

## **Bobbin Type**

### *Battery Structure*

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# STANDARD SPECIFICATION

## 1. SUBJECT

This specification presents typical and guaranteed ex-work values of the Lithium / Thionyl Chloride Cylindrical battery, of Model ER14250.

Lithium / Thionyl Cylindrical battery (Li-Thionyl) is used for the active cathode material, and high voltage, high activity lithium metal for the anode material.

## 2. FEATURES AND APPLICATIONS

- Excellent shelf life (10 years at room temperature).
- Low self-discharge (1 % or less per year).
- Suited for long-term use with low current.
- For operation at low current levels with long stands intermittent discharge with medium current level provided. The average is not below the active current level.
- Temperature range from -55°C to +85°C at cells up to +75°C.
- Bobbin-type or flat cells.

*Applications:*

- Water meters
- Gas meters
- Kilowatt per-hour meters
- Electronic Packing meters
- PC real-time clocks
- Medical Equipment
- CMOS memory backup

## 3. GENERAL SPECIFICATION

(Typical values relative to cells stored for one year or less at + 30°C max.)

3.1 Model:	ER14250
3.2 Nominal Voltage:	3.6 Volts
3.3 Capacity:	1.2Ah (@0.5mA Discharge Current to 2.0V Cut-off , +23°C)
3.4 Standard Discharge Current:	0.5mA
3.5 Maximum recommended current under continuous discharge:	40mA
3.6 Maximum recommended current under pulse discharge:	80mA
3.7 Operational temperature range:	-55°C ~ +85°C
3.8 Nominal Weight:	About 10g

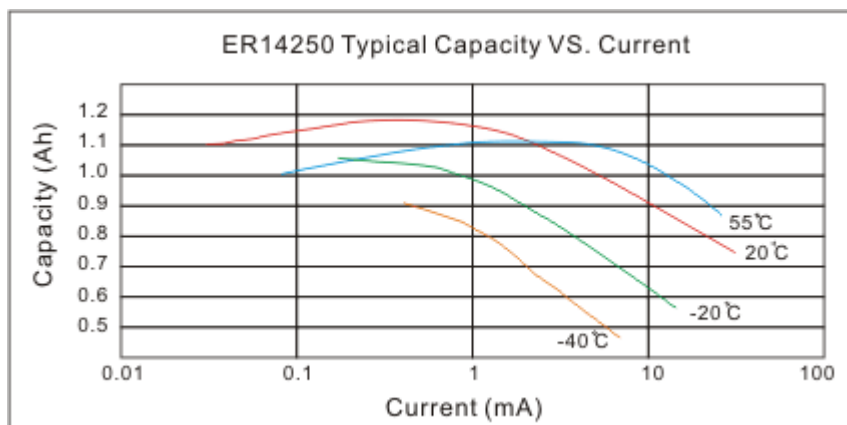
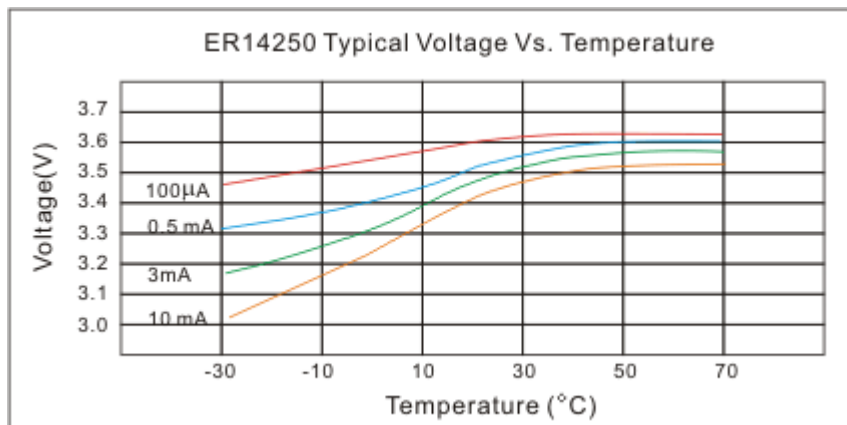
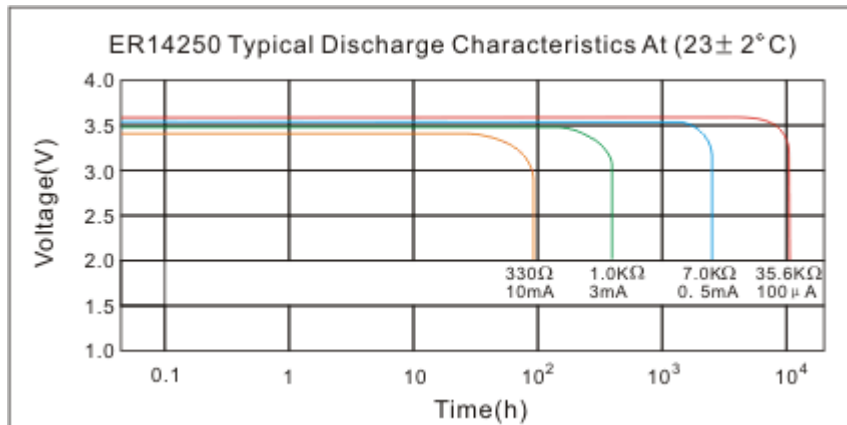
### Note:

#### 1. For high rate discharge, the maximum operational temperature has to be lowered

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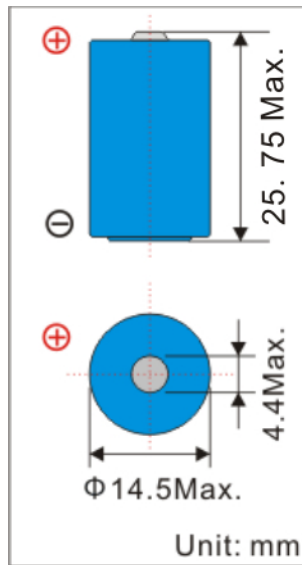
2. Battery potential and battery capacity is function of both current drain and temperature.
3. Energy Type (bobbin structure) battery has very low self discharge on the shelf and during operation. It is best suited for low current discharges. It may require depassivation before medium currents can be delivered.

#### 4. ELECTRICAL CHARACTERISTICS



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## 5. UNTAGGED BATTERY DIMENSIONS



## 7. VISUAL ASPECT

The cell must not show any trace of

- Dents
- Bulging
- Leakage
- Corrosion

## 8. PRECAUTIONS IN USING

- To use these batteries efficiently, strictly observe the following precautions.
- Use Nickel-plated iron or stainless steel for the terminals that contact the battery.
- Make sure that terminal contact pressure is 50g minimum, for a stable contact.
- Keep the battery and contact terminal surfaces clean and free from moisture and foreign matter.
- Before inserting the battery, check the battery contact terminals to make sure they are normal, not bent or damaged. (Bent terminals may not make good contact with the battery or may cause it to short circuit.)
- When the batteries are piled up in a disorderly way, their positive and negative terminals may short-circuit, consuming some batteries while charging others, causing them to explode.
- Lithium batteries that are almost exhausted can output a voltage that is almost the same as that of a new battery: Please does not judge a battery only with a Voltmeter. Avoid using a mixture of old and new batteries; replace all batteries in a set with new one.
- Lithium batteries require a period of time to reach their normal voltage again after even a slight short circuit. Therefore, should the battery is short-circuited, wait an adequate long time for batteries to recover before measuring their electrical characteristics.
- Use a high impedance (1M or higher) voltmeter to measure battery voltage.

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- Battery characteristics vary with type and grade, even when batteries are the same size and shape. When replacing batteries with new ones, be sure to carefully check the symbols and numbers on them.

## 9. STORAGE AND MOUNT

The battery should be preferably stored in dry and cool conditions. Storage at high temperature must be avoided to preserve the battery life time.

## 10. SAFETY

Battery Handling Precautions to Ensure Complete Safety

Lithium batteries contain inflammable materials, such as lithium and organic solvents. Improper battery handling, particularly during transit and storage, may cause heating, explosions and fires.

Please strictly observe the precautions below in handling lithium batteries.

### **WARNING!**

1. DO NOT recharge, short-circuit, disassemble, deform, heat or place the battery near a direct flame. This battery contains flammable materials such as lithium and organic solvent and performing any of the above actions could cause it to ignite explode or become damaged.
2. Keep this battery out of the reach of children. If it is swallowed, contact a physician immediately.
3. When storing the battery or throwing it away, be sure to cover it with tape. If the battery comes into contact with other metal objects, it could ignite or become damaged.

### **CAUTION!**

Closely observe the following precautions. If the battery is used incorrectly, it could leak or become damaged, causing device trouble or injury.

1. Insert the battery with the "+" and "-" ends correctly oriented.
2. If the battery is used together with new batteries, do not use it with a different type of battery.
3. Do not apply solder directly to the battery.
4. Avoid storing the battery in direct sunlight, or in excessively hot and humid locations.

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