



ENIX ENERGIES

V1.0

TEL: 0 825 88 6511

DATE: 2013-7-1

Super Li-ion Battery Specification

MODEL:

ACL9063

(3.2V/500mAh)

Prepared By/Date	Checked By/Date	Approved By/Date
2013-7-1		2013-7-1

Customer Approval	Signature/Date
	Company Name
	Company Stamp



1 Scope

This specification is only appropriate for the relevant battery.

2 Product Specification

2.1 Characteristic

Table 1

No.	Item	General Parameter		Remark
1	Rated Capacity	Typical	500mAh	
		Minimum	480mAh	
2	Rated Voltage	3.2V		Operation Voltage
3	Internal Impedance	≤30mΩ		New battery produced within one week.
4	Standard Charge	Constant Current 500mA (1.0C) End Voltage 3.75V 10mA cut-off		
5	Standard Discharge	Constant Current 500mA(1.0C)		
6	Fast Charge	Constant Current 1000mA (2.0C) End Voltage 3.75V		
7	Maximum Continuous Discharge Current	5A(10C)		Peak Forward Current>10A
8	Operation Temperature Range	Charge: 0°C~40°C		60±25%R.H.
		Discharge: -10°C~70°C		
9	Storage Temperature Range	Less than 1 year: -10°C~20°C		60±25%R.H.
		Less than 3 months: -10°C~45°C		



2.2 Cycle Life

Table 2

No.	Item	Criteria	Test Conditions
1	Cycle Life	Higher than 70% of the Initial Capacities	0.5C 2,000 1.0C 1,200

3 Discharge Temperature Characteristic

Table 3

Discharge Temperature	-10°C	0°C	25°C	60°C
Discharge Capacity	70%	80%	100%	95%

4 Protection Circuit

The battery cell is not equipped with PCM.

Users should provide effective protection against over charge/over discharge/short circuit, etc.



5 Cell Mechanical Characteristics and Safety Test

Table 5

Item	Battery Condition	Test Method	Requirements
Vibration Test		After standard charging, fixed the cell to vibration table and subjected to vibration cycling that the frequency is to be varied at the rate of 1Hz per minute between 10Hz and 55Hz, the excursion of the vibration is 1.6mm. The cell shall be vibrated for 30 minutes per axis of XYZ axes.	No leakage No fire
Crush Test	Fresh, Fully charged	Crush between two flat plates. Applied force is about 13KN (1.72Mpa) for 30min.	No explosion, No fire
Short Circuit Test 20°C	Fresh, Fully charged	Each test sample battery, in turn, is to be short circuited by connecting the (+) and (-) terminals of the battery with a Cu wire having a maximum resistance load of 0.05Ω. Tests are to be conducted at room temperature 20±2°C.	No explosion No fire the temperature of the surface of the Cells is lower than 150°C
Impact Test	Fresh, Fully charged	A 56mm diameter bar is inlayed into the bottom of a 10kg weight. And the weight is to be dropped from a height of 1m onto a sample battery and then the bar will be across the center of the sample.	No explosion, No fire
Over Discharge Test	Fresh, Fully charged	Discharge at a current of 1 C ₅ A for 2.5h.	No explosion, No fire

6 Handling of Cells

6.1 Cell fixing

The cell should be fixed to the battery pack by its large surface area.

No cell movement in the battery pack should be allowed.

6.2 Inside design

No sharp edge components should be insides the pack containing the LIP cell.



7 Others

7.1 Prohibition of disassembly

- 1) Never disassemble the cells

The disassembling may generate internal short circuit in the cell, which may cause gassing, firing, explosion, or other problems.

- 2) Electrolyte is harmful

LIP battery should not have liquid from electrolyte flowing, but in case the electrolyte come into contact with the skin, or eyes, physicians shall flush the electrolyte immediately with fresh water and medical advice is to be sought.

7.2 Prohibition of dumping of cells into fire

Never incinerate nor dispose the cells in fire. These may cause explosion of the cells, which is very dangerous and is prohibited.

7.3 Battery cells replacement

The battery replacement shall be done only by either cells supplier or device supplier and never be done by the user.

7.4 Please do not exceed the specification range

8 Warranty

The period of warranty is **1** year from the date of shipment. Huahui New Energy guarantees to give a replacement in case of cells with defects proven due to manufacturing process instead of the customer abuse and misuse.

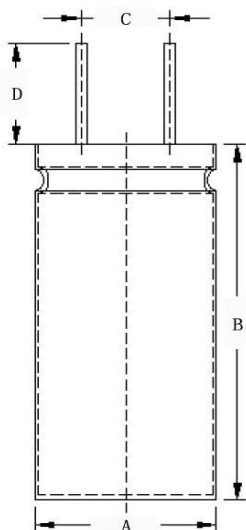
9 Storage

Batteries should be stored at room temperature, charged to about 30% to 50% of capacity.

We recommend that batteries be charged about once per half a year to prevent over discharge.



10 Initial Dimension



Unit: mm	±0.2
A	14
B	50
C	5.3
D	∅ 0.8*12

Units	mm					16.5 ±1 g	
L					L		
D	MAX		W	MAX		H	MAX
Drawer		Checked		Approved		Date	
				DRAWING			
				Drawing ID			