0	40.0
355		80.0	505080	HCP	2500	3.7V	5.00	50.00	80.00	4.0	32.0	45.0
356		95.0	635095	HCP	3900	3.7V	6.30	50.00	95.00	4.0	33.8	30.0
357		100.0	4450100	HCP	2800	3.7V	4.40	50.00	100.00	4.0	30.0	50.0
358		120.0	6550120	HCP	5000	3.7V	6.50	50.00	120.00	5.0	33.8	25.0
359	51.0	140.0	3550140	HCP	3000	3.7V	3.50	50.00	140.00	4.0	37.2	35.0
360		52.0	755152	HCP	2500	3.7V	7.50	51.00	52.00	5.0	34.9	35.0
361		58.0	585158	HCP	1950	3.7V	5.80	51.50	58.00	4.0	30.0	40.0
362		66.5	305166	HCP	1200	3.7V	3.00	51.50	66.50	3.0	20.0	100.0
363		70.0	355170	HCP	1700	3.7V	3.50	52.00	70.00	4.0	35.0	60.0
364		74.5	555175	HCP	2400	3.7V	5.50	51.00	74.50	4.0	27.0	40.0
365		80.0	805181	HCP	4400	3.7V	7.90	51.00	80.00	5.0	29.0	50.0
366		88.0	655188	HCP	3700	3.7V	6.50	51.00	88.00	4.0	34.5	30.0

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
367	52.0	51.0	845251	HCP	2850	3.7V	8.40	52.50	51.00	4.0	34.8	50.0
368		56.0	395257	HCP	1500	3.7V	3.90	52.00	56.00	4.0	38.0	50.0
369		62.5	535262	HCP	1700	3.7V	5.30	52.50	62.50	4.0	36.0	60.0
370		70.0	355270	HCP	1500	3.7V	3.50	52.50	70.00	4.0	35.0	50.0
371		78.5	405278	HCP	1900	3.7V	4.20	52.50	78.50	4.0	36.0	50.0
372		82.0	115282	HCP	6000	3.7V	11.00	52.00	82.00	5.0	31.0	25.0
373		92.0	825292	HCP	5100	3.7V	8.20	52.00	92.00	4.0	33.8	25.0
374		101.8	3552101	HCP	2000	3.7V	3.50	52.50	101.80	4.0	39.0	45.0
375	53.0	116.0	3352116	HCP	2500	3.7V	3.30	52.00	116.00	4.0	38.0	45.0
376		154.0	2752154	HCP	2000	3.7V	2.70	52.00	154.00	4.0	40.9	45.0
377		56.0	805356	HCP	2800	3.7V	8.00	53.00	56.00	4.0	29.8	45.0
378		67.0	365367	HCP	1650	3.7V	3.60	53.00	67.00	4.0	40.8	50.0
379		73.0	705373	HCP	3300	3.7V	7.00	53.00	73.00	5.0	29.0	40.0
380		78.0	475378	HCP	2530	3.7V	4.70	53.00	78.00	4.0	35.0	45.0
381		84.0	315384	HCP	1800	3.7V	3.15	53.00	84.00	4.0	20.0	45.0
382		102.0	4153102	HCP	2900	3.7V	4.10	53.00	102.00	5.0	35.0	50.0
383		130.0	8053130	HCP	7200	3.7V	8.00	53.00	130.00	5.0	28.0	40.0
384		145.0	4853145	HCP	5000	3.7V	4.80	53.00	145.00	5.0	34.0	40.0
385		155.0	3053155	HCP	2800	3.7V	3.00	53.00	155.00	4.0	35.0	36.0

✦ Li-ion Polymer Battery HCP SERIES

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
386	54.0	53.0	115453	HCP	4350	3.7V	11.70	54.00	53.00	5.0	33.0	40.0
387		55.0	445455	HCP	1750	3.7V	4.40	54.00	55.00	4.0	24.0	55.0
388		60.0	505460	HCP	2000	3.7V	5.00	54.00	60.00	4.0	35.0	45.0
389		64.3	305465	HCP	1400	3.7V	3.05	54.00	64.30	4.0	30.0	50.0
390		71.0	235471	HCP	800	3.7V	2.30	53.80	71.00	3.0	39.0	70.0
391		78.0	105478	HCP	6000	3.7V	10.00	54.50	78.00	5.0	29.0	45.0
392		87.0	905486	HCP	4100	3.7V	9.00	55.00	87.00	5.0	30.0	60.0
393		88.5	785488	HCP	5000	3.7V	7.80	54.50	88.50	4.0	27.0	35.0
394		90.0	715490	HCP	4500	3.7V	7.10	54.50	90.00	5.0	37.8	30.0
395		95.0	695495	HCP	4900	3.7V	6.90	54.00	95.00	5.0	32.0	35.0
396	55.0	145.0	4854145	HCP	5000	3.7V	4.80	54.00	145.00	5.0	36.0	60.0
397		45.5	455545	HCP	1200	3.7V	4.70	55.50	45.50	4.0	38.0	65.0
398		55.0	405555	HCP	1000	3.7V	4.00	45.00	55.00	3.0	33.0	60.0
399		65.0	805565	HCP	3600	3.7V	8.00	55.00	65.00	5.0	31.0	45.0
400		75.0	625575	HCP	3100	3.7V	6.20	55.00	75.00	4.0	32.0	50.0
401		85.0	405585	HCP	2100	3.7V	4.00	55.00	85.00	5.0	36.0	45.0
402		90.0	305590	HCP	1850	3.7V	3.00	55.00	90.00	3.0	38.0	50.0
403		100.0	4055100	HCP	2800	3.7V	4.00	55.00	100.00	4.0	38.0	50.0
404		115.0	4555115	HCP	3200	3.7V	4.50	55.00	115.00	4.0	37.0	40.0
405		133.0	5755135	HCP	5000	3.7V	5.60	55.00	133.00	5.0	36.0	40.0
406	56.0	145.0	3555145	HCP	3550	3.7V	3.50	55.00	145.00	4.0	37.0	45.0
407		51.0	115651	HCP	4000	3.7V	10.90	56.00	51.00	4.0	34.8	40.0
408		67.0	355667	HCP	1500	3.7V	3.50	56.00	67.00	4.0	37.9	45.0
409		75.0	595675	HCP	3100	3.7V	5.90	56.00	75.00	5.0	40.0	30.0
410		85.0	125685	HCP	7700	3.7V	11.50	56.00	85.00	5.0	29.0	40.0
411		148.0	3556148	HCP	3780	3.7V	3.50	56.00	148.00	5.0	38.0	45.0

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
412	57.0	57.0	315757	HCP	1150	3.7V	3.10	57.00	57.00	4.0	25.0	61.0
413		70.5	355770	HCP	1600	3.7V	3.70	57.50	70.50	4.0	43.0	60.0
414		73.0	315773	HCP	1600	3.7V	3.10	57.00	73.00	3.0	44.5	55.0
415		79.5	415780	HCP	2400	3.7V	4.10	57.00	79.50	4.0	40.0	40.0
416		98.5	365798	HCP	2800	3.7V	3.60	57.00	98.50	4.0	35.0	45.0
417		107.5	5757107	HCP	4500	3.7V	5.60	57.40	107.50	4.0	35.0	45.0
418		124.0	3057123	HCP	2300	3.7V	3.10	58.00	124.00	4.0	42.0	40.0
419		130.0	3257130	HCP	2800	3.7V	3.20	57.00	130.00	4.0	36.0	30.0
420	58.0	143.0	4557143	HCP	4000	3.7V	4.50	57.00	143.00	4.0	40.0	35.0
421		61.0	445861	HCP	2000	3.7V	4.40	58.00	61.00	4.0	40.0	50.0
422		68.0	385868	HCP	1800	3.7V	3.80	58.00	68.00	4.0	45.0	40.0
423		78.0	385880	HCP	2800	3.7V	3.8	58.0	78.0	4.0	44.0	45.0
424		90.0	315890	HCP	1950	3.7V	3.10	58.00	90.00	4.0	40.0	45.0
425		95.0	835895	HCP	5950	3.7V	8.30	58.00	95.00	5.0	27.0	40.0
426		104.0	5658104	HCP	4400	3.7V	5.60	58.00	104.00	5.0	34.0	45.0
427		111.0	7258110	HCP	5500	3.7V	7.20	58.00	111.00	5.0	40.0	30.0
428	59.0	145.0	2958145	HCP	3150	3.7V	2.90	58.00	145.00	4.0	25.0	45.0
429		62.0	315962	HCP	1350	3.7V	3.10	59.00	62.00	3.0	47.0	45.0
430		73.0	325973	HCP	1800	3.7V	3.20	59.00	73.00	4.0	40.0	40.0
431		85.0	415985	HCP	2700	3.7V	4.10	59.00	85.00	4.0	44.0	40.0
432		94.0	405996	HCP	2650	3.7V	3.90	58.80	94.00	4.0	46.0	45.0
433		103.0	7959105	HCP	6550	3.7V	7.75	59.00	103.00	5.0	37.0	40.0
434		150.0	3859150	HCP	4000	3.7V	3.80	59.00	150.00	5.0	40.0	35.0

✦ Li-ion Polymer Battery HCP SERIES

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
435	60.0	44.0	306044	HCP	900	3.7V	3.00	60.00	44.00	3.0	47.0	50.0
436		59.9	606060	HCP	2700	3.7V	5.90	59.90	59.90	4.0	32.5	35.0
437		70.0	506070	HCP	2650	3.7V	5.00	60.00	70.00	4.0	35.0	50.0
438		85.0	486085	HCP	3200	3.7V	4.80	60.00	85.00	4.0	30.0	40.0
439		90.0	106090	HCP	7300	3.7V	10.80	60.00	90.00	5.0	36.1	25.0
440		120.0	1060120	HCP	8000	3.7V	10.00	60.00	120.00	5.0	40.0	20.0
441		125.0	4060125	HCP	4000	3.7V	4.00	60.00	125.00	4.0	40.0	45.0
442	61.0	59.0	816159	HCP	3000	3.7V	8.10	61.50	59.00	4.0	43.0	45.0
443		62.5	606162	HCP	3000	3.7V	6.00	61.50	62.50	5.0	39.0	60.0
444		85.0	366185	HCP	2400	3.7V	3.60	61.00	85.00	4.0	35.0	45.0
445		95.0	506195	HCP	3800	3.7V	5.00	61.00	95.00	4.0	40.0	40.0
446		109.0	6361109	HCP	5400	3.7V	6.30	61.00	109.00	5.0	39.0	45.0
447		113.0	2961113	HCP	2500	3.7V	2.90	61.00	113.00	5.0	40.0	55.0
448		300.0	4561300	HCP	8500	3.7V	4.60	61.50	300.00	6.0	40.6	25.0
449	62.0	51.0	856251	HCP	3700	3.7V	8.50	62.00	51.00	4.0	38.0	40.0
450		70.0	856270	HCP	5200	3.7V	8.50	62.00	70.00	5.0	37.0	45.0
451		85.0	426285	HCP	2600	3.7V	4.20	62.00	85.00	4.0	39.0	50.0
452		95.0	456295	HCP	3000	3.7V	4.50	62.00	95.00	4.0	49.5	45.0
453		107.0	5662107	HCP	5000	3.7V	5.60	61.50	107.00	4.0	46.0	35.0
454		155.0	3062155	HCP	4000	3.7V	3.00	62.00	155.00	4.0	43.5	40.0
455	63.0	70.0	846370	HCP	4700	3.7V	8.30	63.00	70.00	4.0	40.0	40.0
456		82.0	346382	HCP	2400	3.7V	3.40	62.60	82.00	4.0	46.0	45.0
457		91.0	516391	HCP	3800	3.7V	5.10	63.60	91.00	4.0	41.0	40.0
458		95.0	356395	HCP	2550	3.7V	3.50	63.00	95.00	3.0	40.0	40.0
459		104.0	3063104	HCP	2350	3.7V	2.90	63.00	104.00	3.0	51.0	60.0
460		133.0	3763133	HCP	3400	3.7V	3.70	63.00	133.00	4.0	47.0	40.0
461	64.0	62.0	526462	HCP	2680	3.7V	5.20	64.00	62.00	4.0	45.0	40.0
462		75.0	756475	HCP	4800	3.7V	7.50	64.00	75.00	4.0	40.0	40.0
463		85.0	316485	HCP	2150	3.7V	3.10	64.00	85.00	3.0	36.0	45.0
464		89.5	396490	HCP	2800	3.7V	3.90	64.00	89.50	4.0	50.9	30.0
465		103.0	5364105	HCP	4800	3.7V	5.20	64.00	103.00	5.0	43.5	40.0
466		145.0	6564145	HCP	6000	3.7V	6.50	64.00	145.00	5.0	47.5	30.0

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
467	65.0	48.0	986548	HCP	4000	3.7V	9.80	65.00	48.00	4.0	46.2	50.0
468		65.0	986565	HCP	5000	3.7V	9.80	65.00	65.00	5.0	40.0	40.0
469		75.0	646575	HCP	4000	3.7V	6.40	65.00	75.00	5.0	44.0	45.0
470		88.0	356588	HCP	2700	3.7V	3.50	65.00	88.00	5.0	26.0	45.0
471		95.0	596595	HCP	4650	3.7V	5.90	65.00	95.00	4.0	42.0	35.0
472		100.0	7865100	HCP	6950	3.7V	7.65	65.00	100.00	5.0	44.0	40.0
473		113.0	9565113	HCP	8000	3.7V	9.50	65.00	113.00	5.0	43.0	20.0
474		120.0	7865120	HCP	8050	3.7V	7.70	65.00	118.00	5.0	40.0	40.0
475		132.0	3466134	HCP	3700	3.7V	3.40	66.00	132.00	5.0	30.0	40.0
476		152.0	3365154	HCP	4100	3.7V	3.20	65.00	154.00	4.0	38.0	45.0
477	67.0	71.0	336771	HCP	2000	3.7V	3.30	67.00	71.00	3.0	50.0	50.0
478		89.0	616789	HCP	3950	3.7V	5.60	67.00	89.00	5.0	40.0	45.0
479		100.0	5067100	HCP	2000	3.7V	5.00	67.00	100.00	3.0	27.0	40.0
480		121.0	4567121	HCP	5000	3.7V	4.50	67.00	121.00	5.0	53.0	25.0
481		129.0	6367131	HCP	7000	3.7V	6.30	67.00	129.00	5.0	46.0	40.0
482		150.0	5067150	HCP	6000	3.7V	5.00	67.00	150.00	5.0	51.7	25.0
483		180.0	2767180	HCP	4250	3.7V	2.70	67.00	180.00	4.0	46.0	35.0

✦ Li-ion Polymer Battery HCP SERIES

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
484	68.0	71.0	386871	HCP	2100	3.7V	3.80	68.00	71.00	3.0	28.0	50.0
485		90.0	606890	HCP	4500	3.7V	6.00	68.00	90.00	5.0	51.8	25.0
486		100.0	3068100	HCP	2450	3.7V	3.00	68.00	100.00	3.0	40.0	35.0
487		115.0	4068115	HCP	4050	3.7V	3.90	68.00	115.00	4.0	50.0	45.0
488		135.0	4168135	HCP	4100	3.7V	4.10	68.00	135.00	5.0	52.8	30.0
489		148.0	2568148	HCP	2950	3.7V	2.70	68.00	148.00	3.0	40.0	45.0
490		184.0	3968184	HCP	4600	3.7V	3.90	68.00	184.00	4.0	52.9	40.0
491		185.0	3968185	HCP	4800	3.7V	3.90	68.00	185.00	4.0	30.1	20.0
492	69.0	71.0	406971	HCP	2200	3.7V	4.00	69.00	71.00	3.0	56.0	40.0
493		90.0	326990	HCP	2500	3.7V	3.20	69.00	90.00	4.0	54.0	50.0
494		110.0	3069110	HCP	2800	3.7V	3.00	69.00	110.00	4.0	57.4	35.0
495		148.0	3469148	HCP	4700	3.7V	3.40	69.00	148.00	4.0	57.0	45.0
496	70.0	55.0	707055	HCP	3000	3.7V	7.00	70.00	55.00	4.0	53.0	45.0
497		75.0	507075	HCP	3150	3.7V	5.00	70.00	75.00	5.0	54.7	30.0
498		85.0	357085	HCP	1700	3.7V	3.40	70.00	85.00	4.0	58.0	45.0
499		90.0	807090	HCP	6000	3.7V	8.00	70.00	90.00	5.0	45.0	25.0
500		98.0	3270100	HCP	2400	3.7V	3.10	70.00	98.00	4.0	54.0	55.0
501		135.0	4370135	HCP	5500	3.7V	4.30	70.00	135.00	4.0	35.0	35.0
502		150.0	3270150	HCP	4400	3.7V	3.20	70.00	150.00	5.0	40.0	40.0
503		165.0	3770165	HCP	5500	3.7V	3.70	70.00	165.00	5.0	38.0	25.0
504	71.0	185.0	3670185	HCP	5400	3.7V	3.60	70.00	185.00	5.0	52.0	45.0
505		87.0	427187	HCP	3400	3.7V	4.20	71.00	87.00	4.0	52.0	35.0
506		138.0	4671138	HCP	6000	3.7V	4.60	71.00	138.00	5.0	56.0	25.0
507		162.0	2671162	HCP	4050	3.7V	2.70	71.00	162.00	4.0	56.0	35.0

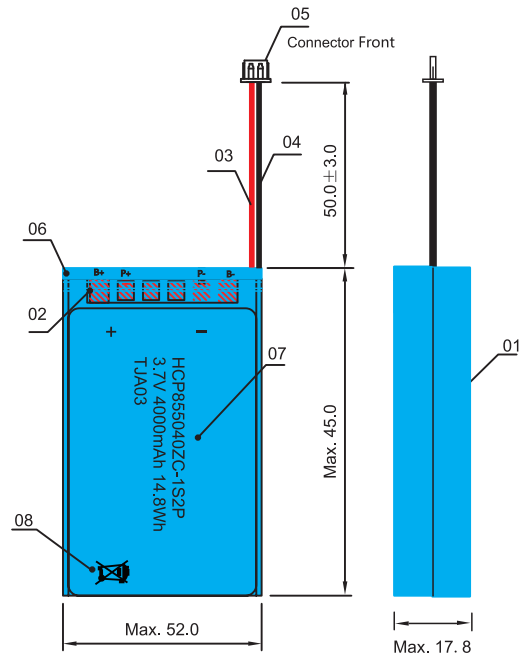
No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
508	72.0	74.0	357274	HCP	2100	3.7V	3.50	72.00	74.00	3.0	59.3	35.0
509		88.0	347288	HCP	2600	3.7V	3.40	72.00	88.00	4.0	51.0	45.0
510		93.0	357293	HCP	2450	3.7V	3.54	72.00	93.00	4.0	36.0	40.0
511		121.0	7972121	HCP	9000	3.7V	7.90	72.00	121.00	5.0	47.0	30.0
512	73.0	90.0	487390	HCP	3900	3.7V	4.80	73.00	90.00	4.0	50.0	45.0
513		125.0	2673125	HCP	3000	3.7V	2.60	73.00	125.00	5.0	54.0	40.0
514		148.0	3073148	HCP	3900	3.7V	3.00	73.00	148.00	4.0	60.4	30.0
515	74.0	74.0	527474	HCP	3000	3.7V	5.20	74.00	74.00	4.0	40.0	40.0
516		88.0	317488	HCP	2500	3.7V	3.10	74.00	88.00	4.0	57.0	45.0
517		97.0	357497	HCP	2600	3.7V	3.50	74.00	97.00	3.0	51.0	40.0
518		177.0	3274177	HCP	5000	3.7V	3.20	74.00	177.00	5.0	56.0	40.0
519	75.0	35.5	527535	HCP	1300	3.7V	5.30	75.00	35.50	3.0	30.0	50.0
520		77.0	377577	HCP	2400	3.7V	3.70	75.00	77.00	4.0	58.0	45.0
521		90.0	387590	HCP	2800	3.7V	3.80	75.00	90.00	3.0	60.0	30.0
522		100.0	3075100	HCP	2800	3.7V	3.00	75.00	100.00	4.0	60.0	35.0
523	76.0	110.0	3375110	HCP	3500	3.7V	3.30	75.00	110.00	4.0	57.0	35.0
524		65.0	487665	HCP	2700	3.7V	4.80	76.00	65.00	4.0	50.0	40.0
525		85.0	347685	HCP	1900	3.7V	3.40	76.00	85.00	3.0	60.0	40.0
526		96.5	407696	HCP	3300	3.7V	4.00	76.00	96.50	5.0	62.0	50.0
527	77.0	103.0	4076103	HCP	3700	3.7V	4.00	76.00	103.00	4.0	40.0	35.0
528		160.0	3476160	HCP	5500	3.7V	3.40	76.00	160.00	4.0	56.0	30.0
529		96.0	417796	HCP	3000	3.7V	4.10	77.00	96.00	4.0	58.5	40.0
530		108.0	3277109	HCP	3450	3.7V	3.20	77.00	108.00	4.0	42.0	45.0

✦ Li-ion Polymer Battery HCP SERIES

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
531	78.0	100.0	2878100	HCP	2700	3.7V	2.80	78.00	100.00	3.0	45.0	35.0
532		112.0	3378112	HCP	3700	3.7V	3.30	77.80	112.00	4.0	40.0	40.0
533		130.0	2878130	HCP	3200	3.7V	2.80	79.00	130.00	4.0	60.0	30.0
534		145.0	2978147	HCP	3500	3.7V	2.90	78.00	145.00	4.0	60.0	30.0
535	79.0	78.0	327978	HCP	2400	3.7V	3.20	79.00	78.00	4.0	55.0	45.0
536		97.0	367997	HCP	3900	3.7V	3.60	79.00	97.00	5.0	60.0	40.0
537		112.0	2879112	HCP	3000	3.7V	2.80	79.00	112.00	4.0	33.0	50.0
538		159.0	2779161	HCP	5000	3.7V	2.70	79.00	159.00	4.0	60.0	55.0
539	80.0	82.0	538082	HCP	4000	3.7V	5.30	80.00	82.00	5.0	60.0	30.0
540		85.0	508085	HCP	4000	3.7V	5.00	80.00	85.00	5.0	60.0	30.0
541		95.0	408095	HCP	3400	3.7V	4.00	80.00	95.00	4.0	35.0	30.0
542		105.0	4080105	HCP	3900	3.7V	4.00	80.00	105.00	4.0	45.0	30.0
543		110.0	5080110	HCP	5000	3.7V	5.00	80.00	110.00	4.0	59.0	30.0
544		141.0	3080141	HCP	4000	3.7V	3.00	80.00	141.00	4.0	60.0	30.0
545		150.0	7580150	HCP	12000	3.7V	7.50	80.00	150.00	6.0	54.0	30.0
546		185.0	3880185	HCP	8000	3.7V	3.80	80.00	185.00	5.0	55.0	35.0
547	81.0	96.0	688196	HCP	7500	3.7V	6.85	81.00	96.00	5.00	60.0	35.0
548	82.0	90.0	358290	HCP	3200	3.7V	3.50	82.00	90.00	5.0	60.2	30.0
549	83.0	110.0	4083110	HCP	4200	3.7V	4.00	83.00	110.00	5.0	58.4	30.0
550		148.0	2783148	HCP	3900	3.7V	2.70	83.00	148.00	5.0	60.0	35.0
551	85.0	88.0	348588	HCP	2800	3.7V	3.40	85.00	88.00	4.0	60.0	45.0
552		100.0	2985100	HCP	2800	3.7V	2.90	85.00	100.00	4.0	60.0	30.0
553		120.0	3585120	HCP	3900	3.7V	3.50	85.00	120.00	5.0	58.0	35.0
554		135.0	2985135	HCP	4000	3.7V	2.90	85.00	135.00	5.0	60.0	40.0
555	86.0	140.0	3285140	HCP	5000	3.7V	3.20	85.00	140.00	5.0	60.0	35.0
556		86.0	328686	HCP	3000	3.7V	3.20	86.00	86.00	4.0	60.0	35.0

All the below materials shall be environmental friendly and RoHS compliant (unit: mm)

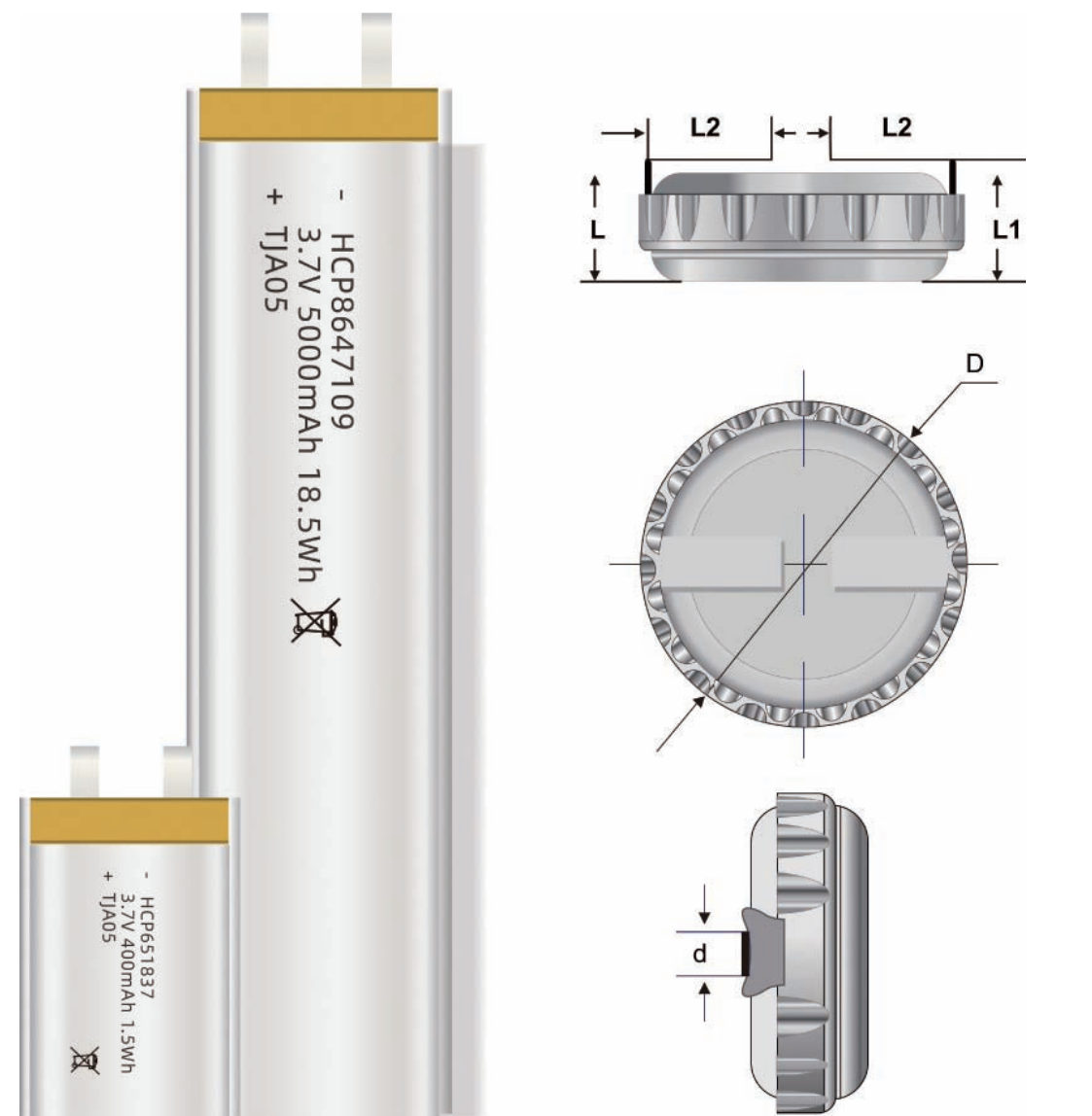
NO.	Item Name	Model	Qty.
1	Cell	HCP855040	2
2	PCM	S-8261DAI	1
3	Red Wire (P+)	UL1571-22AWG#	1
4	Black Wire (P-)	UL1571-22AWG#	1
5	Connector	JST-PHR-02	1
6	Insulating Tape	Orange	2
7	Printing	***	***
8	Label	Crossed Wheel Bin	1



✦ Li-ion Polymer Battery HCP SERIES

No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
557	87.0	84.0	428787	HCP	4250	3.7V	4.20	87.30	87.00	5.0	36.0	55.0
558		98.0	428798	HCP	4300	3.7V	4.20	87.00	98.00	5.0	43.0	30.0
559		109.0	3888109	HCP	4040	3.7V	3.80	88.00	109.00	5.0	40.0	40.0
560	88.0	130.0	3688130	HCP	4500	3.7V	3.60	88.00	130.00	5.0	60.0	30.0
561		107.0	7589107	HCP	9000	3.7V	7.50	89.00	107.00	5.0	59.0	25.0
562		127.0	3789127	HCP	5200	3.7V	3.70	89.00	127.00	5.0	60.0	30.0
563	89.0	147.0	3389147	HCP	4700	3.7V	3.30	89.00	147.00	4.0	60.0	40.0
564		80.0	409080	HCP	3250	3.7V	4.00	90.00	80.00	4.0	57.0	35.0
565		95.0	309095	HCP	2800	3.7V	3.00	90.00	95.00	4.0	34.0	40.0
566	90.0	100.0	3290100	HCP	3400	3.7V	3.20	90.00	100.00	4.0	57.0	35.0
567		107.0	3190107	HCP	3400	3.7V	3.10	90.00	107.00	4.0	60.0	35.0
568		125.0	3790125	HCP	4500	3.7V	3.70	90.00	125.00	4.0	57.0	30.0
569	91.0	82.5	299183	HCP	2700	3.7V	2.90	91.00	82.50	3.0	40.0	40.0
570	92.0	71.5	559272	HCP	4600	3.7V	5.50	92.00	71.50	4.0	45.0	40.0
571		108.0	2992108	HCP	3300	3.7V	2.90	92.00	108.00	4.0	60.0	40.0
572		148.0	2792148	HCP	4700	3.7V	2.70	92.00	148.00	5.0	60.0	40.0
573	93.0	47.0	539347	HCP	2850	3.7V	5.30	93.00	47.00	4.0	60.0	50.0
574	94.0	128.0	2894128	HCP	4400	3.7V	2.80	94.00	128.00	5.0	45.0	55.0
575	95.0	96.0	459596	HCP	5100	3.7V	4.30	95.00	96.00	5.0	46.0	35.0
576		98.0	309598	HCP	3600	3.7V	3.00	95.00	98.00	4.0	55.0	45.0
577		102.0	3595102	HCP	3950	3.7V	3.50	95.00	102.00	5.0	58.0	30.0
578		130.0	3895130	HCP	5200	3.7V	3.80	95.00	130.00	5.0	50.7	20.0

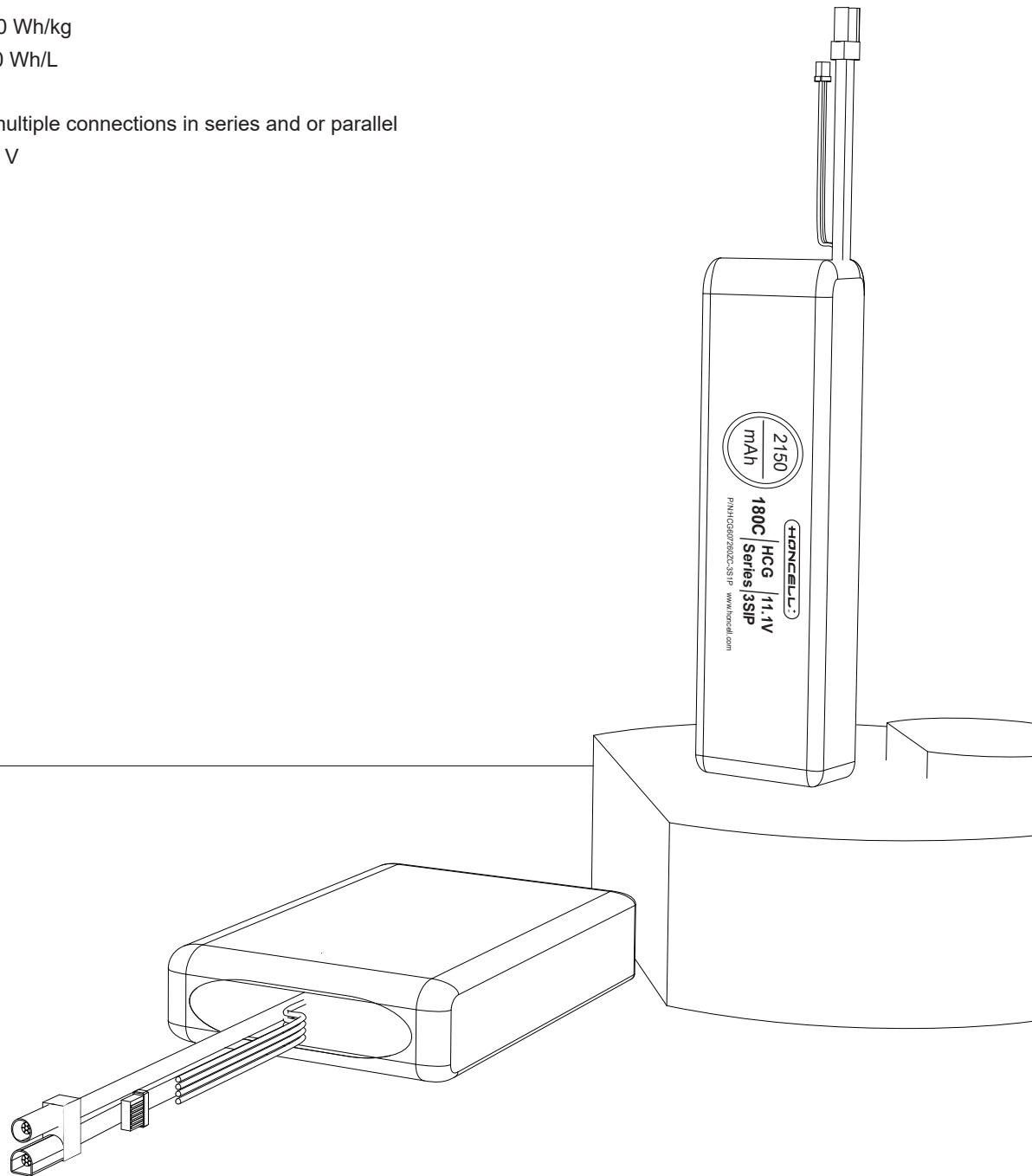
No.	Width (mm)	Length (mm)	Model Examples	Brand	Capacity (mAh)	Voltage	Thickness (mm)	Width in Production (mm)	Length (mm)	Tab Width (mm)	Tab Distance (±1.0) mm	Impedance (mΩ)
579	96.0	130.0	3996130	HCP	5000	3.7V	3.90	96.00	130.00	5.0	50.7	20.0
580	97.0	104.0	2997104	HCP	3800	3.7V	2.90	97.00	104.00	4.0	60.0	40.0
581	98.0	84.0	709884	HCP	7000	3.7V	7.00	98.00	84.00	5.0	60.0	40.0
582		98.0	379898	HCP	4000	3.7V	3.70	98.00	98.00	4.0	60.0	30.0
583		109.0	2998109	HCP	3450	3.7V	2.90	98.00	109.00	4.0	60.0	35.0
584	99.0	116.0	2998116	HCP	4500	3.7V	2.90	98.00	116.00	4.0	53.0	35.0
585		97.5	309998	HCP	3800	3.7V	3.00	98.00	97.50	4.0	40.0	40.0
586		61.5	3510062	HCP	2400	3.7V	3.50	100.00	61.50	3.0	60.0	45.0
587	100.0	98.0	3510098	HCP	4200	3.7V	3.50	100.00	98.00	4.0	60.0	40.0
588		104.0	31100104	HCP	4200	3.7V	3.10	100.00	104.00	4.0	60.0	35.0
589		148.0	47100148	HCP	8800	3.7V	4.70	100.00	148.00	5.0	60.0	30.0
590	102.0	152.0	39100152	HCP	6600	3.7V	3.90	100.00	152.00	5.0	50.8	40.0
591		106.0	33102108	HCP	4500	3.7V	3.20	102.00	106.00	4.0	60.0	40.0
592		138.0	26102138	HCP	4500	3.7V	2.60	102.00	138.00	4.0	60.0	30.0
593	103.0	105.0	27103105	HCP	4000	3.7V	2.70	103.00	105.00	4.0	70.0	45.0
594	104.0	138.0	43104138	HCP	7900	3.7V	4.30	104.00	138.00	5.0	60.0	20.0
595	105.0	91.0	2810591	HCP	3650	3.7V	2.90	105.00	91.00	4.0	52.0	40.0
596		94.0	2910596	HCP	3500	3.7V	2.80	105.00	94.00	4.0	60.0	40.0
597		103.0	30107103	HCP	3900	3.7V	3.00	107.00	103.00	5.0	60.0	30.0
598	107.0	106.0	29107106	HCP	4400	3.7V	2.90	107.00	106.00	4.0	60.0	40.0
599		98.0	2910898	HCP	3450	3.7V	2.95	104.00	98.00	4.0	60.0	35.0
600		155.0	28108155	HCP	6000	3.7V	2.80	108.00	155.00	5.0	56.0	40.0



The Lithium-ion high C-rate polymer batteries (LiCoO2) , technologically evolved from lithium-ion batteries, polymer lithium ion or more commonly lithium polymer batteries abbreviated Li-poly, Li-pol, LiPo or LiP, are rechargeable secondary batteries, and are being one of the most popular types of battery nowadays with one of the best energy / volume to weight ratios for both of industrial and commercial applications. With high discharging rate up to 180C covers most of the applications need withdraw continous large current for various applications by electrodes stacking techniques in our automation production line.

Key Features:

- 1: Specific energy 100–270 Wh/kg
- 2: Energy density 250-690 Wh/L
- 3: High C-rate 180C
- 4: Flexible dimensions in multiple connections in series and or parallel
- 6: Nominal cell voltage 3.7 V



+ Li-ion Polymer High Drain Battery HCG SERIES

No.	Battery Pack	Cell Model	Rated Capacity (mAh)	Voltage (V)	Dimensions(mm)			Pack Resistance (mΩ)	Approx Weight (g)	Max. Discharge Current	
					Thickness (mm)	Width (mm)	Length (mm)			Continuous	Burst
01	HCSA10000-4S	8070162SH15	10000	14.8	32.6	70.0	170.0	16.4	840.2	12C	20C
02	HCSA10000-6S		10000	22.2	48.6	71.0	171.0	22.5	1251.2	12C	20C
03	HCSA6600-4S	8548145SH15	6600	14.8	35.4	48.0	154.0	16.2	548.8	15C	25C
04	HCSA6600-6S		6600	22.2	52.8	49.0	155.0	22.3	815.5	15C	25C
05	HCSA6600-6S2P	7888151SH25	13200	22.2	105.5	50.0	160.0	15.0	1666.0	15C	25C
06	HCSH10000-4S		10000	14.8	31.3	88.0	160.0	19.0	936.0	25C	50C
07	HCSH10000-6S		10000	22.2	46.5	88.0	161.0	23.0	1380.0	25C	50C
08	HCSA2000A-2S	10018114RH10	2000	7.4	20.0	18.0	120.0	36.0	92.0	10C	20C
09	HCSA2000A-3S		2000	11.1	29.5	18.0	120.0	46.0	133.0	10C	20C
10	HCSA2000B-3S		2000	11.1	10.5	18.0	120.0	48.0	138.0	10C	20C
11	HCSA800A-2S	482096RH15	800	7.4	10.0	20.0	101.0	66.0	45.6	15C	25C
12	HCSA800A-3S		800	11.1	14.5	20.0	101.0	97.0	61.9	15C	25C
13	HCSA1000A-2S	6418163FRH15	1000	7.4	12.2	18.0	167.0	96.0	67.4	15C	25C
14	HCSA1000A-3S		1000	11.1	17.8	18.0	169.0	140.0	96.6	15C	25C
15	HCSA1000A-2S	532096RH15	1000	7.4	11.2	20.0	100.0	46.0	49.0	15C	25C
16	HCSA1000A-3S		1000	11.1	16.3	20.0	100.0	67.0	67.0	15C	25C
17	HCSA1200A-2S	5820122RH15	1200	7.4	12.0	21.0	128.0	46.0	60.0	15C	25C
18	HCSA1200A-3S		1200	11.1	17.5	21.0	128.0	66.0	86.0	15C	25C
19	HCSA1400A-2S	782096RH15	1400	7.4	16.2	20.0	102.0	26.0	71.8	15C	25C
20	HCSA1400A-3S		1400	11.1	23.8	20.0	102.0	37.0	101.2	15C	25C
21	HCSA1400A-2S	6020122RH15	1400	7.4	13.5	21.0	126.0	45.0	70.0	15C	25C
22	HCSA1400A-3S		1400	11.1	19.4	21.0	126.0	65.0	102.0	15C	25C
23	HCSA2000A-2S	9020122RH15	2000	7.4	19.8	21.0	126.0	24.0	104.0	15C	25C
24	HCSA2000A-3S		2000	11.1	29.0	21.0	126.0	34.0	151.0	15C	25C
25	HCSL1000A-2S	5518114RH20	1000	7.4	11.6	18.0	120.0	56.0	56.2	20C	40C
26	HCSL1000A-3S		1000	11.1	16.9	18.0	120.0	82.0	79.3	20C	40C
27	HCSL1500A-2S	633090HCSH20	1500	7.4	13.2	30.0	96.5	15.0	78.0	20C	40C
28	HCSL1500A-3S		1500	11.1	19.3	30.0	96.5	20.0	113.0	20C	40C
29	HCSL1800A-2S	703090HCSH20	1800	7.4	14.4	30.0	96.5	15.0	88.2	20C	40C
30	HCSL1800A-3S		1800	11.1	21.1	30.0	96.5	20.0	128.3	20C	40C
31	HCSL1800A-2S	603496HCSH20	1800	7.4	13.4	35.0	103.5	14.0	94.5	20C	40C
32	HCSL1800A-3S		1800	11.1	19.6	35.0	103.5	19.0	138.0	20C	40C
33	HCSH1300A-2S	6018163RH25	1300	7.4	13.8	18.0	167.0	34.0	77.0	25C	50C
34	HCSH1300A-3S		1300	11.1	20.2	18.0	169.0	49.0	111.0	25C	50C
35	HCSH1800A-2S	653496HCSH25	1800	7.4	13.4	35.0	103.0	14.0	94.5	25C	50C
36	HCSH1800A-3S		1800	11.1	19.6	35.0	103.0	19.0	138.0	25C	50C
37	HCSH1200A-2S	7016108RH25	1200	7.4	15.0	16.5	116.0	45.0	52.0	25C	50C
38	HCSH1200A-3S		1200	11.1	22.0	16.5	116.0	66.0	75.0	25C	50C
39	HCSH190-1S	651240RH25	190	3.7	7.1	12.0	46.5	150.0	4.6	25C	40C
40	HCHCSU200-1S	601240RH35	200	3.7	7.2	12.8	48.5	120.0	5.0	35C	60C
41	HCHCSU300-1S	601741RH35	300	3.7	7.1	18.6	49.0	100.0	7.6	35C	60C
42	HCHCSU600-1S	701862RH35	600	3.7	7.7	19.0	68.0	41.0	16.6	35C	60C
43	HCSV300-1S	601741HCSH45	300	3.7	7.1	18.6	49.0	80.0	8.3	45C	90C
44	HCSV330-2S	552040HCSH45	330	7.4	12.5	21.5	50.5	85.0	18.5	45C	90C

Product Description:

The lithium iron phosphate battery (LiFePO4 battery) or LFP battery (lithium ferrophosphate), is a type of lithium-ion battery using lithium iron phosphate (LiFePO4) as the cathode material, and a graphitic carbon electrode with a metallic backing as the anode.

The energy density of LiFePO4 is lower than that of lithium cobalt oxide (LiCoO2), and also has a lower operating voltage.

The main drawback of LiFePO4 is its low electrical conductivity. Therefore, all the LiFePO4 cathodes under consideration are actually LiFePO4/C. Because of low cost, low toxicity, well-defined performance,

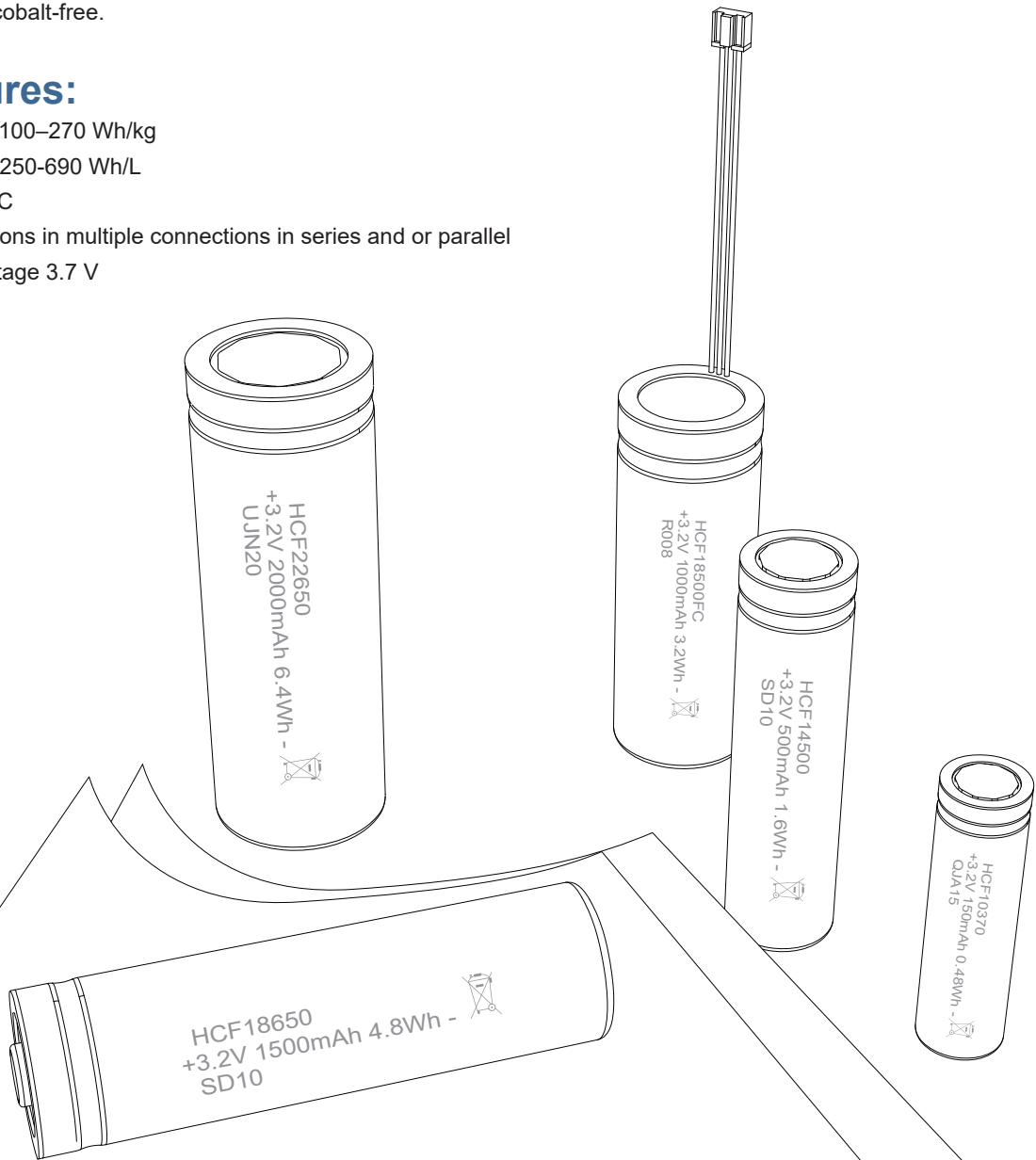
long-term stability, etc. LiFePO4 is finding a number of roles in vehicle use,

utility scale stationary applications, and backup power.

LFP batteries are cobalt-free.

Key Features:

- 1: Specific energy 100–270 Wh/kg
- 2: Energy density 250-690 Wh/L
- 3: High C-rate 180C
- 4: Flexible dimensions in multiple connections in series and or parallel
- 6: Nominal cell voltage 3.7 V



+ LiFePO4 Battery HCF SERIES

No.	Model	Standard Voltage (V)	Capacity (mAh)	Size (mm)		Standard Charging Current (mA)	Fast Charging Current (mA)	Standard Discharging Current (mA)	Max Discharging Current (mA)	End-of-charge Voltage (V)	End-of-discharge Voltage (V)	Weight (g)	Cycle Life (DOD 80%)
				Diameter	Height								
01	IFR10130	3.2	30	10.3	13.2	6	30	6	90	3.65	2	5	≥2000
02	IFR10440	3.2	200	10.3	44.2	40	200	40	600	3.65	2	7	≥2000
03	IFR14400J	3.2	380	14.4	40.2	76	380	76	1140	3.65	2	13	≥2000
04	IFR14500J	3.2	400	14.4	50.9	80	400	80	1200	3.65	2	15.5	≥2000
05	IFR14500	3.2	500	14.2	50.2	100	500	100	1500	3.65	2	16	≥2000
06	IFR14500J	3.2	500	14.4	50.9	100	500	100	1500	3.65	2	16.8	≥2000
07	IFR14500	3.2	550	14.2	50.2	110	550	110	1650	3.65	2	16.4	≥2000
08	IFR15266J	3.2	220	15.5	26.5	44	220	44	660	3.65	2	12	≥2000
09	IFR14650	3.2	800	14.2	65.3	160	800	160	2400	3.65	2	21	≥2000
10	IFR16340	3.2	400	16.2	34.2	80	400	80	1200	3.65	2	13.5	≥2000
11	IFR16340J	3.2	400	16.4	34.4	80	400	80	1200	3.65	2	15	≥2000
12	IFR17335J	3.2	400	16.8	34.5	80	400	80	1200	3.65	2	15.8	≥2000
13	IFR18470J	3.2	850	18.1	47.1	170	850	170	2550	3.65	2	19	≥2000
14	IFR18490	3.2	650	18.1	49.1	130	650	130	1950	3.65	2	21	≥2000
15	IFR18490	3.2	850	18.1	49.1	170	850	170	2550	3.65	2	24	≥2000
16	IFR18490	3.2	1000	18.1	49.1	200	1000	200	3000	3.65	2	27	≥2000
17	IFR18500J	3.2	850	18.1	50.2	170	850	170	2550	3.65	2	29.6	≥2000
18	IFR18500	3.2	1000	18.1	50.2	200	1000	200	3000	3.65	2	34	≥2000
19	IFR18650	3.2	1400	18.5	65.3	280	1400	280	4200	3.65	2	42	≥2000
20	IFR18650	3.2	1500	18.5	65.3	300	1500	300	4500	3.65	2	42	≥2000
21	IFR22430	3.2	1200	22.5	43.3	240	1200	240	3600	3.65	2	47	≥2000
22	IFR22650	3.2	1800	22.5	65.3	360	1800	360	5400	3.65	2	60	≥2000
23	IFR22650	3.2	1900	22.5	65.3	380	1900	380	5700	3.65	2	62	≥2000
24	IFR22650	3.2	2000	22.5	65.3	400	2000	400	6000	3.65	2	63	≥2000
25	IFR26430	3.2	1800	26.5	43.3	360	1800	360	5400	3.65	2	54	≥2000
26	IFR26430	3.2	2000	26.5	43.3	400	2000	400	6000	3.65	2	56	≥2000
27	IFR26500	3.2	2100	26.5	50.3	420	2100	420	6300	3.65	2	56	≥2000
28	IFR26650	3.2	3100	26.5	65.3	620	3100	620	9300	3.65	2	86	≥2000
29	IFR26650	3.2	3200	26.5	65.3	640	3200	640	9600	3.65	2	88	≥2000
30	IFR32600	3.2	3500	32.5	60.5	700	3500	700	10500	3.65	2	125	≥2000
31	IFR32650	3.2	4500	32.3	65.2	900	4500	900	13500	3.65	2	138	≥2000
32	IFR32900	3.2	4500	32.5	90.5	900	4500	900	13500	3.65	2	170	≥2000
33	IFR32900	3.2	5000	32.5	90.5	1000	5000	1000	15000	3.65	2	180	≥2000
34	IFR32900	3.2	5500	32.5	90.5	1100	5500	1100	16500	3.65	2	192	≥2000
35	IFR42110	3.2	10000	42.5	110.5	2000	10000	2000	30000	3.65	2	350	≥2000
36	IFR42110	3.2	11000	42.5	110.5	2200	11000	2200	33000	3.65	2	360	≥2000
37	IFR18500	3.2	800	18.5	50.2	160	800	160	8000	3.65	2	26	≥2000
38	IFR18490	3.2	800	18.5	49	160	800	160	8000	3.65	2	25	≥2000
39	IFR18500	3.2	900	18.5	50.2	180	900	180	9000	3.65	2	28	≥2000
40	IFR18650	3.2	1100	18.5	65.3	220	1100	220	11000	3.65	2	40	≥2000
41	IFR22430	3.2	950	22.5	43.3	170	950	170	9500	3.65	2	45	≥2000
42	IFR22650	3.2	1600	22.5	65.3	320	1600	320	16000	3.65	2	60	≥2000
43	IFR26430	3.2	1400	26.5	43.3	280	1400	280	14000	3.65	2	61	≥2000
44	IFR26650	3.2	2200	26.5	65.3	440	2200	440	22000	3.65	2	83	≥2000
45	IFR26650	3.2	2300	26.5	65.3	460	2300	460	23000	3.65	2	85	≥2000
46	IFR26650	3.2	2400	26.5	65.3	480	2400	480	24000	3.65	2	87	≥2000

Handling Precautions and Guidelines for Lithium-ion Polymer Rechargeable Batteries

This document of "Handling Precautions and Guidelines for Li-ion Polymer Rechargeable Batteries" shall be applied to the battery cells manufactured by Honcell Energy. The customer is requested to contact Honcell in advance if and when the customer needs other applications or operating conditions than those described in this document. Additional experimentation may be required to verify performance and safety under such conditions. Honcell will take no responsibilities for any accidents when the cell is used under other conditions than those described in this document. Honcell will inform, in a written form, the customer of any improvements regarding proper use and handling of the cell, if it is deemed necessary.

1. Charge

Always use a charger specifically designed for Li-ion polymer batteries, but never use other types of chargers to charge the Lipo batteries. Failure to do so will damage the batteries and may cause fire and personal injury.

1.1 Charge Current

Charging current should be less than maximum charge current specified in this datasheet. To charge with higher current than recommended value may cause damages to the cell electrical, mechanical and safety performances and could lead to heat generation or leakage.

1.2 Charge Voltage

Charging shall be done by voltage less than that specified in this specification sheet (4.2V/cell). Charging beyond 4.25V, which is the absolute maximum voltage, must be strictly prohibited. The charger shall be designed to comply with this condition. It is very dangerous that charging with higher voltage than maximum voltage since it causes damage to the cell electrical, mechanical safety performances and could lead to heat generation or leakage.

1.3 Charge Temperature:

The cell shall be charged at between 0 to 45°C.

1.4 Prohibition of Reverse Charge:

Reverse charging is prohibited. The cell must be connected correctly. The polarity has to be confirmed before wiring, in case of the cell is connected improperly, the cell cannot be charged. Simultaneously, the reverse charging may cause damages to the cell which may lead to degradation of cell performances and damage the cell safety, and could cause heat generation or leakage.

2. Discharge

2.1 Discharge current

The cell shall be discharged at less than the maximum discharge current specified in this data sheet. High discharge current may reduce the discharge capacity significantly or cause over-heat. If you plan to discharge battery at a higher current than the Max. current specified, please consult us for the HCG series.

2.2 Discharge Temperature

The cell shall be discharged within -20 to +60°C range specified in this data sheet.

2.3 Over-discharge

It should be noted that the cell would be at over-discharged state by its self-discharge characteristics in case the cell is not used for long time. Over-discharge may cause loss of cell performances, characteristics or battery functions. In order to prevent the cell over-discharging, the cell shall be charged periodically to maintain between 3.7V to 3.9V. The charger shall be equipped with a device to prevent further discharging exceeding a cut-off voltage specified in this data sheet. Also the charger shall be equipped with a device to control the recharging procedures as follows:

a: The cell or battery pack shall start with a low current (0.01C) for 15-30 minutes, i.e. pre-charge before rapid charge starts

b: The rapid charge shall be started after the (individual) cell voltage has been reached above 3.0V within 15-30 minutes. Can be determined with the use of an appropriate timer for pre-charge. In case the (individual) cell voltage does not rise to 3.0V within the pre-charge time, then the charger shall have functions to stop further charge and display the cell/pack at abnormal state.

3. Protection Circuit Module (PCM)

The cell or battery pack shall be protected by PCM and has the functions of over charge, over discharge, over current and short circuit protection to maintain safety and prevent significant deterioration of cell performances

3.1 Overcharge Prohibition

Overcharge prohibition function shall stop charging if any one of the cells of the battery pack reaches 4.25V.

3.2 Over-discharge Prohibition

Over-discharge prohibition function shall work to avoid further drop in cell voltage of 2.5V or less per cell in any cell of the battery pack. It is recommended that the dissipation current of PCM shall be minimized to 0.5uA or less with the over-discharge prevention. The protection function shall monitor each cell of the battery pack and control the current all the time.

4. Storage

Store the batteries 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/battery pack shall be stored at -20 to 50°C. Should the cells/ battery packs 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 battery at least 1 time every 3 months according to the following steps:

1) CC/CV charge @ 0.2C to 4.2V then rest 5 min.

2) CC discharge @ 0.2C to 3.0V then rest 5 min.

3) 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

5. Handling of Cells

1) avoid any short-circuit. It will cause the leads to get hot and lose electrical functions

2) avoid touching the cells with sharp objects when handling and storing

3) avoid errors during assembly by contacting the positive lead with the negative lead

4) avoid mechanical shock to the cells

5) avoid electro-static discharge when using, charging, and storing cells

6) avoid putting the battery in contact with metal conductors such as neck chains, barrettes, or bolts, etc.

7) do not bend or fold the sealing edge

8) do not open the folded edge on the sides of the cell

9) do not bend the tabs

10) do not put the cells into an oven, washing machine or any high-voltage container.

11) do not use a charger without a safety certification

12) do not use metal conductors to connect the positive and negative leads together

13) do not store batteries in a manner that allow terminals to short circuit

14) do not place batteries near heating sources, nor exposed to direct sunlight for long periods

15) immediately stop charging if the cell overheats, emits an odor, changes color, shape, etc.

16) the children should be supervised by adults when using the batteries

17) before using batteries, please carefully read and understand the Handling Precautions and Safety Guidelines

18) keep away batteries from children.

19) store the batteries at a proper condition range specified in this specification sheet

5.1 Soft Aluminum Foil

1) don't strike battery with any sharp edge parts

2) trim your nail or wear glove before taking battery

3) clean worktable to make sure no any sharp particle

5.2 Sealed Edge

1) sealing edge is very flimsy

2) don't bend or fold the sealing edge

5.3 Folding Edge

- 1) the folding edge is formed in battery process and passed all hermetic test.
- 2) don't open or deform folding edge.

5.4 Tabs

- 1) the battery tabs are not so stubborn especially for aluminum tab
- 2) don't bend the tabs

5.5 Mechanical Shock

Don't fall, hit and/or bend the battery body

6. Designing Battery Pack

6.1 Pack Designs

- 1) battery pack should have sufficient strength and the cell should be protected from mechanical shock
- 2) no sharp edge components should be inside the pack containing the battery

6.2 PCM Designs

- 1) the over-charge threshold voltage should not be exceed 4.25V
- 2) the over-discharge threshold voltage should not be lower than 2.5V
- 3) the PCM must have over-charge, over-discharge, over current and short circuit protection function built-in designed

7. Battery Pack Assembling

7.1 Tab Connection

- 1) spot welding or hand soldering is recommended to connect battery tabs with PCM or other parts
- 2) if apply hand soldering to connect tabs with PCM, to ensure:
 - a. the soldering iron should be temperature controlled and ESD safe.
 - b. soldering temperature should not exceed 320°C
 - c. soldering time should not be longer than 3 seconds at a time
 - d. soldering time should not exceed 5
 - e. keep battery tab cold down before next time soldering.

7.2 Cell Fixing

- 1) the cell should be fixed to the battery pack by its largest surface area
- 2) there should be no sharp edges at the assembly contact area.
- 3) cells must be held firmly in the battery pack, and movement is not allowed

8. Prohibitions

8.1 Prevention of Short Circuit

Enough insulation layers between wiring and the cells shall be used to maintain extra safety protection

8.2 Prohibition of Disassembly

Never disassemble the cells, should a battery unintentionally be crushed, thus releasing its contents, rubber gloves must be used to handle all battery components. Avoid inhalation of any vapors that may be emitted

- 1) the disassembling may generate internal short circuit in the cell, which may cause gassing, firing, or other problems
- 2) electrolyte is harmful. Li-po battery should NOT have liquid from electrolyte flowing. In case of contacting the materials from a damaged or ruptured cell or battery, please follow the emergent instructions as below:
 - a. eye contact, wash immediately with plenty of water and soap or for at least 15 minutes
 - b. skin contact, wash immediately with water and soap
 - c. inhalation of vented gas, remove to fresh air
 - d. ingestion, seek medical attention immediately

8.3 Prohibition of Dumping of Cells into Fire

Never incinerate nor dispose the cells in fire or it causes firing.

8.4 Prohibition of Cells Immersion into Liquid

The cells shall never be soaked with liquids such as water, seawater, drinks such as soft drinks, juices, coffee or others.

8.5 Battery cells Replacement

The battery replacement shall be done only by authorized parties but never by users.

8.6 Prohibition of Use of Damaged Cells

The cells might be damaged during shipping. If any unusual features of the cells are found such as deformation, smelling of electrolyte, electrolyte leakage and or others, the cells shall never be used any more. The cells with a smell of the electrolyte or a leakage shall be placed away from fire to avoid firing.

9. Recommendations

- 1) to use the cells for specified equipments only
- 2) to use the cells in standard conditions specified in this datasheet
- 3) to avoid short the cells always
- 4) must NOT drop the cells into the water or fire
- 5) for long time unused, please keep them in a half-charged state, SOC 50%, neither fully charged nor fully discharged
- 6) store the cells in a cool and dry place at specified temperature and humidity condition
- 7) any matters with this specification arises, it shall be revised by mutual agreements
- 8) the children should be supervised by adults when using the batteries
- 9) before using batteries, please carefully read and understand the Handling Precautions and Safety Guidelines
- 10) avoid electro-static discharge when using, charging, and store the cells
- 11) avoid putting the battery in contact with metal conductors
- 12) avoid errors during assembly by contacting the positive with the negative
- 13) keep away batteries from children
- 14) do not store batteries in a manner that allows terminals to short circuit
- 15) do not place batteries near heating sources, nor exposed to direct sunlight for long periods

10. Precautions

- 1) do not strike battery with any sharp edge parts
- 2) do not immerse the battery in water or any other liquids
- 3) do not use and leave the battery near a heat source as fire or heater
- 4) do not reverse the positive and negative terminals
- 5) do not expose the lead wires
- 6) do not connect the battery to an electrical outlet
- 7) do not discard the battery in fire or heat it
- 8) do not assemble unmatched cells
- 9) do not charge a battery if deformed, swelled or appears damaged
- 10) do not bend the tabs since they are easily to be broken, especially the aluminum tab.
- 11) do not short-circuit the battery
- 12) do not transport and store the battery together with metal objects
- 13) do not pierce the battery with nails or other sharp objects
- 14) do not use or leave the battery at very high temperature
- 15) do not use it in a location where static electricity is obvious
- 16) do not use the batteries if odor, over heat, deformation observed
- 17) do not mix use the new and old cells or different brands
- 18) be aware of the over-discharged battery may cause fire or smoke
- 19) any time you have an accident with battery or if it balloons or exceeds temperature guidelines, follow these safety steps:
 - a. immediately remove the battery pack from your model or charger
 - b. place the battery in a non-flammable and well ventilated area
 - c. observe the battery for 30 minutes from a safe distance
 - d. after 30 minutes, if the pack appears stable not swelled and shows no signs of damage, return the battery

11. Battery Disposal Instructions

- 1. discharge battery pack to 2.5V per cell or less
- 2. fill a bucket with enough water to submerge the battery pack completely
- 3. add salt to the water until no more salt will dissolve and the water is fully saturated with salt
- 4. place the battery pack in the bucket and keep submerged in the salt water solution for 24 hours
- 5. remove the battery pack from the salt water and test the voltage
- 6. given the voltage does not read 0.0V, submerge again and re-test until the voltage reads 0.0V
- 7. once the battery pack has been discharged to 0.0 Volts, it is safe to dispose.

12. Warning

To charge and discharge the batteries may potentially cause fire or serious injury to persons and damages to property. The user of the battery agrees to accept responsibility for all of such risks. Honcell can't control the use, application, charge or installation of the battery, and shall not be held responsible for any accidents, injuries to persons, or damages to properties resulting from the misuse and or abuse of our products. Read all safety guidelines, charging instructions, and disposal instructions in this datasheet before using batteries. Keep batteries out of reach of children and pets. Children under the age of 18 must be supervised by an adult. By purchasing Honcell's batteries, buyers shall assume all risks associated with the batteries.

13. Warranty

Honcell Energy guarantees only to the original users that all batteries will be free of defects in material and workmanship for a period of 12 months. The applicable warranty period begins from the date of shipping, or if no obvious evidence is available to state the shipping date, refer to the date code on the product. In no case shall Honcell's liability with defects proven due to the manufacturing process instead of the customers abuse and or misuse, Honcell will at our options make any necessary repairs and or replacement free of charge only be allowed or accepted for return unless an official authorization. The warranty does not cover a battery reaching its normal end of life which may occur prior to the warranty periods stated above. A battery can deliver only a fixed number of usable amp-hours over its lifetime and is considered to have reached its normal end of life if the application uses up all of these amp-hours, regardless of the time the battery has been in service. Therefore Honcell reserves the right to deny a warranty claim if it determines the battery to be at its normal end of life, even if the claim is lodged within the applicable period.

14. Others

Any matters that not covered within this specification sheet should be conferred between the buyers and Honcell. This document may contain technical inaccuracies or typographical errors, and you should confirm the accuracy and completeness of all information before making any decisions related to the products you are to test, buy or use.

15. Abbreviations for Batteries

A	Ampere
AC	Alternating Current
Ah	Ampere-hour
BMS	Battery Management System
°C	Celsius Centigrade (temperature)
CC/CV	Constant Current Constant Voltage (charge method)
C-rate	Discharge Rate of a Battery
DC	Direct Current
DoD	Depth of Discharge
DOT	Department of Transportation (US)
kPa	Kilo-Pascal (pressure); 1kPa = 0.01 bar; 1kPa = 0.145psi
kWh	Kilowatt-hour (electrical power)
LCO	Lithium Cobalt Oxide
LFP	Lithium-iron Phosphate
LiCoO2	Lithium-ion Cobalt Oxide
LiFePO4	Lithium-iron Phosphate Oxide
Li-ion	Lithium-ion Battery (short form)
mAh	Milliampere-hours

NCA	Lithium-ion Battery with Nickel, Cobalt, Aluminum
NiCd	Nickel Cadmium (battery)
NiMH	Nickel Metal Hydride (battery)
NMC	Lithium-ion with Nickel, Manganese, Cobalt
NTC	Negative Temperature Coefficient
OCV	Open Circuit Voltage
PTC	Positive Temperature Coefficient
RC	Remote Control
SBS	Smart Battery System
SLA	Sealed Lead Acid (battery)
SoC	State-of-Charge
Wh	Watt-hour
Wh/Kg	Watt-hour per kilogram (measurement of specific energy)
Wh/L	Watt-hour per litter (measured in energy density)

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