



Lithium-ion Battery

DATA SHEET

Battery Model: [LIR2032](#)

Prepared	Authorized	Approved

Manufacturer: EEMB Co., Ltd.

Website: <http://emb.com>

This Specification describes the requirements of the lithium ion rechargeable battery supplied by EEMB Co., Ltd.

1.0 BASIC CHARACTERISTICS

Model	LIR2032
Capacity	45mAh
Charging Voltage	4.20V
Nominal Voltage	2.75V at 0.2C mA
Standard Charging Method	Constant current: 8mA constant voltage 4.20V
Cut-off Discharge Voltage	2.75V
Max.Discharge Current	40mA
Max.Charge Current	40mA
Cycle Life	>500 cycles at 0.2C mA discharge
Standard Charge Temperature	0°C~45°C
Discharge Temperature	-20°C~60°C
Storage Temperature	-20°C~60°C
Storage Humidity	≤75%
Weight of Bare Cell	~2.7 g
Charge State Internal Impedance	≤600mΩ

Note: Internal resistance test standard: CC charge 0.2CmA / voltage up to 4.20V; Then CV charge. Terminate charging when the charging current value is less than 0.05CmA. Rest for 10 minutes, then test the battery by 1000Hz internal resistance tester.

2.0 Battery Characteristics

2.1 Environment Conditions:

Unless otherwise specified, all test stated in this Product Specification are conducted within the temperature 15~25°C and the humidity 45~85%RH.

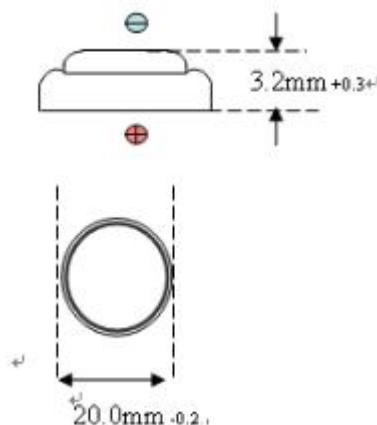
2.2 Test Equipment:

Impedance meter: The impedance meter with AC 1kHz should be used.

Item	Measuring Procedure	Standard
Appearance	Visual	No Defect and Leak.
Maximum Charge Current	CC/CV(Constant Current Constant Voltage)	40mA

Full charge	CC/CV	Charge it with 0.2CmA constant current till 4.2V(Max), then charge it with constant voltage 4.2V until the charging current drops to 0.01C.
Open Circuit Voltage	Within 1hr after full charge, measure Open circuit voltage.	>4.15V
Internal Impedance	Measure the battery with 1kHz AC.	≤600mΩ
Discharge Capacity	Within 1hr after full charge, discharge until final discharge, at 0.2C mA and measure the capacity.	>40mAh
Maximum Discharge Current	Until final discharge voltage.	40mA
Charge/Discharge Cycle Life	Discharge: 0.2CmA to 3.00V, This charge/discharge shall be repeated 500 times Charge: CCCV, CC- 0.2CmA, CV- 4.2V until the CC is below 0.8mA.	Discharge capacity should be >70%
Leakage Proof	After full charging, the battery shall be stored at 40±2°C and humidity 80±5% for 21 days.	No leakage should be observed by visual inspection.
Temperature Characteristics	1) After full charge at 20±5°C, stand at -20±2°C for 18hrs, then discharge at 0.2C mA and measure the capacity. 2) After full charge at 20±5°C, stand at 55±2°C for 2hrs, then discharge at 1C mA and measure the capacity.	Discharge capacity should be >60% and no abnormality on its appearance and structure.
Charge Retention	After full charging, stand at 20±5°C discharge capacity for 28 days, measure the discharge should be > 85%.	

3.0 Dimension (Unit: mm)



4.0 Important Notes

Keep away from source of fire and/or heat.

Do not disassemble battery and/or battery pack.

Do not connect the positive and negative pole directly using conductive metal; avoid short circuit.

Do not put the battery into water or damp it.

Do not cut the battery.

Do not strike or needle the battery.

Charge the battery using specified chargers.

Do not solder the battery directly.

Observe the correct polarity (+/-)

Do not use the battery in un-specified application.

Do not mix the battery in usage with other types of battery.

Read the instruction manual carefully before use.

When the battery is used on load, it is recommended to design a charge/discharge protection circuit for the battery.

When the battery is stored and not used under room temperature for over 6 months, it needs to be recharged by the procedure below: Discharge by CC mode at 0.2CmA to 2.75V, then rest for 5 minutes, Charge by CC mode at 0.2CmA to 4.20V limit, then change to CV charge mode, Cut off the charge when the charging current is less than 0.05CmA.

! Special Notice

Keep the cells in **50% charged state** during long period storage. We recommend to charge the battery up to 50% of the total capacity every 3 months after receipt of the battery and maintain the voltage 3.6~4.0V. And store the battery in cool and dry place.

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