KINERTIC POWER EV GRADE 32650 6000 MAH DATASHEET

1 Definition

Rated capacity

Under 25±2℃, It means the capacity value of discharging to end voltage 2.0V with constant current of 1.0C, which is signed Cap, the unit is mAh.

Standard charge method

Under 25±2℃, it can be charged to 3.65V with constant current of 0.5C, and then, charged continuously with constant voltage of 3.65V until the charged current is less than 0.05C.

Fast charge method

Under 25±2℃, it can be charged to 3.65V with constant current of 1.0C, and then, charged continuously with constant voltage of 3.65V until the charged current is less than 0.05C.

Standard discharge method

Under 25±2℃, it can be discharged to the voltage of 2.0V with constant current of 1.0C.

Fast continuous discharge method

Under 25±2℃, it can be discharged to the voltage of 2.0V with constant current of 3.0C.

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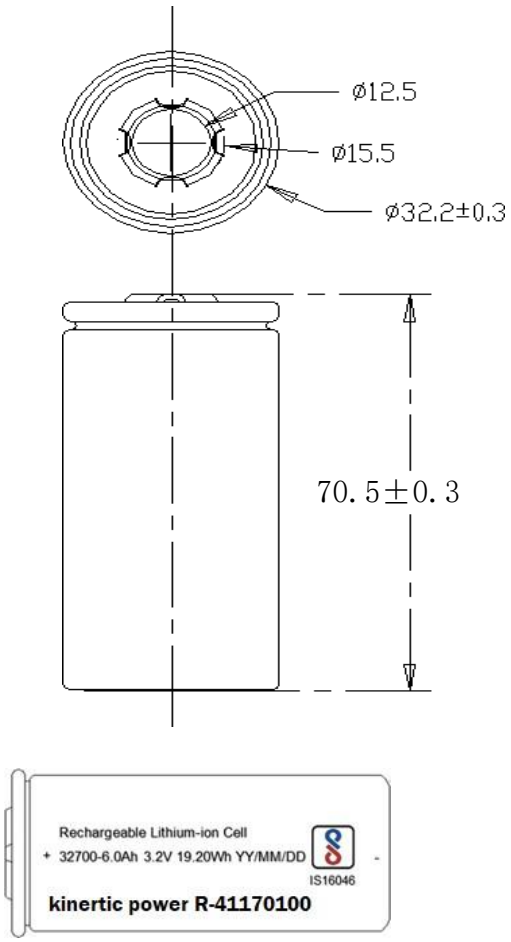
2 Cell type and dimenstions

Description and model



Cell physical dimension listed Figure1(unit: mm)

NO	Items	Units: mm
1	Diameter/(D)	32.2±0.3
2	Height/(H)	70.5±0.3

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3 Cell specification

Item Description	Specification
Nominal Capacity	6050mAh@1.0C
Minimum Capacity	6000mAh@1.0C
Nominal Voltage	3.20V
Charging Method	CC/CV
Charging Voltage	3.65V
End-of-Charge Current	CV Mode:0.05C（0.3A）
End-of-discharge voltage:	2.0 V
Standard Charge Current	0.5C(3A)
Standard Discharge Current	1.0C(6A)
Fast Charge Current	1.0C(6A)
Fast Continuous Discharge Crrent	3.0C(18A)
Max Instantaneous Discharge Current	6.0C(10S）
Operating Temperature Range	Charging Temperature :0~60℃
	Discharging Temperature :-20~60℃
	Storage Temperature :-20~45℃（1 year）
AC Impedance	≤8mΩ (AC Impedance, 1000Hz)
Weight	140±5g

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4 Technical characteristics

Cell usage conditions Temperature of charge：0～60℃

Temperature of discharge ： -20～60℃

Cell testing conditions

Unless otherwise specified, all tests stated according to following:

Temperature： 25±2℃

Relative Humidity ： 15%～90%RH

Atmospheric Pressure：86 kPa~106 kPa

Requirement of the testing equipment

Voltage meter: The voltage tester internal resistance is ≥10KΩ/V

Temperature meter: The precision is ≤0.5℃

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Electronic performance

No	Item	Specification	Standard Test Process
1	AC Impedance	≤ 8mΩ	Cell shall be measured at 1000 Hz after charged per 2.2.
2	Initial Capacity	Initial Capacity≥6.0 Ah	Cell shall be charged per 2.2 and discharged as per 2.4 within 1h after full charge.
3	Cycle Life	Residual capacity. ≥ 80 % Nominal Capacity	Cell shall be charged at CC/CV mode End-of-charge current: 0.05 C); After stored for 30 min, cell shall be discharged at CC mode(End-of-discharge voltage: 2.0V);After stored for 30 min, tests will go to next cycle Under 25±2℃.0.5C/0.5C after 2500thResidual capacity. Under 25±2℃.1.0C/1.0C after 1800th Residual capacity. Under 25±2℃.1.0C/3.0C after 600th Residual capacity..
4	High-rated Discharging Performance	Discharge Capacity: ≥ 90% Nominal Capacity	Cell shall be charged per 2.2, and discharged at 3C to ending voltage to 2.0V
5	Low Temperature Performance	Discharge Capacity: ≥50% Nominal Capacity （-20°C）	Cell shall be charged per 2.2 and stored in a temperature-controlled environment for 4h. Then discharged cell at 1.0C to ending voltage.
6	Room Temperature Store	Capacity retention ≥95% Nominal Capacity	Cell shall be charged per 2.2, then stored at 25 °C±2 °C for 28 days. Finally discharged cell at 1.0C to ending voltage.
7	High Temperature Storage Test	Capacity retention ≥95 % Nominal Capacity	Cell shall be charged per 2.2, then stored at 55°C±2°C for 7 days. After standing for 5h，discharged cell as per 2.4.

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Environmental characteristics

No	Item	Specification	Standard Test Process
1	Constant Temperature and Humidity Test	No distortion, no rust, no fume and no explosion	Cell shall be charged per 2.2, and stored in 45 °C ±2 °C (90~95% RH) for 48 h. Then be placed in RT for 2h and checked for 1h.
2	Thermal Shock Test	No explosion, no fire, no leakage.	Cell shall be charged per 2.2, and put into an oven. Temperature inside the oven will drop to -40 °C in 60 min and remain for 90 min. Then it will rise to 25 °C in 60 min and keep rising to 85 °C in 90 min, following by remaining for 110 min. And it will drop to 25 °C in 70 min.Repeat this process for 5 times, then check it for 1h.
3	Low-pressure Test	No explosion, no fire, no leakage.	Cell shall be charged per 2.2,then stored it for 6h at an absolute pressure of 11.6 kPa (RT). Check it for 1h.
4	Drop Test	No explosion, no fire.	Cell shall be charged per 2.2, then dropped from a height of 1.5m onto the concrete ground. Positive and negative terminals of cells shall be towards the ground. Check it for 1h.
5	Soaking Test	No explosion, no fire.	Cell shall be charged per 2.2, then completely soaking into NaCl solution (3.5 wt %) for 2h. Check it for 1h.

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Safety characteristics

No	Item	Specification	Standard Test Process
1	External Short-Circuiting Test	No explosion, no fire.	Cell shall be charged per 2.2, then short-circuited by connecting the positive and negative terminals with a resistance of <5 mΩ for 10 min. Check it for 1h.
2	Over-charge Test	No explosion, no fire.	Cell shall be charged per 2.2, then charged at 1.0C to ending voltage of 5.5 V or charged at 1.0C for 1h. Check it for 1h.
3	Over-discharge Test	No explosion, no fire, no leakage.	Cell shall be charged per 2.2, then discharged at 1.0C for 90 min. Check it for 1h.
4	Crush Test	No explosion, no fire.	Cell shall be charged per 2.2,then crush the cell perpendicularly to the cell plate at a rate of (5±1) mm/s with a semi-cylinder (radius of 75 mm). When met any of the following criteria, stopping crushing and check it for 1h. 1. Voltage reaches 0V; 2. Deformation reaches 30%; 3. Pressure reaches 200 kN.
5	Acupuncture Test	No explosion, no fire.	Cell shall be charged per 2.2,then acupuncture the cell perpendicularly to the cell plate at a rate of (25±5)mm/s with a ϕ5 mm~ϕ8 mm steel needle and remain it inside. The acupuncturing location shall be near the geometric center of plane. Check it for 1h.
6	（130 °C） Heating Test	No explosion, no fire.	Cell shall be charged per 2.2, then heated in an oven. Temperature will rise to 130°C±2°C at a rate of 5°C/min and remain for 30 min. Check it for 1h.

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5 Storage and Transportation

Based on the character of cell, proper environment for transportation of pack need to be created to protect the battery.

During transportation, 20%~50% SOC must be kept to ensure that short circuit, appearance of liquid in the battery or immersion of battery in liquid never occur.

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Cell should be kept at -20°C-45°C in warehouse where it's dry, clean and well-ventilated.

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During loading of battery, attention must be paid against dropping, turning over and serious stacking.

6 Precautions and Safety Instructions

In order to prevent the battery leakage, getting hot and explosion, please pay attention to preventing measures as following:

Warning!

- Never throw the battery into water. Store it under dry, shady circumstance when not use.
- Never misidentify the positive and negative terminals.
- Never connect the positive and negative terminals of battery with metal to prevent short- circuiting.
- Never ship or store the battery together with metal.
- Never knock, throw or trample the battery.
- Never cut through the battery with nail or other edge tool.
- Never use or store the battery under the over-high temperature. Otherwise it will lead to battery over-heating, which might lose some function and reduce life, even getting fire. The proposed temperature for long-term storage is 10~45° C.
- Never throw the battery into fire or heating machine to avoid fire, explosion and environment pollution; scrap battery should be returned to the supplier and handled by the recycle station.
- Never use the battery under strong static electronic and magnetic field, otherwise it will destroy the protecting device.
- Never knead eyes if leakage electrolyte gets into eyes. Wash eyes by water and seek medical advice ASAP.
- If battery emit peculiar smell, over-heating, distortion or appear any unconventionality during using, storage or charging process, please stop using and take it out of the device.
- Never cut the battery in socket directly, please use the stated charger when charging.
- Check the voltage of battery and relevant connectors before using. Do not use until everything turns out to be normal.
- Prior to charging, fully check the insulativity, physical condition and ageing status. The pack voltage must not be less than the cut-off voltage, if not, it needs to be labeled. The user should contact our Customer Service Department.

It can’t be charged until repaired by our staff.

- Battery should be stored in 50% SOC. It needs to be charged once again if out of use for as long as half a year.
- Clean the dirty electrode with a clean dry cloth if any contamination appears, otherwise poor contact or operation failure may occur.