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SENER Brand Power Productwww.jlsener.com

Document Type : Specification
Product Type : Lithium/Manganese Dioxide (LiMnO₂) Coin Cell
Ordering Code : SCR2430
Cell Part Number : CR2430
Cell UL Number : MH20926

A2 - Updated format & layout by Leo, Sin on 28 Jul., 2005		
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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 : 35 ~ 75%

4.1.4. Weight : Approx. 4.5g

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 : 270mAh
(under Load 15KΩ Load and 2.0V End-voltage)

4.2.3. Load Resistance : 15KΩ

4.2.4. Standard Discharge Current : 0.2mA

4.3. Standard Characteristics

4.3.1. Discharge Characteristics

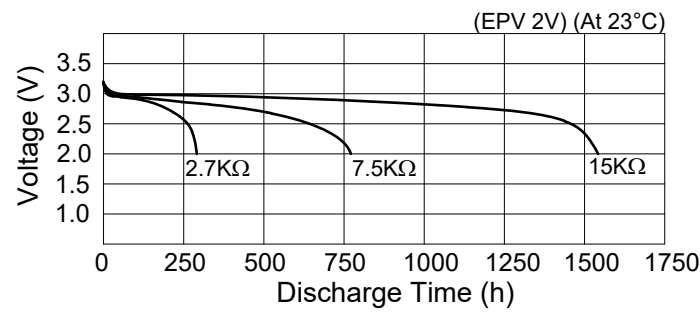


Figure 1. Discharge Characteristics

4.3.2. Load-Operating voltage

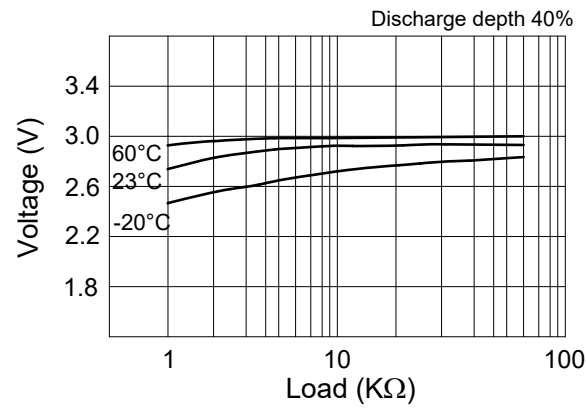


Figure 2. Load-Operating voltage

4.3.3. Pulse Discharge Characteristics

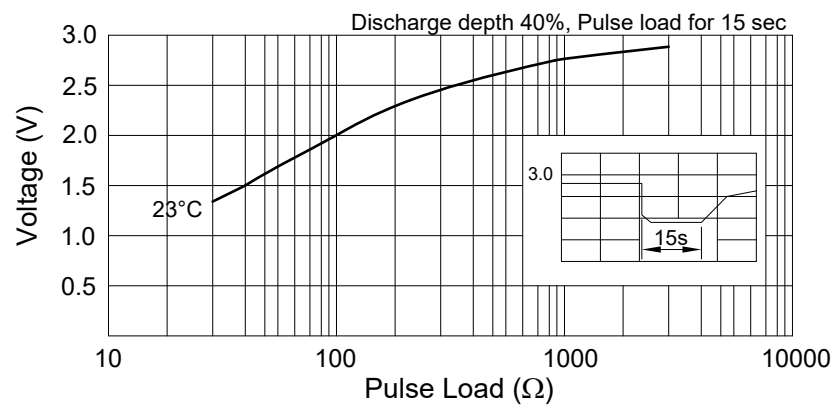


Figure 3. Pules Discharge Characteristics

4.3.4. Temperature Characteristics

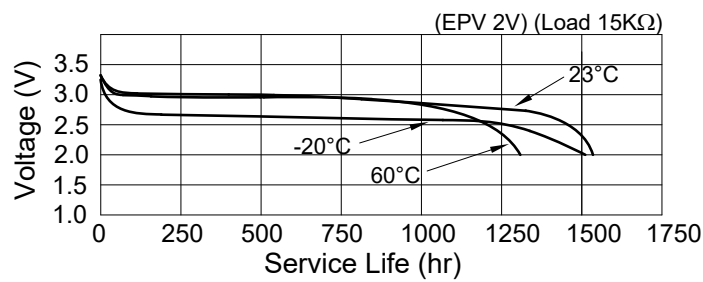


Figure 4. Temperature Characteristics

4.3.5. Load-Capacity

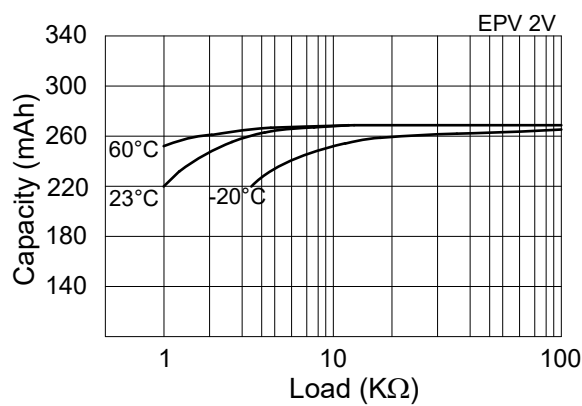


Figure 5. Load-Capacity

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

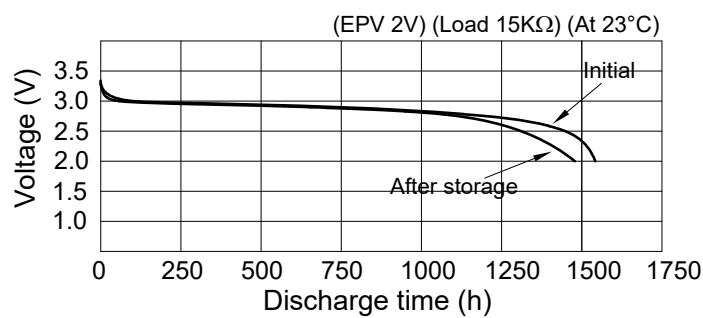


Figure 6. Storage Characteristics

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. Closed-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 15k Ω 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 15k Ω . 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 15k Ω . 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 ordinary temperature and humidity 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)

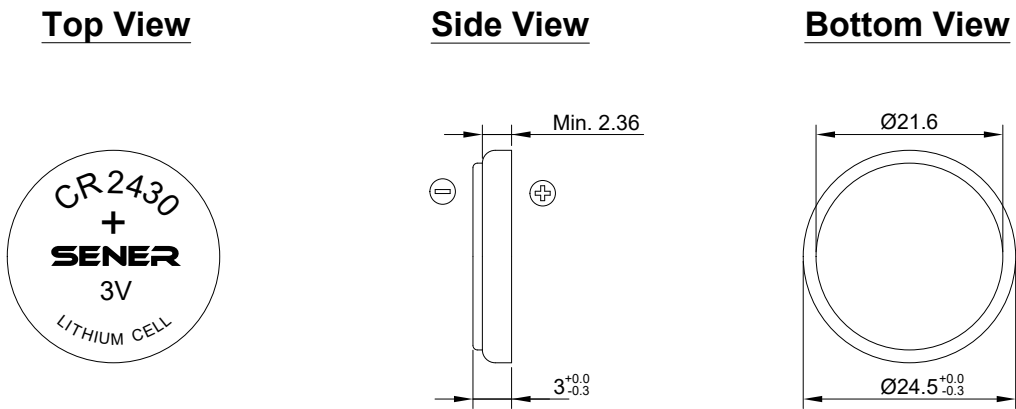


Figure 7. SCR2430 Mechanical Layout