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**SENER** Brand Power Product

www.jlsener.com

Document Type : Specification  
Product Type : Lithium Manganese Dioxide (LiMnO<sub>2</sub>) Cylindrical Battery  
Ordering Code : SCR2  
Part Number : CR2  
Cell UL Number : MH61795

|                                                            |  |  |
|------------------------------------------------------------|--|--|
| A1 - New issue created by<br>Holmes, Poon on 2 Dec., 2010  |  |  |
| A2 - Update section 4 ~ 7 by<br>Loki, Lo on 4 Jan., 2013   |  |  |
| A3 - Added UL number by<br>Loki, Lo on 24 Jan., 2018       |  |  |
| A4 - Update section 4 and 7 by<br>Loki, Lo on 8 Oct., 2018 |  |  |

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1. Purpose and Scope

This document contains both general requirements, qualification requirements, and those specific electrical, mechanical requirements for this part.

2. Description

Ø15.3 x 26.7 mm Lithium Manganese Dioxide (LiMnO2) cylindrical battery, RoHS compliant.

3. Application

Computers and Peripherals, Portable Equipment, etc.

4. Component Requirement

4.1. General Requirement

|        |                       |                   |
|--------|-----------------------|-------------------|
| 4.1.1. | Cell Size             | : Ø15.3 x 26.7 mm |
| 4.1.2. | Weight                | : Approx. 11g     |
| 4.1.3. | Operating Temperature | : -40°C to +60°C  |
| 4.1.4. | Storage Temperature   | : -20°C to +40°C  |

4.2. Electrical Requirement

|        |                                      |           |
|--------|--------------------------------------|-----------|
| 4.2.1. | Nominal Voltage                      | : 3V      |
| 4.2.2. | Nominal Capacity                     | : 1000mAh |
| 4.2.3. | Standard Discharge Current           | : 20mA    |
| 4.2.4. | Maximum Continuous Discharge Current | : 1000mA  |

4.3. Standard Characteristics

4.3.1. Temperature Characteristics (20mA)

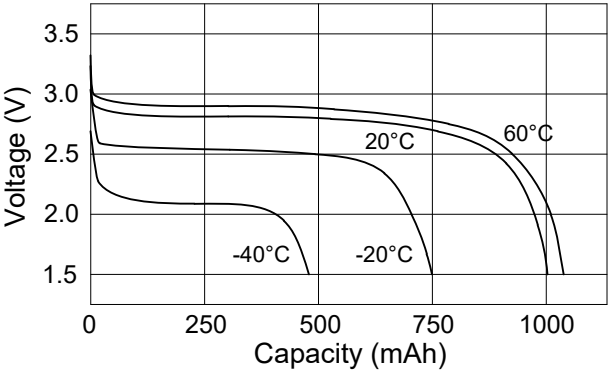


Figure 1. Temperature Characteristics (20mA)

4.3.2. High Drain Discharge Characteristics

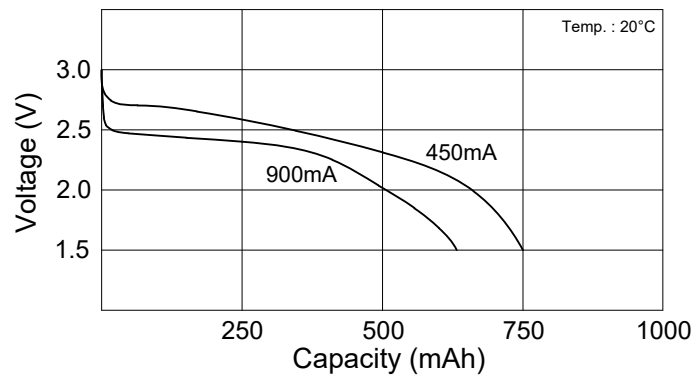


Figure 2. High Drain Discharge Characteristics

4.3.3. Pulse Discharge Characteristics

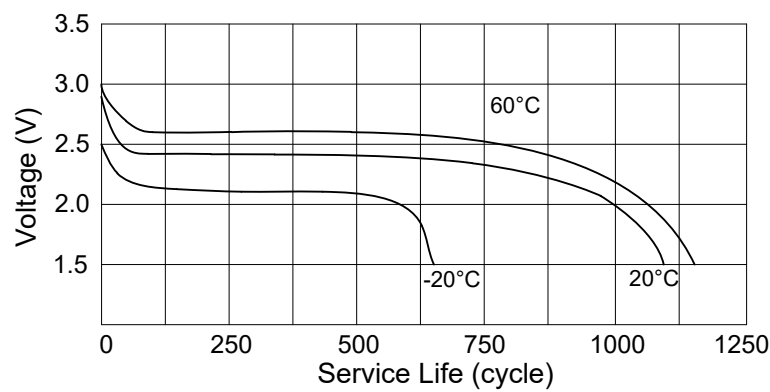


Figure 3. Pulse Discharge Characteristics

4.3.4. Discharge Characteristics

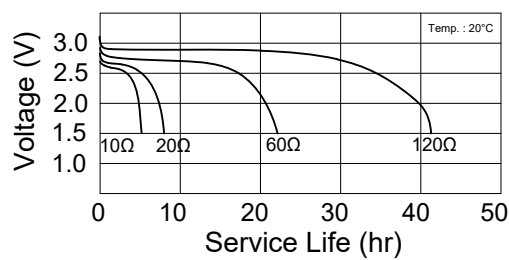


Figure 4. Discharge Characteristics

## 5. Test and Measurement

- 5.1. Outer Dimensions** : Samples are measured by caliper with tolerance <0.25%.
- 5.2. Weight** : Samples are measured by balance with sensitivity > 100mg.
- 5.3. Appearance** : No deformation or tarnish should be found by visual inspection.
- 5.4. Open Circuit Voltage** : Samples are measured by voltmeter with internal impedance >1M $\Omega$  and tolerance <0.25%.
- 5.5. Operating Duration** : Operating duration is counted from nominal voltage to specific cut-off voltage by standard discharge current.
- 5.6. Battery Impedance** : Apply 1KHz, 0.1mA sine wave to samples and measure it's impedance value.
- 5.7. Vibration Resistance** : Secure samples. Vibrated 1000rpm with 2mm peak amplitude in 3 directions (x, y and z). The test duration is 30 minutes per plane.
- 5.8. Leakage Resistance** : Perform heat cycle test according to MIL-STD-202E-106D standard. No leakage should be found after 10 cycles test.

## 6. Caution

- 6.1.** A battery shall not be stored at temperatures in excess of 45°C. Storage at less than 30°C is recommended. Storage at less than -40°C can deform the plastic parts and may cause a leakage. To prevent self-discharge caused by corrosion, or decrease of insulation, humidity during storage shall be less than 70%.
- 6.2.** The battery has an explosion resistant construction. But the following cautions should be taken because combustible materials such as lithium metal and organic electrolyte are contained in the battery.
  - \* Do not short circuit.
  - \* Do not dispose in fire.
  - \* Do not charge.
  - \* Do not disassemble.
- 6.3.** Keep away from heat source or flame.
- 6.4.** The battery should not be washed by ultrasonic wave washer.
- 6.5.** Do not mix fresh batteries with used or different battery types.

7. Mechanical Layout

Unit : mm  
Tolerance : Linear      XX.X      = ±0.3  
                                 XX.XX     = ±0.05  
                         Angular       = ±0.25°  
(unless otherwise specified)

Side View

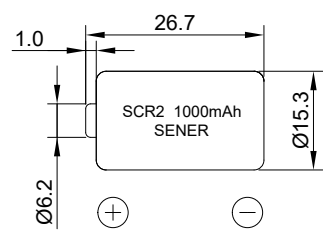


Figure 5. SCR2 Mechanical Layout