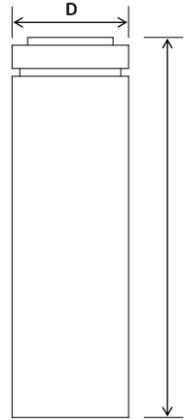


## Lithium-Ion Rechargeable Battery

Primary characteristics	
Parameter	Value
Nominal voltage	3.6V
Rated capacity	6000mAh

Battery dimensions	
	

### Scope

The purpose of this product specification is to provide technical information for the rechargeable Lithium-ion cylindrical battery INR21700-60M.

The test shall be conducted in strict accordance with the method specified in this specification.

If you have any objection to the test items or test methods, please contact Akyga Battery.

Specification table		
Parameter	Value	
Model	INR21700-60M	
Typical voltage	3.6V	
Rated capacity	Typical	6000mAh
	Minimum	5850mAh
Standard charge	0.5C, 4.2±0.05V, 0.02C (120mA) cut-off	
Rapid charge	0.7C	45°C>T≥15°C
	0.5C	15°C>T≥5°C
	0.1C	5°C>T≥0°C
Standard continuous Discharge	1C (6000mA), 2.5V, cut-off	
Maximum continuous Discharge	0.5C (3000mA)	60°C >T≥45°C
	1C (6000mA)	45°C >T≥35°C
	2C (12000mA)	35°C >T≥0°C
	1C (6000mA)	0°C >T≥-20°C
Charge/Discharge voltage range	4.20 ~2.50V	
Operation Temperature	Charge:	0~45°C
	Discharge:	-20~60°C
Storage Temperature	3 - 12 months	-20 °C ~ +20°C
	1 - 3 months	-20 °C ~ +40°C
Cycle life	Discharge capacity (500th Cycle) ≥70% of 1st Cycle Capacity	
Size	Diameter	21.65 ± 0.2 mm
	Height	70.95 ± 0.2 mm
Weight Approx	< 75g	

**Notes:**

Rated capacity test conditions: Charge: 0.5C (3000mA), 4.2V, CCCV 0.02C (120mA) cut-off  
Discharge: 0.2C (1200mA), 2.5V, cut-off voltage

Cycle life: Perform 0.5C/1C (3000mA/6000mA, 4.2~2.75V, charge cut-off current 600mA) cycle for 500 times at room temperature, and record the final state of the cell after cycling. Note: During the cycle process, the rest time is 15 min after charge, and 15 min after discharge.

**Standard Test condition:**

Unless otherwise specified, all tests stated according to following:

- Temperature:  $25\pm2^{\circ}\text{C}$ ; Humidity:  $\leq 85\%$ RH
- Use standard charge current and standard discharge current
- The cell used in the test is the cell sampled within one week of delivery

**1. Temperature dependence of discharge capacity**

Perform standard charge and discharge to obtain initial capacity at  $25\pm2^{\circ}\text{C}$ . Let the standard charged cell under  $55\pm2^{\circ}\text{C}$  (or  $-20\pm2^{\circ}\text{C}$ ) rest for 5h (or 24h). After that, the discharge capacity is measured at 1C rate (6000mA) under the corresponding temperature ( $55\pm2^{\circ}\text{C}$  or  $-20\pm2^{\circ}\text{C}$ ). The discharge cut-off voltage under  $55\pm2^{\circ}\text{C}$  and  $-20\pm2^{\circ}\text{C}$  is 2.5V.

Temperature	Discharge Efficiency
25 °C	100%
55 °C	$\geq 95\%$
-20 °C	$\geq 70\%$

**Note:** Relative capacity is divided by the 0.2C discharge capacity at  $25^{\circ}\text{C}$

**2. Storage**

The Li-Ion battery pack should be stored in a dry ( $0\sim 50\%$ RH) and non-corrosive gas environment, do not allow the cell to bear any pressure, and there should be no condensed liquid attached to the surface of the cell.

**Mechanical Characteristics****1. Drop test**

Test method: Each fully charged cell is dropped three times from a height of 1.0m onto a concrete floor at  $20\pm5^{\circ}\text{C}$ . After standard charge, drop the cell with both ends from a height of 1.0m onto the cement floor. The cell shall be observed for 1h afterwards.

Criteria: no fire, no explosion, no leakage

**2. Heating**

After standard charge, put the cell in an oven at a heating speed of  $5^{\circ}\text{C}/\text{min}$  until the temperature of the oven reach  $130^{\circ}\text{C}$ . Keep the cell in the oven at  $130^{\circ}\text{C}$  for 30 minutes then stop heating. The cell shall be observed for 1h afterwards.

Criteria: no fire, no explosion

**3. Seawater immersion**

After standard charge, immerse the cell completely in 3.5wt%NaCl solution for 2h. The cell shall be observed for 1h afterwards.

Criteria: no fire, no explosion

**Caution**

- Cells should be stored away from infants and toddlers. If cell swallowing occurs, seek medical attention immediately.
- Do not put cells in microwave ovens or other cooking utensils. Cells can catch fire due to microwave heating and electrical shock, to emit smoke, explosion, or emit heat.
- Don't mix it with other cells. Cells should not be mixed with other cells of different capacities, chemical systems or manufacturers. Don't Connect to other cells or mix other cells. Cells can catch fire, smoke, explode or emit heat.
- Do not use abnormal cells. Discontinue use if there are obvious abnormalities, such as odor, fever, deformity, or discoloration
- If the charging process does not end, stop charging. the cell cannot be charged within the specified time, please stop charging
- Do not use drain cells near flame. If the cell or cell with liquid running out produces a pungent odor, keep cells away from flame, it can cause fire or explosion.
- Do not touch the leaky cell. If fluid from the cell leaks into the eye, it can cause serious damage, flush immediately with fresh water and seek medical advice.
- in order to avoid short circuit or damage, please tightly pack the cell into a box or carton.

## Disclaimer

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