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SENER Brand Power Product

www.jlsener.com

Document Type : Specification
 Product Type : Lithium/Manganese Dioxide (LiMnO₂) Coin Cell
 Ordering Code : SCR2450
 Cell Part Number : CR2450
 Cell UL Number : MH20926

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A5 - Updated section 4 and 6 by Holmes, Poon on 25 Feb., 2009	A9 - Updated section 3, 4 and 6 by Loki, Lo on 21 Nov., 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

Ø24.5mm Lithium/Manganese Dioxide (LiMnO₂) coin cell, RoHS compliant.

3. Application

Computers and Peripherals, Portable Equipment, etc.

4. Component Requirement

4.1. General Requirement

4.1.1. Operating Temperature Range : -20°C to +70°C

4.1.2. Storage Temperature Range : 0°C to +30°C

4.1.3. Storage Humidity : 40 ~ 75%

4.1.4. Weight : Approx. 6.8g

4.1.5. Materials of Positive Terminal : SUS stainless

4.1.6. Materials of Negative Terminal : SUS stainless

4.2. Electrical Requirement

4.2.1. Nominal Voltage : 3V

4.2.2. Nominal Capacity : 600mAh
(under Load 7.5kΩ Load and 2.0V End-voltage)

4.2.3. Load Resistance : 7.5KΩ

4.2.4. Standard Discharge Current : 0.2mA

4.3. Standard Characteristics

4.3.1. Discharge Characteristics

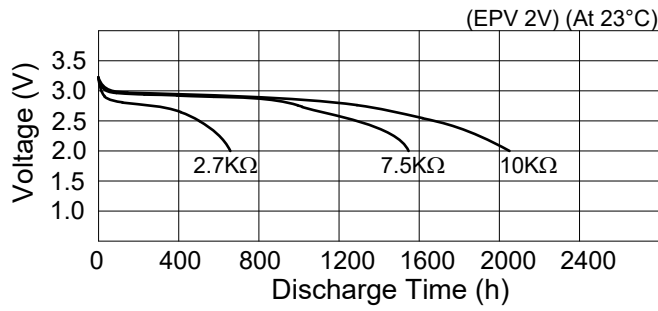


Figure 1. Discharge Characteristics

4.3.2. Load-Operating voltage

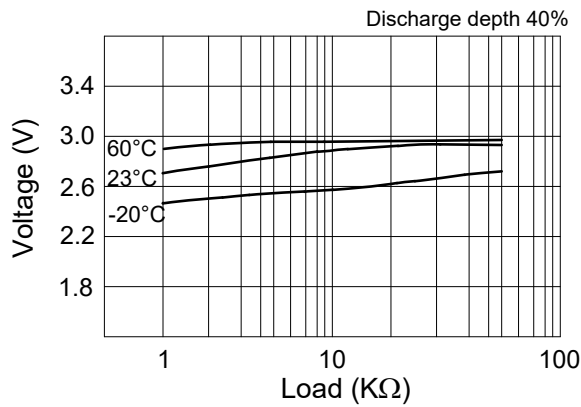


Figure 2. Load-Operating voltage

4.3.3. Pulse Discharge Characteristics

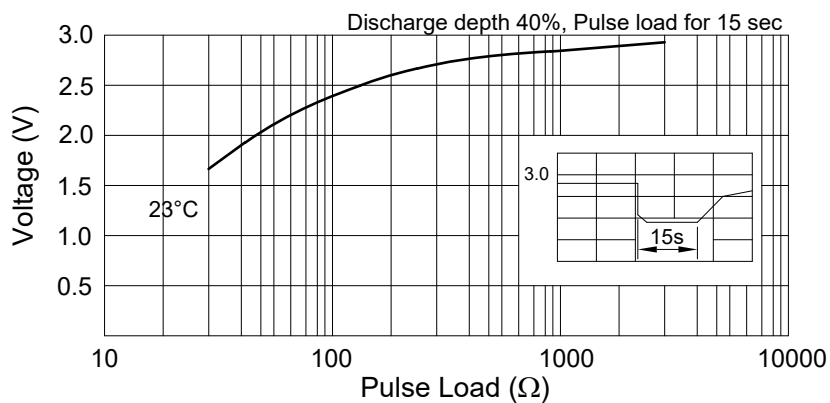


Figure 3. Pules Discharge Characteristics

4.3.4. Temperature Characteristics

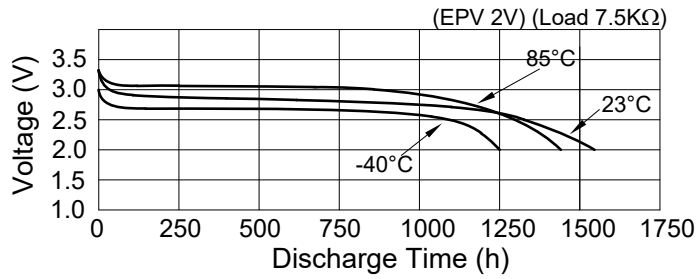


Figure 4. Temperature Characteristics

4.3.5. Load-Capacity

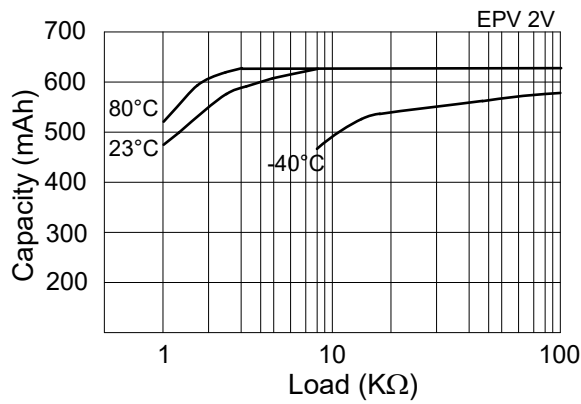


Figure 5. Load-Capacity

4.3.6. Storage Characteristics

(Storage at 60°C for 30 days equivalent to storage at room temperature for 18 months)

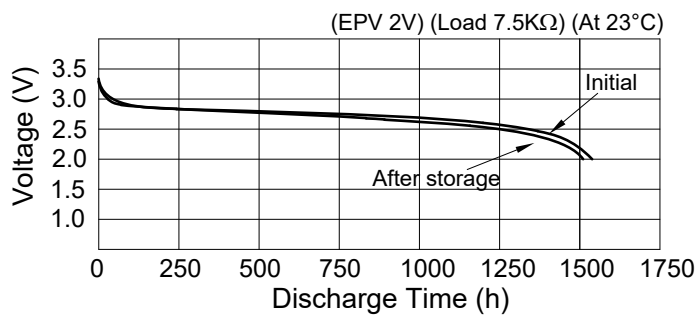


Figure 6. Storage Characteristics

5. Reliability Test

- 5.1. Open-circuit Voltage** : Subject samples to $+20 \pm 2$ °C and 0 ± 2 °C for 8 hours or longer. Then measure the voltage between both terminals at the same ambient temperature with voltmeter.
- 5.2. Short-circuit Voltage** : Subject samples to $+20 \pm 2$ °C and 0 ± 2 °C for 8 hours or longer. Then measure the voltage between both terminals with voltmeter while the $7.5K\Omega$ is connected between both terminals at the same ambient temperature. Measured value shall be based on meter reading taken 8 seconds after the circuit is closed.
- 5.3. Service Life** : Subject samples to 20 ± 2 °C and 0 ± 2 °C for 8 hours or longer. Then continuously discharge at the same ambient temperature and through $7.5k\Omega$. Discharge until terminal voltage of the test specimens falls below the discharge end-point voltage of 2.0V, and the time during which the terminal voltage is equal to and above the discharge end-point voltage shall be taken as the service life.
- 5.4. Service Life after high temperature storage** : Store samples at $+60 \pm 2$ °C for 20 days. Then subject samples to $+20 \pm 2$ °C and ordinary humidity $65\% \pm 20\%$ for 12 hours or longer and continuously discharge through $7.5K\Omega$. Discharge until the voltage falls below the discharge end-point voltage of 2.0V, and the time during which the voltage is equal to and above the discharge end-point voltage shall be taken as the service life.
- 5.5. Electrolyte Leakage Test** : Samples shall be examined for electrolyte leakage while they are kept at $+20 \pm 2$ °C and ordinary humidity $75\% \pm 5\%$ after being stored at 45 ± 2 °C and 75% relative humidity for 30 days.
- 5.6. Self-discharge** : Store samples for 12 months at $+20 \pm 2$ °C and $65\% \pm 5\%$ relative humidity and tested for service life in accordance with the method specified in 5.3. Self-discharge shall be determined as follows:

$$\text{Self-discharge rate (\%)} = (Y1-Y2)/Y1 \times 100\%$$

Y1 : Average initial discharge life of batteries of the same lot

Y2 : Average discharge life after storage

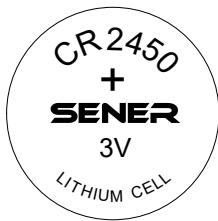
6. Mechanical Layout

Unit : mm

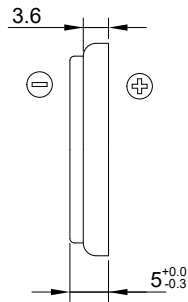
Tolerance : Linear XX.X = ±0.3
 XX.XX = ±0.05
 Angular = ±0.25°

(unless otherwise specified)

Top View



Side View



Bottom View

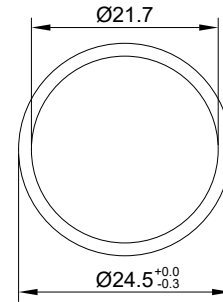


Figure 7. SCR2450 Mechanical Layout