



1. SCOPE

This specification describes the related technical standard and requirements of the rechargeable Li-ion battery pack supplied by WaMa. Battery produced with the ICR14500 cell will meet the specification.

2. BATTERY SPECIFICATION

ITEMS	SPECIFICATION		REMARK
Model	ICR 14500		
Constant Voltage	3.7V		
Capability	Typical	750mAh	@0.2C Discharge
	Minimum	720mAh	
Dimensions	Φ 14.0(±0.3)*49.8(±0.2)mm		Bare cell
Weight	18.0(±0.2)g		

3. STANDARD TESTING CONDITIONS (No Load)

ITEMS	REGISTER		
Standard charge	CC/CV model, constant voltage4.2V, constant current0.2C, end current 0.01C		
General charge.	CC/CV model, constant voltage4.2V, constant current0.5C, end current0.01C		
Apace charge	CC/CV model, constant voltage4.2V, constant current 1C, end current 0.01C		
Standard discharge	Constant current 0.2C,end voltage2.75V		
General discharge	Constant current 0.5C,end voltage 2.75V		
Apace discharge	Constant current 1C,end voltage 2.75V		
Environment temperature	Charge	0 -- +45℃	
	Discharge	-20℃ -- +60℃	
	Storage temperature	One month	-20℃ -- +55℃
		Three months	-20℃ -- +45℃
		One year	-5℃ -- +30℃
	General temperature	20℃ ± 5℃	
	Atmospheric pressure	86 -- 106Kpa	
Relative humidity	45% -- 85%		

4. APPEARANCES

ITEMS	TEST CONDITION	REQUIRE
APPEARANCE	Under light lamp 40W	Shall be free noticeable flaws breaks, age, Discoloration, deformation, uneven, and other Defects which impair the value of the commodity

5. ELECTRICAL CHARACTERISTICS

ITEMS	TEST CONDITION	REQUIRE
Complete Charge	The battery is charged with constant current 0.2CmA and constant voltage 4.2v until the charging current is less than 0.01CmA. The longest charging time is less than 8 hours.	
Initial capacity	The capacity measured after the battery is discharged with constant current 0.2C until the voltage reaches 2.75V cut-off in one hour after complete charge.	750mAh
Cycle life	The capacity measured after 500 cycles of complete charge and discharge at 0.2C current to 2.75V cut-off.	Capacity more than 70% of Initial capacity
Impedance	Internal resistance measured at 1KHz after complete charge.	≤80mΩ

6. TEMPERATURE ADAPABILITY

ITEMS	TEST CONDITION	REQUIRE
High temperature discharge	After complete charge, at 60°C , discharging current 0.2C to 2.75V-END discharge.	No explosion, fire, or smoke. Discharge efficiency ≥85%.
High temperature exposure	After relative charge, all batteries being tested are stored in chamber of 150°C for 10 min. After taking the batteries out of the chamber, all the batteries are visually examined.	No explosion, fire, or smoke.
Low temperature discharge	After complete charge. At -20°C, discharging current 0.2CmA to 2.75V-END discharge.	No explosion, fire, or smoke. Discharge efficiency ≥80%.

7. DESTROY ADAPTABILITY

ITEMS	TEST CONDITION	REQUIRE
Vibration Test	Subject to 1 hour 10-55Hz 3.5mm amplitude Vibration for any direction at shipment (complete packing) state. Then test discharge and rated charge at $25 \pm 2^{\circ}\text{C}$.	No explosion, fire or Smoke. No leakage or damage
Drop Test	Drop test battery 1.2m above steel board of more than 10mm thickness. One time drop each for 6 surface, 4 ride direction of a battery pack	No leakage or damage No explosion, fire or Smoke. Discharge time Less than 50 minute.

8. CAUTIONS IN USE

To ensure proper use of the battery please read the manual carefully before using it.

. Handling

- Do not expose to, dispose of the battery in fire.
- Do not put the battery in a charger or equipment with wrong terminals connected.
- Avoid shorting the battery
- Avoid excessive physical shock or vibration.
- Do not disassemble or deform the battery.
- Do not immerse in water.
- Do not use the battery mixed with other different make, type, or model batteries.
- Keep out of the reach of children.

. charge and discharge

- Battery must be charged in appropriate charger only.
- Never use a modified or damaged charger.
- Do not leave battery in charger over 24 hours.

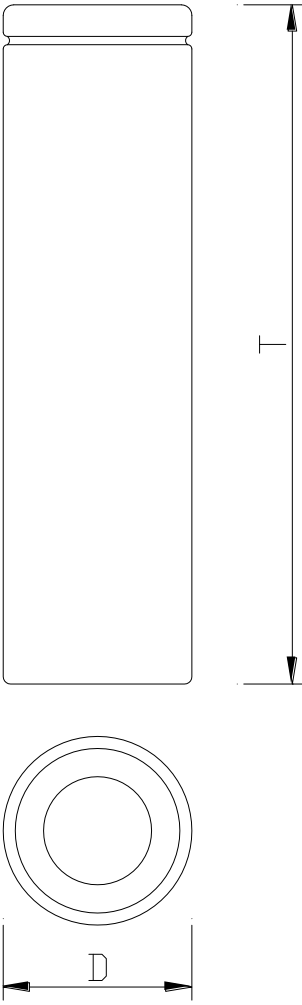
. storage

- Store the battery in a cool, dry and well-ventilated area.

. disposal

- Regulations vary for different countries. Dispose of in accordance with local regulations.

9. Dimension

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<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="width: 15%;">D</td> <td style="width: 20%; color: red;">14.0±0.3</td> <td style="width: 15%;">T</td> <td style="width: 20%; color: red;">49.8±0.2</td> <td style="width: 15%;">UNIT</td> <td style="width: 15%;">mm</td> </tr> <tr> <td>Drawer</td> <td></td> <td>Checked</td> <td></td> <td>Approved</td> <td>Date</td> </tr> <tr> <td colspan="4"></td> <td colspan="2" style="color: red; font-weight: bold;">ICR 14500</td> </tr> <tr> <td colspan="4"></td> <td>Drawing ID</td> <td></td> </tr> </table>					D	14.0±0.3	T	49.8±0.2	UNIT	mm	Drawer		Checked		Approved	Date					ICR 14500						Drawing ID	
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