EEMB BATTERY

Lithium and Iron Disulfide Battery

Specification

Model :	**LFB-AA**
Capacity:	**3000mAh**

Prepared	Checked	Approved

Customer ：

Customer Approval（Customer confirmation）：

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https://www.eemb.com

1. Scope

This specification is suitable for the performance of the LEAGALLON Lithium and Iron Disulfide battery.

2. Model

LFB-AA / IEC R6

3. Reference Document

Q/(GZ)PH001-2004: Lithium and iron disulfide battery

IEC60086-4: 2000 Primary batteries-Part 4: Safety of lithium batteries

4. Specification

No.	Items	Specification
1	Nominal Voltage	1.5 V
2	Rated Capacity	3000 mAh
3	Working Voltage	1.30V @ 200mA discharge
4	Max. Discharge Current	2000 mA continuous
5	Discharge Cut-off Voltage	0.80V
6	Volume	8.0 cubic centimeters
7	Weight	Approx. 14.5 g
8	Lithium Content	Less than 1 gram per cell
9	Dimensions	Diameter: 14.0±0.5 mm
		Height: 49.85±0.65 mm
10	Operating Temp.	-20 ℃ to 60 ℃

11	Storage Temp.	-20 ℃ to 40 ℃
12	Storage Humidity	≤75 %
13	Shell Life	5 Years

5. Test Conditions and Performance

5.1 Measuring Instrument or Apparatus

5.1.1 Dimension Measuring Instrument

The dimension measurement shall be implemented by calipers with equal or more precision scale of 0.01 mm.

5.1.2 Voltmeter

Standard class specified in the national standard or more sensitive class having inner impedance more than 10 kΩ/V.

5.1.3 Ammeter

Standard class specified in the national standard or more sensitive class. Total external resistance including ammeter and wire is less than 0.01 Ω.

5.2 Standard Test Conditions

Unless other defined, test and measurement shall be done under temperature of 20 ± 5 ℃ and relative humidity of 45~85%. If it is judged that the test results are not affected by such conditions, the tests may be conducted at temperature 10~30℃ and humidity 25~85%RH.

5.3 Basic Characteristics

No.	Item	Measuring Procedure	Criteria
1	Open-Circuit Voltage	The open-circuit voltage shall be measured by voltmeter.	⩾1.72 V
2	Dimension	Use calipers test cell’s dimensions.	As item 4.9
3	Discharge Capacity	The capacity means the discharge capacity of the cell, which is measured by continuously discharging with a current of 300 mA to 0.8V.	⩾3000 mAh
4	External Short Circuit	Positive and negative of fresh battery are connected by a Cu wire. This short-circuit condition is continued for 1 day at room temperature (20±2℃).	No leakage; No explosion.
5	Forced Discharge	Discharged to 0.8V at 1000mA; And then the sample cell is forced discharged with 1000mA for 3 hours.	No explosion; No fire

5.4 Mechanical Characteristics

No.	Item	Test Method	Criteria
1	Impact	A 15.8 mm diameter bar is vertically placed across the centre of the sample cell. A 9.1 kg mass is dropped from a height of 61cm onto the sample.	No explosion, No fire
2	Vibration	Freq: 10~55hz; Amp: 2mm; Three directions; total 90 min	No leakage, No explosion, no fire 0.02V total maximum OV changes

3	Crush	A sample cell is to be crushed between two flat surfaces. Force: 32mm diameter piston; Max pressure: 17.2MPa; Max force: 13KN; Released when the max pressure obtained.	No explosion, No fire

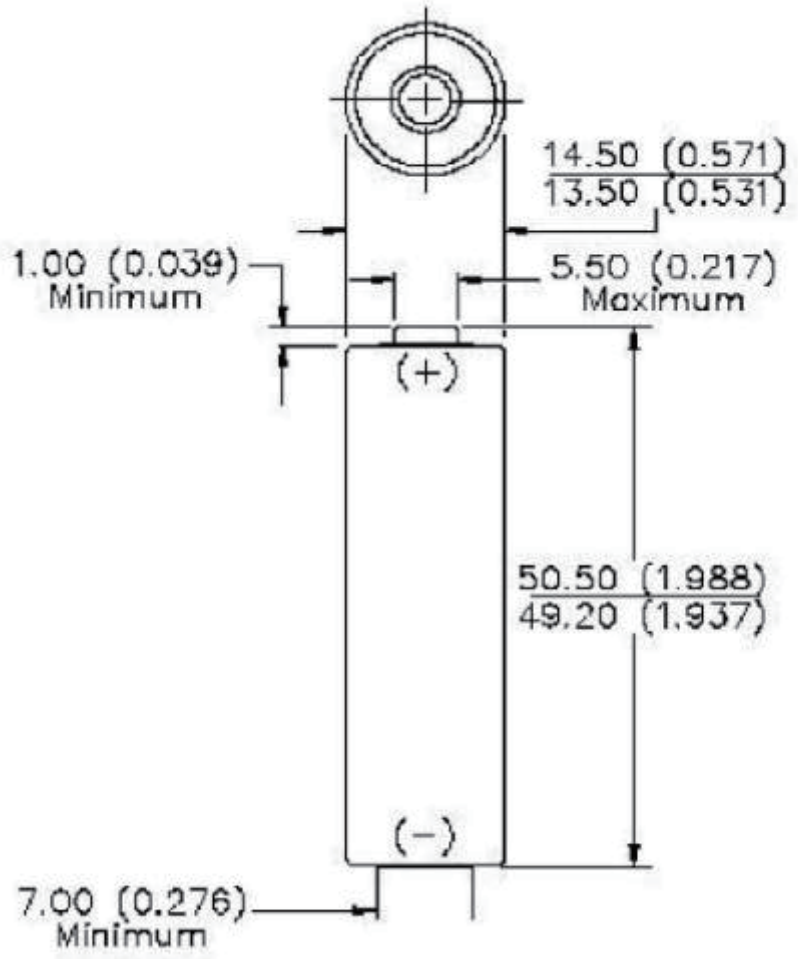
5.5 Environmental test

No.	Item	Test Conditions	Criteria
1	Thermal test	Fresh batteries, store at 70 deg. C for 4hs; 20 deg. C for 2hs; -20 deg. C for 4hs; 20 deg. C for 2hs. All cycled 5 times	No leakage No explosion; No fire
2	Heating test	Fresh battery is heated in an oven. The rate of temperature raised: 5±2℃ per minute; Max. temperature 150±2℃ remaining for 10 minutes.	No explosion; No fire
3	Drop test	Fresh batteries; Height: 1m, 6 times; Each direction two times; Concrete floor	No leakage; No explosion; No fire

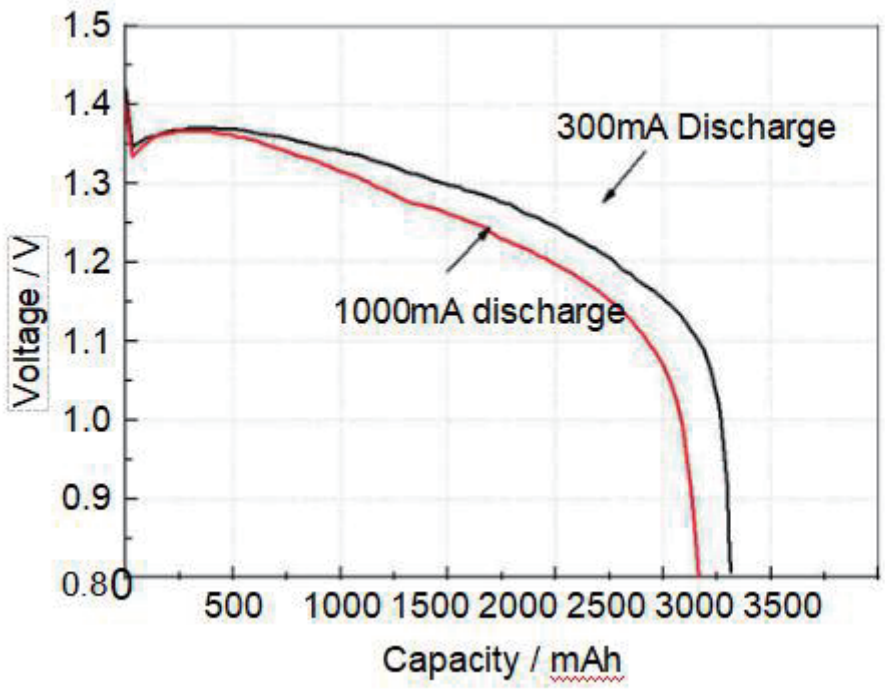
5.6 Visual inspection

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

6. Drawing (unit: mm(inches))



7. Discharge curve



8. Cautions in use

To ensure proper use of the battery please read the manual carefully before using it.

. Handling

Do not expose to, dispose of the battery in fire.

Do not put the battery in a charger or equipment with wrong terminals connected.
Avoid shorting the battery

Avoid excessive physical shock or vibration.

Do not disassemble or deform the battery.

Do not immerse in water.

Do not use the battery mixed with used or other different make, type, model batteries.
Keep out of the reach of children.

. Storage

Store the battery in a cool, dry and well-ventilated area.

. Disposal

Regulations vary for different countries.

Dispose of in accordance with local regulations.

9. Battery operation instruction

9.1 Discharging current

The discharging current does not have to surpass this specification book stipulation the biggest discharging current, the oversized electric current electric discharge can cause the battery capacity play to reduce and to cause the battery heat.

9.2 Electric discharge temperature

The battery discharge must carry on in the ambient temperature scope which this specification book stipulated.

9.3 Storing the Batteries

The battery should store in the product specification book stipulation temperature range. If has surpasses above for six months the long time storage, the discharge capacity will decrease sharply.

10. Other Chemical Reaction

Because batteries utilize a chemical reaction, battery performance will deteriorate over time even if stored for a long period of time without being used. In addition, if the various usage conditions such as discharge, ambient temperature, are not maintained within the specified ranges the life expectancy of the battery may be shortened or the device in which the battery is used may be damaged by electrolyte leakage. Please change the battery in time.

11. Period of Warranty

The period of warranty is one year from the date of shipment. Great Power guarantees to give a replacement in case of cells with defects proven due to manufacturing process instead of the customers' abuse and misuse.

12. Note

Any other items which are not covered in this specification shall be agreed by both parties.

EEMB reserves the final explanation. Please use battery strictly according to specification. EEMB will not be responsible for any inappropriate operation. EEMB keeps the right to change product specifications without previous notice. If any question, please consult with the manufacturer

EEMB 保留最终解释权。请严格按照规范使用电池。EEMB 对任何不当操作将不负责。EEMB 保留修改产品规格书不另行通知的权利。如有任何问题,请咨询制造商。