



Lithium-ion Rechargeable Cell Battery

Model No.: GMB3048

1. Applicable Scope

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

2. Type of Products

- Type : Lithium-ion rechargeable cell battery
- LIR3048 Model : LIR3048

3. General Features

Long Cycle Life

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.

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

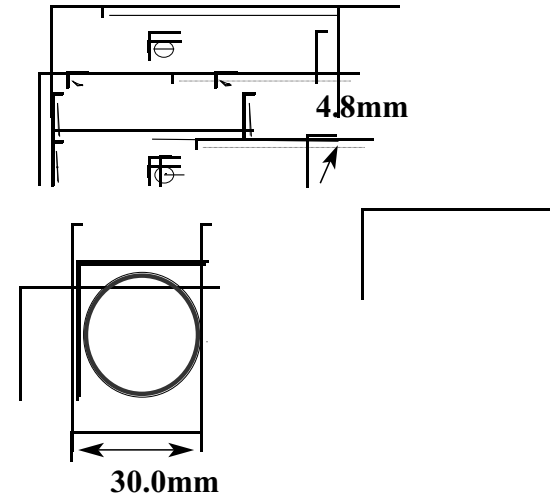
Good Consistency

Good consistency is showed in battery capacity, internal resistance, discharge platform and capacity retention. A strict complete internal quality control is subject to the ISO9000 system in the company's production.

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4. Spec Chart

	mm	30.0±0.15
	mm	4.8±0.2
Weight g		12



Internal resistance test standard:

CC charge 0.5mA / voltage up to 4.25V; 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 ±1

Relative Humidity: ≤75 ±5

Atmosphere pressure 1atm

5.2 Discharge Characteristics

The test should be conducted under the condition below:

In a temperature of 20±5, CC charge 0.5CmA / voltage up to 4.25V; 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 0.5CmA to 2.75V.

5.3 Charge Characteristics

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

Standard Charge : Temperature 20±1, CC charge at 0.5CmA to 4.25V; turn to CV charge; Terminate charging when the charging current value is less than 0.05CmA.

Fast Charge: Temperature 20±5, CC charge at 1.0CmA to 4.25V; turn to CV charge; Terminate charging when the charging current value is less than 0.05CmA.

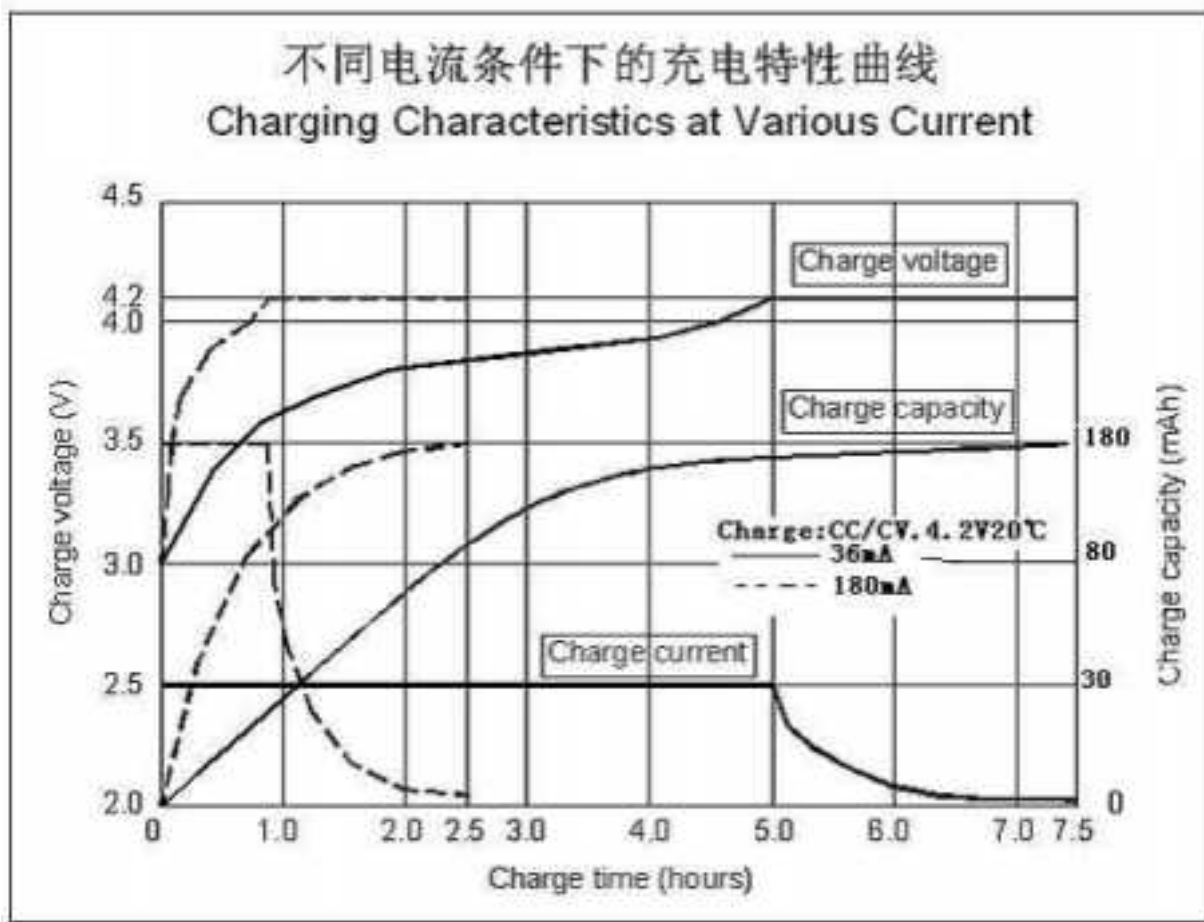
★For charging/discharging characteristics at various currents see fig 1 or 2.

★For discharging characteristics at various temperatures see fig 3 or 4.

★For Storage characteristics see fig 4.

★For cycle life characteristics see fig 5.

Fig.1 Charging Characteristics at various currents



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Fig. 2 Discharge Characteristics at various currents

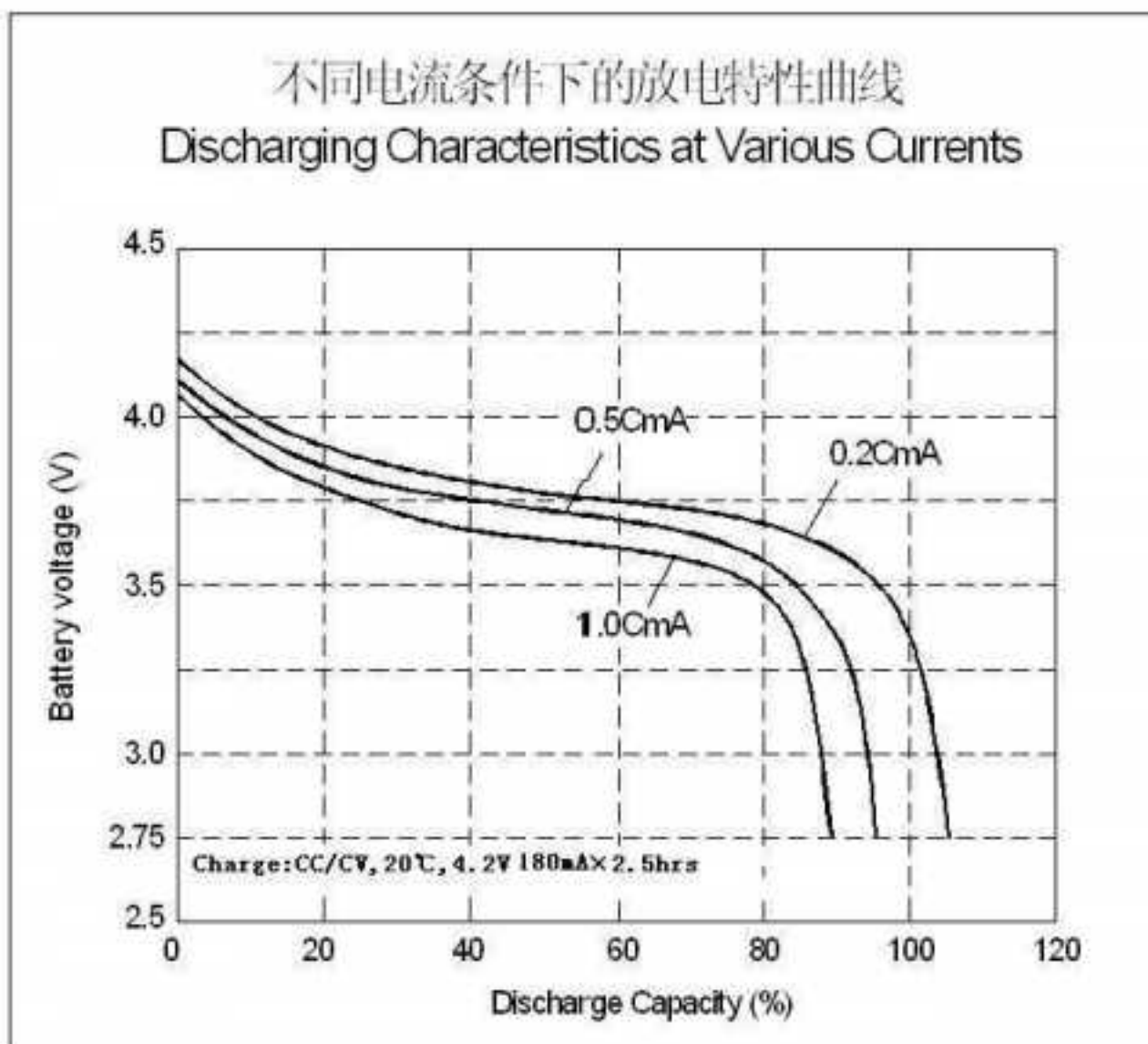
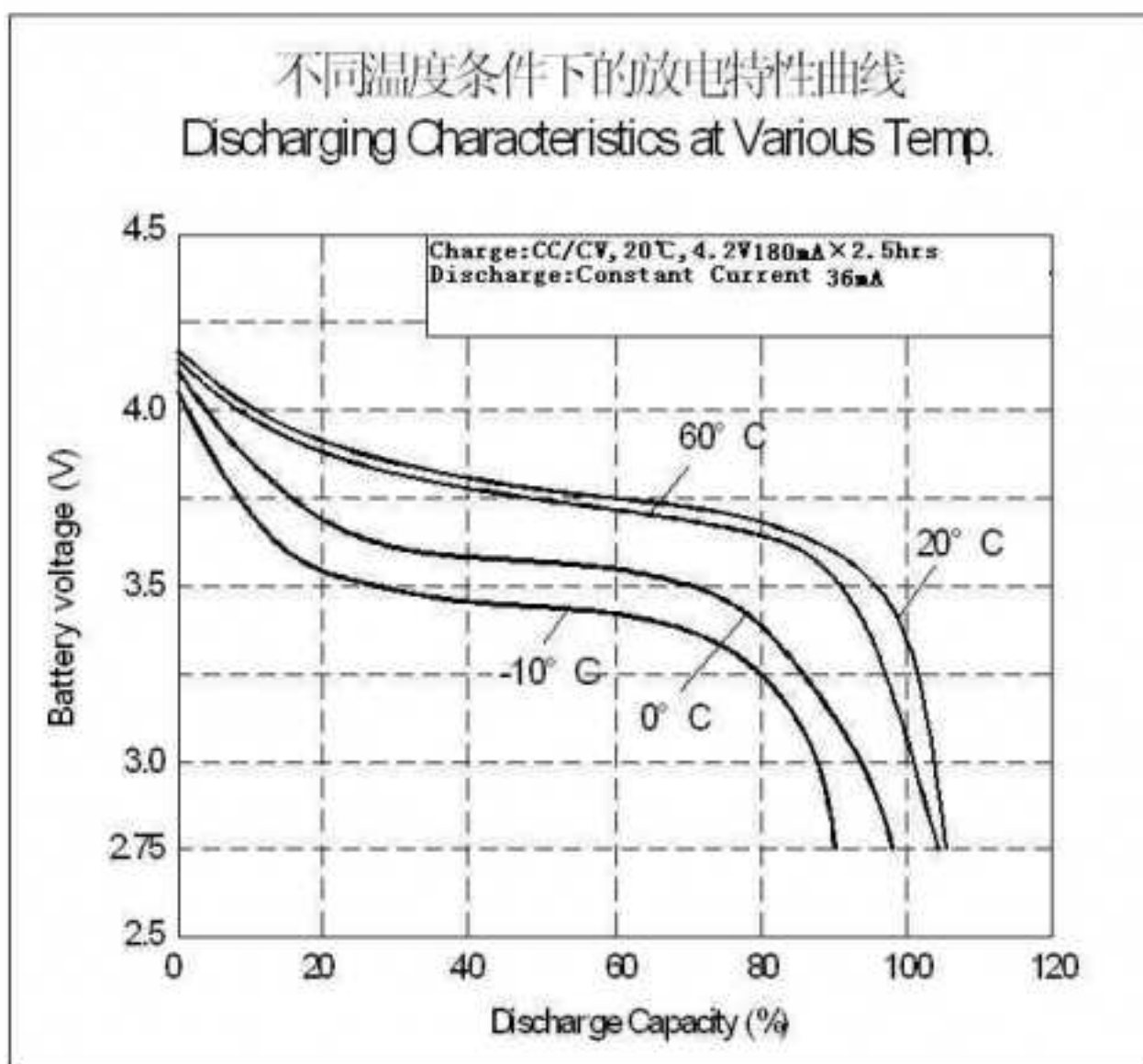


Fig. 3 Discharging Characteristics at various Temperatures



Storage Characteristics

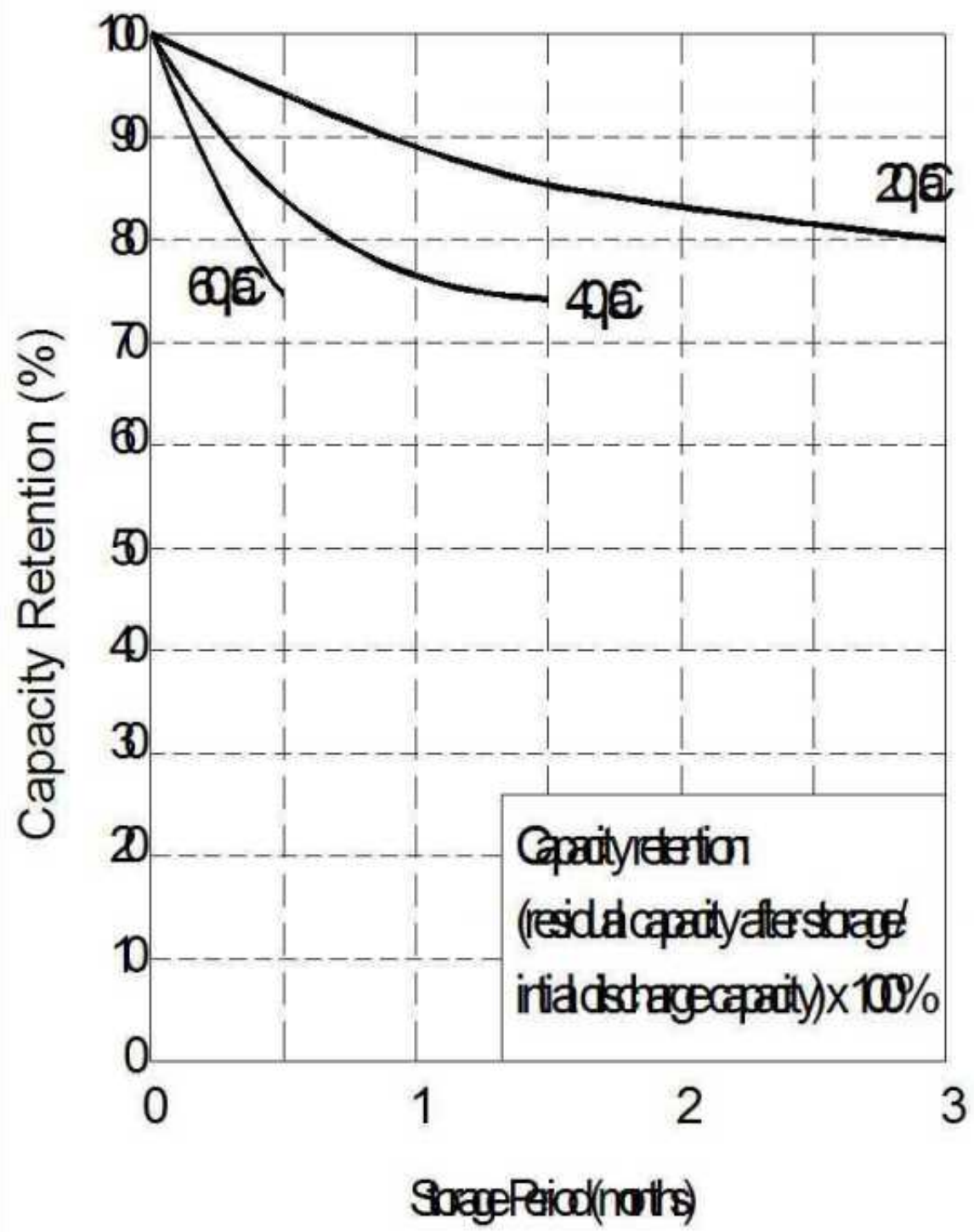
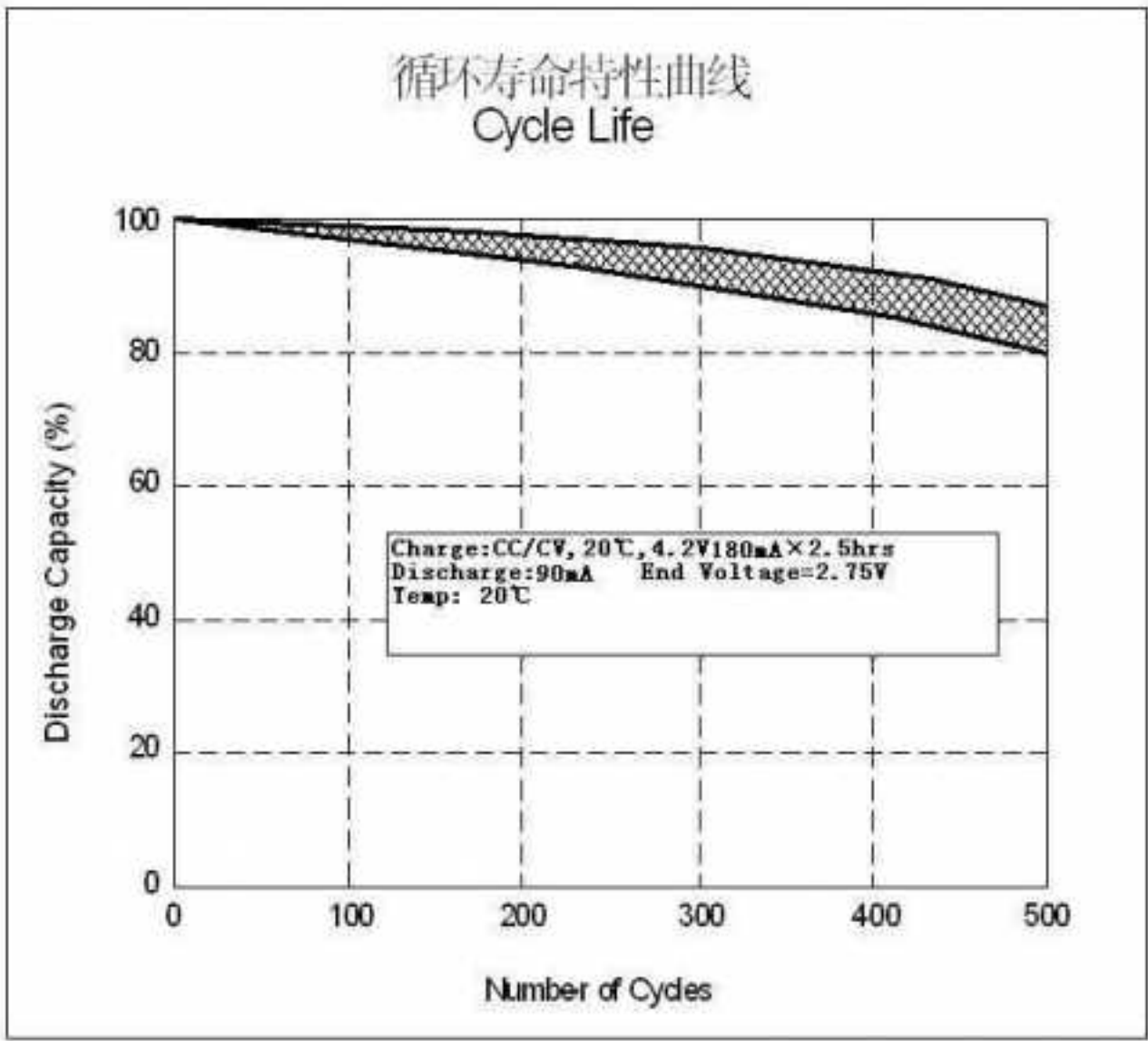


Fig. 5 Cycle Life Chart



6. 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.