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Document Number : 1406-41
 Revision : A4
 Total Pages : 8
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 Date : 30 October, 2018

SENER Brand Power Product

www.jlsener.com

Document Type : Specification
 Product Type : Lithium/Manganese Dioxide (LiMnO₂) Coin Cell
 Ordering Code : SCR2025/726
 Cell Part Number : CR2025
 Cell UL Number : MH20926

A1 - New issue created by Ting Lok, Ngan on 12 Jun., 2014		
A2 - Updated section 2 by Ting Lok, Ngan on 13 Jun., 2014		
A3 - Updated section 4 by Ting Lok, Ngan on 22 Sept., 2014		
A4 - Updated section 3 - 6 by Loki, Lo on 30 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

Ø20mm Lithium/Manganese Dioxide (LiMnO₂) coin cell, high drain version, RoHS compliant.

3. Application

Computers and Peripherals, Portable Equipment, etc.

4. Component Requirement

4.1. General Requirement

4.1.1.	Operating Temperature Range	: -30°C to +65°C
4.1.2.	Storage Temperature Range	: 0°C to +30°C
4.1.3.	Storage Humidity	: 40 ~ 75%
4.1.4.	Weight	: Approx. 2.7g
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 (under Load 15KΩ Load and 2.0V End-voltage)	: 165mAh
4.2.3.	Load Resistance	: 15KΩ
4.2.4.	Standard Discharge Current	: 0.2mA
4.2.5.	Maxmium Continuous Current	: 6mA
4.2.6.	Maxmium Pulse Current	: 20mA

4.3. Standard Characteristics

4.3.1. Discharge Characteristics

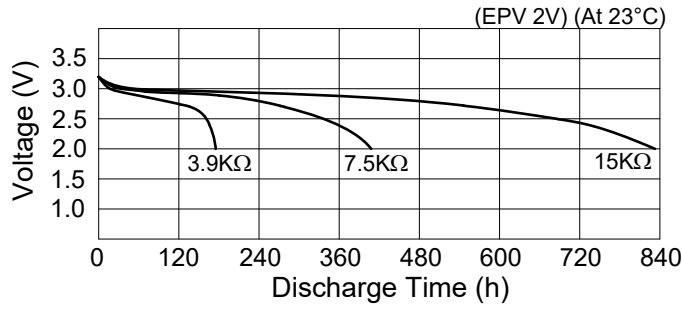


Figure 1. Discharge Characteristics

4.3.2. Load-Operating voltage

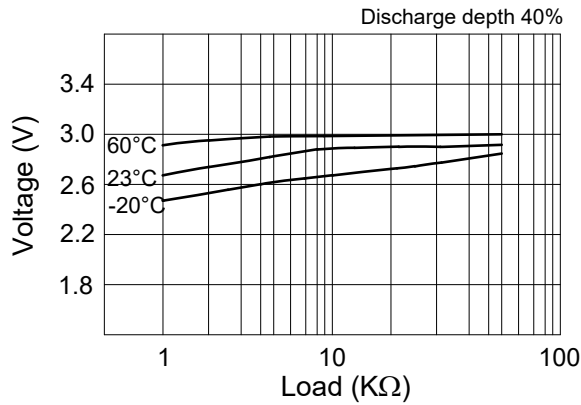


Figure 2. Load-Operating voltage

4.3.3. Pulse Discharge Characteristics

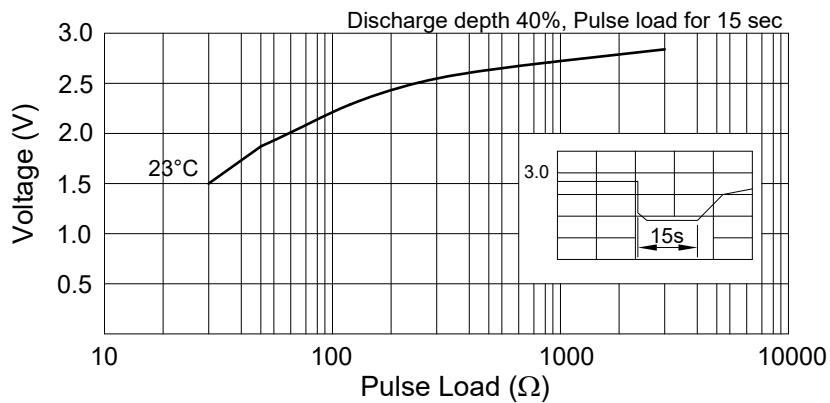


Figure 3. Pules Discharge Characteristics

4.3.4. Temperature Characteristics

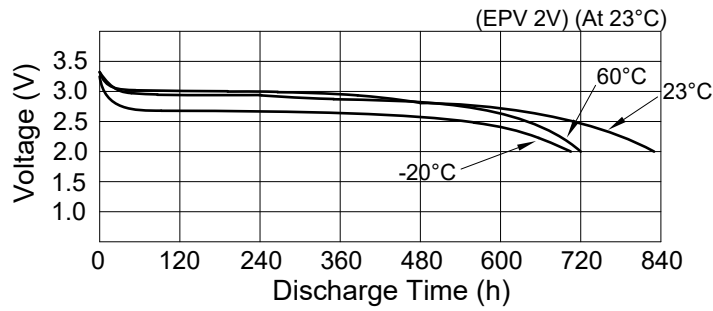


Figure 4. Temperature Characteristics

4.3.5. Load-Capacity

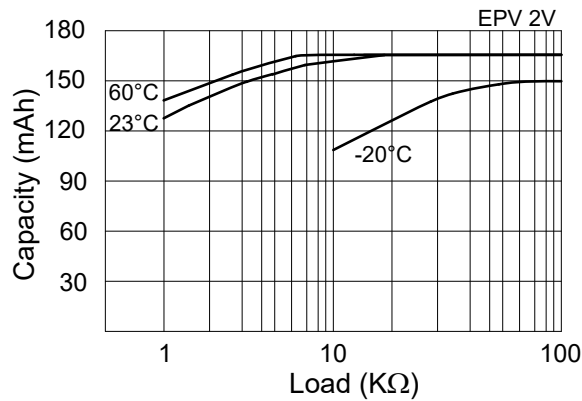


Figure 5. Load-Capacity

4.3.6. Storage Characteristics

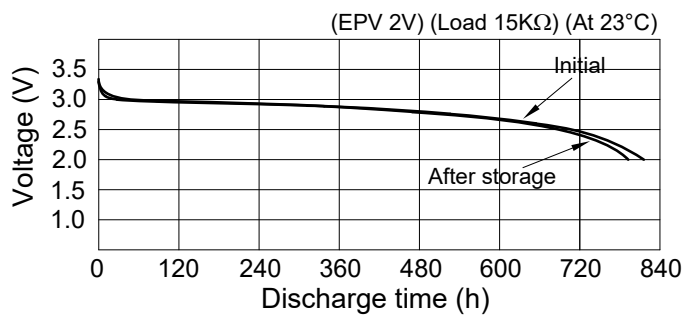


Figure 6. Storage Characteristics

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)

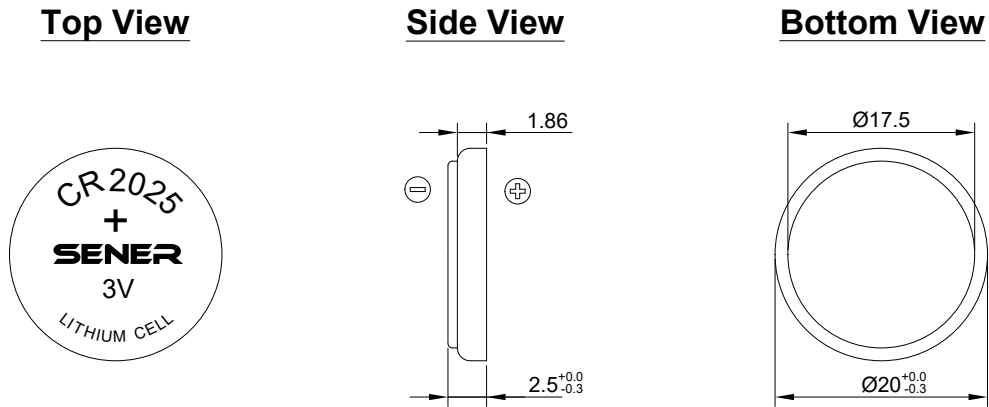


Figure 7. SCR2025/726 Mechanical Layout

7. Standard Packing Requirements

7.1. Ocean Shipment

- 7.1.1.** Quantity : 20 pieces per tray, 10 trays per unit, 24 units per carton (total 4800 pieces)
- 7.1.2.** Net Weight : 12.8 Kg
- 7.1.3.** Gross Weight : 15 Kg
- 7.1.4.** Carton Dimensions : 350 (L) x 285 (W) x 215 (H)
- 7.1.5.** Tray and Carton Layout

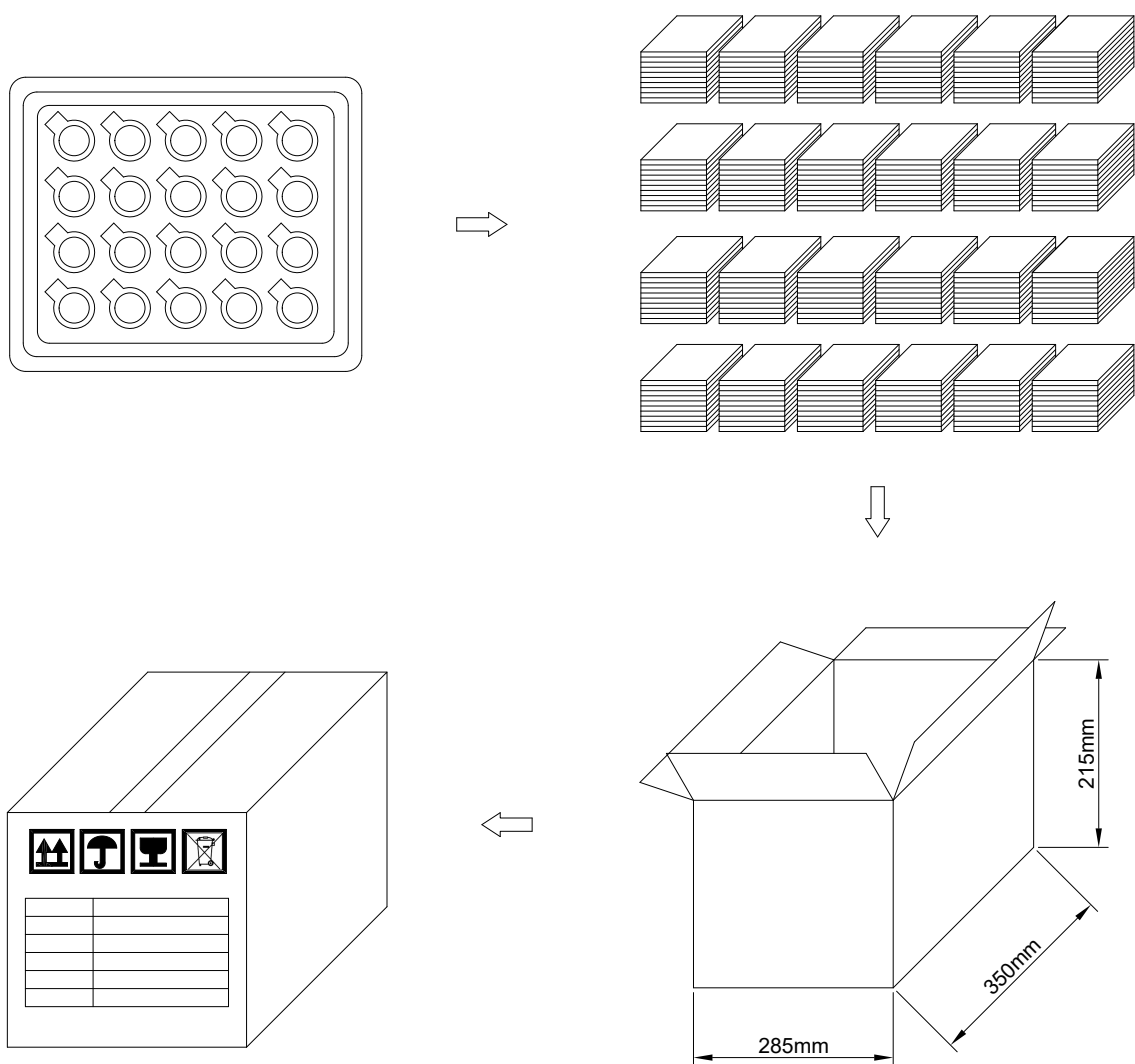


Figure 8. Tray and Carton Layout for Ocean Shipment

7.2. Air Shipment

- 7.2.1.** Quantity : 20 pieces per tray, 10 trays per unit, 4 units per carton (total 800 pieces)
- 7.2.2.** Net Weight : 2 Kg
- 7.2.3.** Gross Weight : 2.4 Kg
- 7.2.4.** Carton Dimensions : 195 (L) x 135 (W) x 162 (H)
- 7.2.5.** Tray and Carton Layout

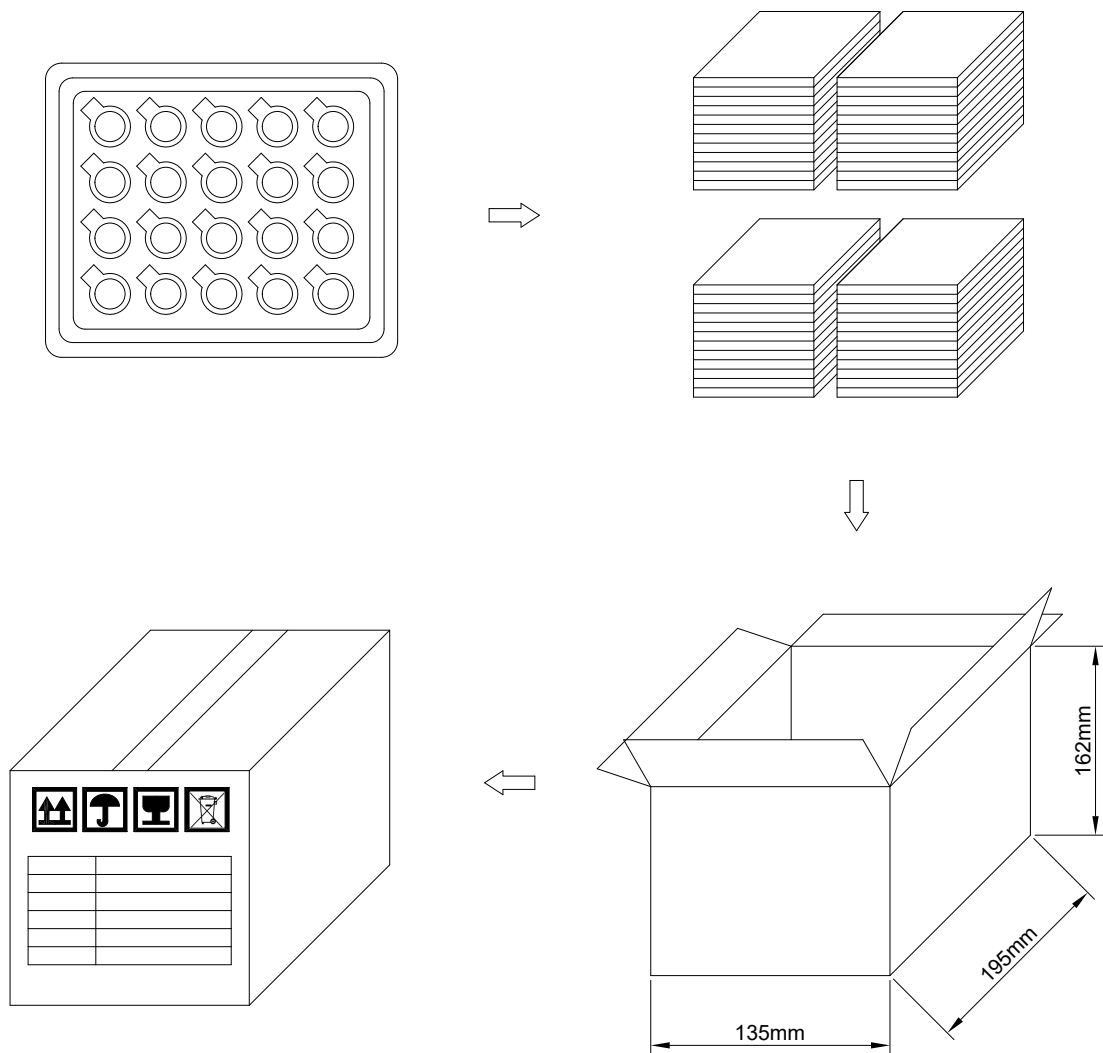


Figure 9. Tray and Carton Layout for Air Shipment