



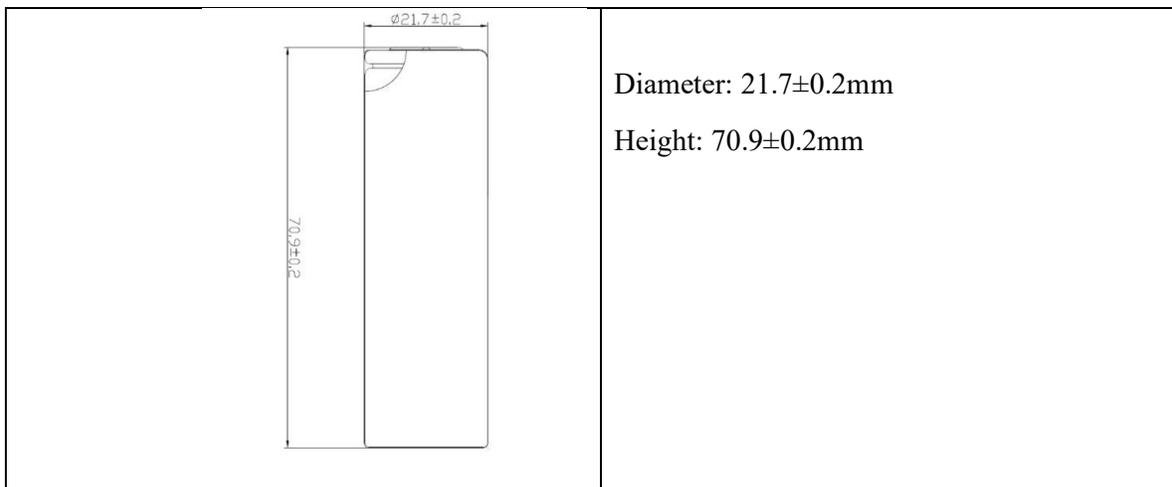
This specification shall be applied to battery cell supplied by AA Portable Power Corp.

1. Product Specification

Model : LC-21700-LS40 3.65V 4000mAh

Item		Specifications	Remark
Typical Capacity		4000 mAh	25±2°C, 0.2C discharge to 2.75V
Min Capacity		3900 <u>mAh</u>	25±2°C, 0.2C discharge to 2.75V
Nominal Voltage		3.65V	25±2°C, Average Voltage at 0.2 C discharge
Charge Current	Standard	0.5C/2000mA	25±2°C, CC @ 2000mA to 4.20V CV @4.20V until current to 0.02C (80mA±5mA)
	Maximum	0.1C/400mA	0°C ≤ T ≤ 5°C
		0.2C/800mA 0.5C/2000mA	5°C < T ≤ 15°C 15°C < T ≤ 45°C
Charge cut-off voltage		4.2±0.03V	CC/CV charge
Discharge Current	Standard	0.5C/2000mA	CC @2000mA discharge to 2.75V
	Maximum	1C/4000 mA	-20°C ≤ T ≤ 5°C
		3C/12000 mA 1.5C/6000 mA	5°C < T ≤ 45°C 45°C < T ≤ 60°C
Discharge cut-off voltage		2.75V	
Cycle Life		≥80% initial capacity after 1000 cycles	25±2°C, 0.5C charge/1C discharge
Impedance		≤25m Ω	25°C, AC 1KHz
Weight		69±2_g	
Working Temperature		0°C to 45°C	Charge
		-20°C to 60°C	Discharge
Storage temperature	≤ 1 month	-20 to 60°C	Best 20±5°C for long-time storage
	≤ 3 months	-20 to 40°C	
	≤ 12months	-20 to 20°C	

2. Cell Dimension



3. Discharge vs Capacity

At 25°C, standard charge the cells and then discharge at 0.2C, 0.5C, 1C and 2C respectively, compare the cell's capacity with the capacity at 0.2C discharge.

0.2C	0.5C	1C	2C
100%	≥95%	≥90%	≥85%

4. Temperature vs Capacity

At 25°C, standard charge the cells, rest 3hrs and then discharge with 0.5C at -10°C, 25°C and 60°C respectively, compare the cell's capacity with the capacity discharged at 25°C.

-10°C @0.5C	25°C @0.5C	60°C @0.5C
≥50% initial capacity	100%	≥95% initial capacity

5. Cautions of charge & discharge

5.1 Charge

Charge current should be lower than the values recommend in this specification. Higher current and voltage may cause damage to the cell's electrical performance, mechanical performance,



safety performance and could lead heat generation or leakage.

- Use CC/CV (constant current/constant voltage) charge mode;
- Charge current should be lower than (or equal to) the maximum allowed current;
- Temperature 0 to 45°C is preferred;
- Maximum Charge voltage must be lower than 4.20±0.03V.

5.2 Discharge

- Temperature -20 to 60°C is preferred;
- Discharge voltage must not be lower than 2.75V.

5.3 Over-discharge

The cell has the nature of self-discharge. In order to prevent over-discharge, the cell shall be charged periodically to keeping voltage between 3.6-3.9V. Over-discharge may cause loss of cell performance. It should be noted that the cell should not be discharged below 2.75V.

6. Storage

- The environment of long-time storage:
- Temperature: $20 \pm 5^{\circ}\text{C}$;
- Humidity: 45-85%;
- Batteries were 40~60% charged.
- We recommend to charge the batteries once every three months to avoid self-over-discharge.
- Charge and discharge once to maintain and renew battery energy after storage above 1 year.

• Transportation

- Cells must be properly packed to avoid short circuit.
- The highest temperature in transportation is lower than 60°C.
- The batteries should transportation with 30% charged states.

7. Precautions

Charge the battery

- When using a new battery for the first time or after long term storage, please fully charge the battery before use.
- For charging methods, please refer to our specification.



- Use the correct charger for Lithium Ion batteries.
- When connecting a battery pack to a charger, ensure correct polarity.
- During long term storage, battery should be charged and discharged once every 3 months.

Assembly and disassembly the batteries

- Do not mix new batteries with semi-used batteries, over-discharge may occur.
- Do not disassembly the batteries.
- Do not remove the outer sleeve from a battery.
- Do not short the batteries, it will permanent damage the batteries or batteries might catch fire.

Storage

- Store batteries in a cool dry place.
- During transport and storage, please separate the battery apart, to prevent external short circuit.

Use the batteries

- If find leakage from a battery, please stop its use.
- When the battery is hot, please do not touch it and handle it, until it has cooled down.
- Unplug a battery by holding the connector itself and not by pulling at its cord.
- When not using a battery, disconnect it from the device.
- After use, if the battery is hot, before recharging it, allow it to cool in a well-ventilated place out of direct sunlight.
- Do not put batteries into the fire.
- Never put a battery into water or seawater.
- Do not mix AA Portable Power batteries with other battery brands or batteries of a different chemistry.
- Keep away from children. If swallowed, contact a physician immediately.



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Recycle the batteries

- Please recycle the batteries.

Please contact us when you need any help for custom battery packs and safety concerns

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