Product Specification: LI-FE-18500-1000mAh-3.2V

1000mAh 3.2V 18500 Li-Fe Polymer Cell

1. Scope

This product specification has been prepared to specify the rechargeable Li-Fe Polymer cell ('cell').

2. Description and Model

2.1 Description Cell (Li-Fe rechargeable cell)

2.2 Model LI-FE-18500-1000mAh-3.2V

3. Specifications

1	Charge Voltage	DC: 3.65V	
2	Nominal Voltage	3.2V	
3	Minimal Capacity	980mAh @0.2A Discharge	
4	Charge Current	Standard charge: 0.2C	
5	Standard Charging Method	0.2C CC (constant current) charge to 3.65V, then CV(constant voltage3 .65V) charge till charge current decline to ≤ 0.02C	
6	Charging Time	Standard charge: 6 hours	
7	Max. Charge Current	1.0C	
8	Max. Discharge Current	1.0C	
9	Max. Continuous Discharge Current	3.0C	
10	Discharge Cut-off Voltage	2.0V ± 0.15V	
11	Operating Temperature	Charging: 0 to 45℃	Discharging: -10 to 60℃
12	Storage Temperature	-20 to 50℃	
13	Battery Weight	37g (maximum)	
14	Battery Dimensions	Length: 49.9mm	Diameter: 18.1mm

4. Battery Performance Criteria

4.1 Electrical Characteristics

	Item	Test Method & Condition	Criteria
1	Standard Charge	Charging the battery initially with constant current at 0.2C and then with constant voltage at3.65V until charge current declines to 0.02C	N/A
2	Initial Capacity	The capacity means the discharge capacity of the battery, which is measured in terms of discharge current of 0.2C and 2.0V cut-off voltage after the standard charge.	≥980mAh
3	Cycle Life	Charge: 0.2C to 3.65V Discharge: 0.2C to 2.0V 80% or more of 1st cycle capacity at 0.2C discharge of operation	≥1000 cycles
4	Self-Discharge	After the standard charging, store the battery under the condition as No.4.4 for 30days, then measured the capacity with 0.2C until 2.0V.	Remaining Capacity >95%

5	Initial Impedance	Internal resistance measured at AC 1KHz after 50% charge.	≥55mΩ
6	Battery Voltage	As of shipment.	3.2V - 3.4V

4.2 Mechanical Characteristics

	Item	**Test Method & Condition**	**Criteria**
1	Vibration Test	After standard charging, fixed the battery to vibration table and subjected to vibration cycling that the frequency is to be varied at the rate of 1Hz per minute between 10Hz an 55Hz, the amplitude of the vibration is 1.6mm. The battery shall be vibrated for 30 minutes towards per axis of XYZ axes.	No fire or leakage. .
2	Drop Test	The battery is to be dropped from a height of 1 meter twice onto concrete ground.	No fire, explosion or leakage.

4.3 Visual Inspection

There shall be no such defects as scratch, flaw, crack, and leakage which may adversely affect commercial value of the cell.

4.4 Standard Environmental Test Conditions

Unless otherwise specified, all tests stated in this Product Specification are conducted at the condition below:

Temperature : 23 ± 5°C

Humidity : 65 ± 20% RH

5. Storage and Others

5.1 Long Time Storage

If the Battery is stored for a long time (over 3 months), the Battery's storage voltage should be 3.2-3.4V and the Battery is to be stored in according to the condition specified about No. 4.4.

5.2 Others

Any matters that this specification does not cover should be discussed between the customer and the manufacturer.

6. Dimensions

Height (h): 49.9 ± 0.3mm

Width (d): 18.1 ± 0.2mm