

Lithium-ion Battery Technology Specification

Customer _____

Part name Lithium-ion Battery

Model No LIR2032 40mAh 3.6V

Serial No _____

Produce No _____

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Checked by		Signed by	Leqing zou
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1. Applicable Scope

This specs approval is applied only for the lithium-ion rechargeable cell battery produced by PKCELL.

2. Type of Products

- Type : Lithium-ion rechargeable cell battery
- Model : LIR2032

3. General Features

Long Cycle Life

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Under normal usage, the cycle life of the battery can be ≥ 500 circles while with capacity $\geq 80\%$

High Power Density

High power density makes the battery light in weight and small in dimension. It can be used in small devices.

- 2 -

Safe and Reliable

No floating metal lithium assures a safer usage.

High working voltage

Working voltage is up to 3.6V, approx. 3 times of the voltage of NI-MH or NI-CD, which reduces the quantity of the battery needed in certain application.

No memory effect

No memory effect assures a constant maximum application.

Low self-discharge rate : $\leq 7\%$ /month

Good Consistency

Good consistency is showed in battery capacity, internal resistance, discharge platform and capacity retention. A

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strict complete internal quality control is subject to the ISO9000 system in the company's production.

The use of large temperature range

-20° C ~ +45° C.

Standard charge ambient temperature -20° C ~ +45° C.

-20° C ~ +60° C.

Standard discharge ambient temperature -20° C ~ +60° C.

storage

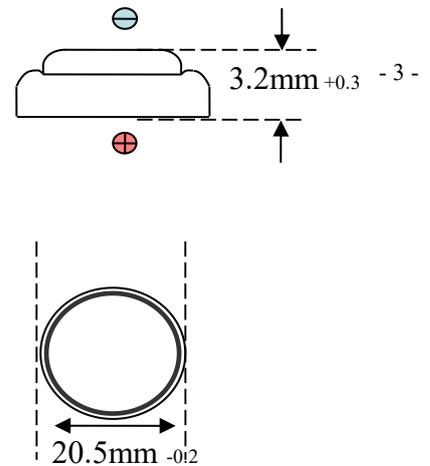
+15° C ~ +25° C .

for within the temperature +15° C ~ +25° C.

for within the humidity 75%.

4. Spec Chart

Item		Standard features
Model		LIR2032
(V)		3.60
(mAh)		40mAh
尺寸	D (mm)	20.5 ^{-0.2}
	H (mm)	3.2 ^{+0.3}



Internal resistance test standard:

CC charge 0.5mA / voltage up to 4.2V; Then CV charge.

Terminate charging when the charging current value is less than 0.05CmA.

Rest for 60 minutes, then test the battery by 1000Hz internal resistance tester.

5. Battery Characteristics

5.1 Test Conditions

Temperature: $20^{\circ}\text{C} \pm 1$

Relative Humidity: $\leq 75\% \pm 5$

Atmosphere pressure: 1atm

5.2 Discharge Characteristics

The test should be conducted under the condition below:

In a temperature of $20 \pm 5^{\circ}\text{C}$, CC charge 0.2CmA / voltage up to 4.2V; Then CV charge.

Terminate charging when the charging current value is less than 0.05CmA. Rest for no more than 60 minutes, Discharge CC at 0.2CmA to 2.75V.

5.3 Charge Characteristics

The battery can be charged by one of the following methods:

Standard Charge : Temperature $20 \pm 1^{\circ}\text{C}$, CC charge at 0.5CmA to 4.2V; turn to CV charge; Terminate charging when the charging current value is less than 0.05CmA.

- 4 -

Fast Charge: Temperature $20 \pm 5^{\circ}\text{C}$, CC charge at 0.5CmA to 4.2V; turn to CV charge; Terminate charging when the charging current value is less than 0.05CmA.

5.4 Maximum charge and discharge characteristics

Maximum charge current 40 mA (1.0C)

Maximum discharge current 80 mA (2.0C)

6. Important Notes

- Keep away from source of fire and/or heat.
- Do not disassemble battery and/or battery pack.

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- 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.

- 5 -

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