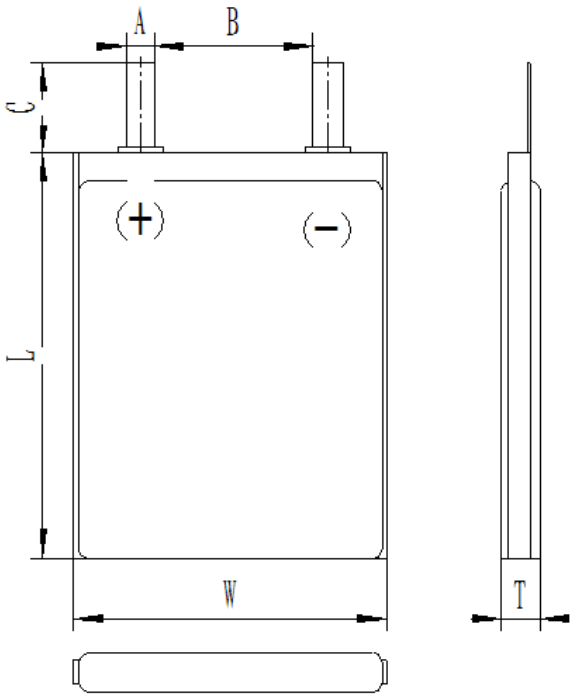
Tenergy Corporation
436 Kato Terrace
Fremont, CA 94539
Tel: 510.687.0388 Fax: 510.687-0328
www.TenergyBattery.com

Product Name:	Li-Poly 3.7V 900mAh Battery
Product Number:	30515
Battery Size:	873048
Battery Chemistry	Li-Polymer

Dimensions

Sign	Item	Max (mm)
A	Tab width	5
B	Space between Tabs	9
C	Tab Length	10
T	Cell thickness	9.0
W	Cell width	30.5
L	Cell length	50



Specifications：

Item		Specifications	Remark
Typical Capacity		900 mAh	25℃， 0.2C5A discharge
Nominal Voltage		3.7 V	25℃， Average Voltage at 0.2C5A discharge
Charge Current	Standard	0.2C_5A	Working temperatur：0～40℃
	Max	1.0C_5A	Working temperatur：0～40℃
Charge cut-off voltage		4.2±0.10V	CC/CV
Continue discharge current		20C 18 A	
Peak discharge Current		25C 22.5 A	Working temperatur：0～60℃
Discharge cut-off voltage		3.0 V	
Impedance		≤ 25 mΩ	25℃， AC 1KHz after 50% charge
Weight		≤25 g	

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Storage temperature	≤1month	-20～45℃	Best 20±5℃ for long-time storage
	≤3month	0～30℃	
	≤6month	20±5℃	
Storage humidity		65±20% RH	

General Performance:

Definition of Standard charging method: At 20±5℃, charging the cell initially with constant current 0.2C_5A till voltage4.2V, then with constant voltage 4.2V till current declines to 0.05C_5A.

Item	Test Methods	Performance
0.2C Capacity	After standard charging, laying the battery 0.5h, then discharging at 0.2C_5A to voltage 2.75V, recording the discharging time.	≥300min
20C Discharge	After standard charging, laying the battery 0.5h, then discharging at 5C_5A to voltage 2.75V, recording the discharging time.	≥2.8min
Cycle Life	Constant current 1C_5A charge to 4.2V, then constant voltage charge to current declines to 0.05C_5A, stay 5min, constant current 1C_5A discharge to 2.75V, stay 5min. Repeat above steps till continuously discharging time less than 36min.	≥300times
Capability of keeping electricity	20±5℃, After standard charging, laying the battery 28days, discharging at 0.2C_5A to voltage 2.75V, recording the discharging time.	≥240min

Environment Performance:

Item	Test Methods	Performance
High temperature	After standard charging, laying the battery 4h at 60℃, then discharging at 0.2C_5A to voltage 2.75V, recording the discharging time.	≥270min

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Low temperature	After standard charging, laying the battery 4h at -20℃, then discharging at 0.2C_5A to voltage 2.75V, recording the discharging time.	≥210min
Constant humidity and temperature	After standard charging, laying the battery 48h at 40±2℃, RH 93±2%. Recording 0.2C_5A discharging time	No distortion No electrolytes leakage ≥270 min
4.4 Temperature shock	After standard charging, battery stored at -20℃ for 2 hours, then stored at 50℃ for 2 hours. Repeat 10 times.	No electrolytes leakage

Mechanical Performance:

Item	Test Methods	Performance
Vibration	After standard charging, put battery on the vibration table. 30 min experiment from X,Y,Z axis. Scan rate: 1 oct/min; Frequency 10-30Hz, Swing 0.38mm; Frequency 30-55Hz, Swing 0.19mm.	No influence to batteries' electrical performance and appearance.
Collision	After vibration test, batteries were laying on the vibration table about X, Y, Z axis. Max frequency acceleration: 100m/s^2; collision times per minutes: 40~80; frequency keeping time 16ms; all collision times 1000±10.	No influence to batteries' electrical performance and appearance.
Drop	Random drop the battery from 10m height onto concrete one times.	No explosion or fire

Safety Test:

Test conditions: The following tests must be measured at flowing air and safety protection conditions. All batteries must standard charge and lay 24h.

Item	Test Methods	Performance
Over charge	At 20±5℃, charging batteries with constant	No explosion or fire

	current 3C_5A to voltage 4.8V, then with constant voltage 4.8V till current decline to 0. Stop test till batteries' temperature 10℃ lower than max temperature.	
Over discharge	At 20±5℃, discharge battery with 0.2C_5A continuously 12.5h.	No explosion or fire
Short-circuit	At 20±5℃, connect batteries' anode and cathode by wire which impedance less than 50 mΩ, keep 6h.	No explosion or fire
Extrusion	At 20±5℃, put the battery in two parallel steal broad, add pressure 13kN.	No explosion or fire
Thermal shock	Put the battery in the oven. The temperature of the oven is to be raised at 5±1℃ per minute to a temperature of 130±2℃ and remains 60 minutes.	No explosion or fire

Cautions of charge & discharge

Charge

Charging current should be lower than values that recommend below. Higher current and voltage charging may cause damage to cell electrical, mechanical, safety performance and could lead heat generation or leakage.

(1) Batteries charger should charging with constant current and constant voltage mode;
(2) Charging current should be lower than (or equal to) 1C_5A;
(3) Temperature 0～45℃ is preferred when charging;
(4) Charging voltage must be lower than 4.25V.

Discharge

(1) Temperature 0～60℃ is preferred when discharging;
(2) Discharging voltage must not be lower than 2.75V.

Over-discharge

It should be noted that the cell would be at an over-discharge state by its self-discharge. In order to prevent over-discharge, the cell shall be charged periodically to keeping voltage between 3.6-3.9V. Over-discharge may cause loss of cell performance. It should be noted that the cell would not discharge till voltage lower than2.5V.

Storage of polymer lithium-ion batteries

The environment of long-time storage:
Temperature: 20±5℃;

Humidity: 45-85%;

Batteries were 40～60% charged.

The battery had better charge a time per three month during its storage for avoiding over discharge. If storage is long time, please charge the battery with constant current $0.5C_5A$ for 1 hour so that it has some storage of charge for properly using.

Charge and discharge afresh to active and renew battery energy after storage above 1 year.

In case of over-discharge, batteries should be charged for one time every 3 months while storing. Batteries should be discharged and charged after being stored more than a year in order to activate it and restore energy.

Transportation of polymer lithium-ion batteries

The batteries should transportation with 10～50% charged states.

Batteries must be properly packed to avoid short circuiting

Others

- Short-circuit is strictly prohibited. It should damage batteries badly.
- The batteries' tabs are not so stubborn especially for aluminum tabs. Don't bend tabs.
- The batteries must be careful of proceed the operation for it's soft package. Please note cautions below to prevent cells' leakage, heat generation and explosion.
- Prohibition of disassembly cells;
- Prohibition of cells immersion into liquid such as water or seawater;
- Prohibition of dumping cells into fire;
- Prohibition of using damaged cells. The cells with a smell of electrolyte or leakage must be placed away from fire to avoid firing.

In case of electrolyte leakage contact with skin, eye, physicians shall flush the electrolyte immediately with fresh water and medical advise is to be sought.