BeStar Technologies Inc.
Address: 761 N. 17th Street Unit 4, St. Charles, IL 60174
Tel : 847-261-2850 E-mail : sales@bestartech.com Web : www.bestartech.com

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Prepare by : Loki, **Lo**
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SENER Brand Power Product
www.jlsener.com

Document Type : Specification
Product Type : Lithium/Manganese Dioxide ($LiMnO_2$) Coin Cell
Ordering Code : SCR1620
Cell Part Number : CR1620
Cell UL Number : MH20926

A1 - New created issue by Leo, Sin on 20 Jul., 2004		
A2 - Updated section 4 ~ 6 by Holmes, Poon on 16 Apr., 2012		
A3 - Updated section 4 by Loki, Lo on 4 Oct., 2016		
A4 - Updated section 3 and 4 by Loki, Lo on 12 Oct., 2018		

1. Purpose and Scope

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

2. Description

Ø16mm Lithium/Manganese Dioxide ($LiMnO_2$) 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. 1.3g
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 30KΩ Load and 2.0V End-voltage)	: 70mAh
4.2.3.	Load Resistance	: 30KΩ
4.2.4.	Standard Discharge Current	: 0.2mA

4.3. Standard Characteristics

4.3.1. Discharge Characteristics

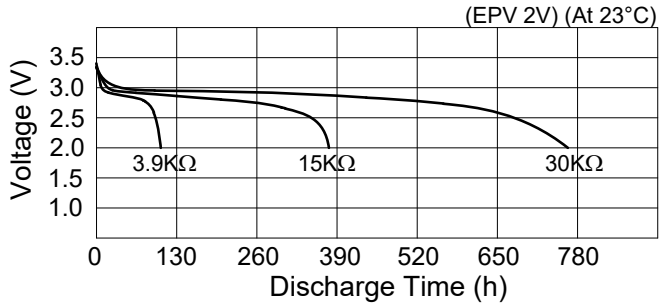

Figure 1. Discharge Characteristics

4.3.2. Load-Operating voltage

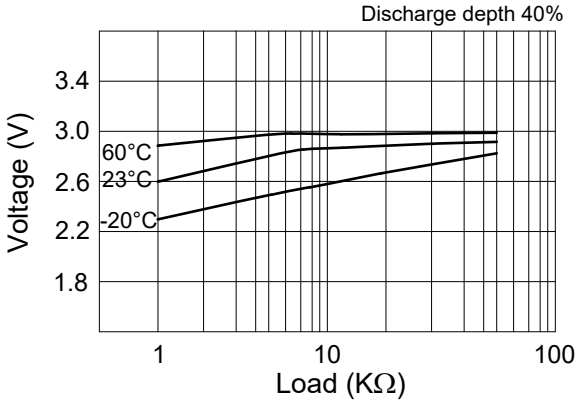

Figure 2. Load-Operating voltage

4.3.3. Pulse Discharge Characteristics

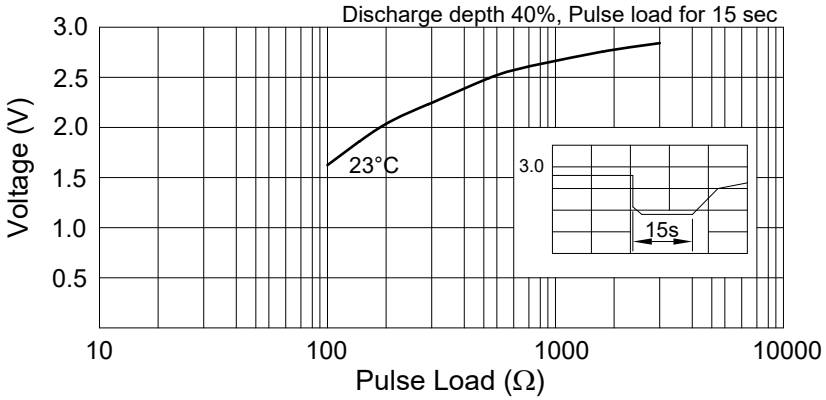

Figure 3. Pules Discharge Characteristics

4.3.4. Temperature Characteristics

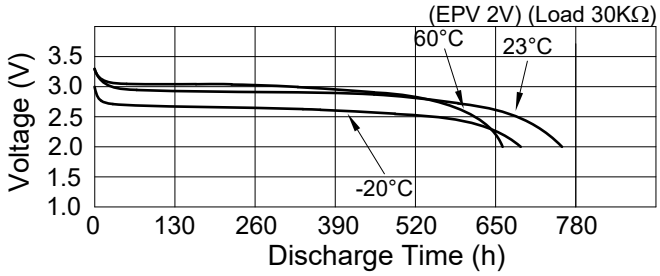

Figure 4. Temperature Characteristics

4.3.5. Load-Capacity

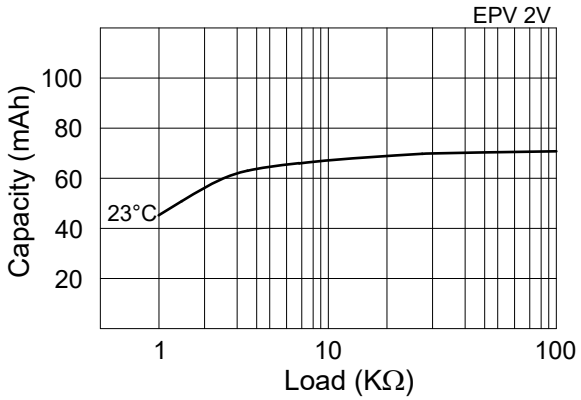

Figure 5. Load-Capacity

4.3.6. Storage Characteristics

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

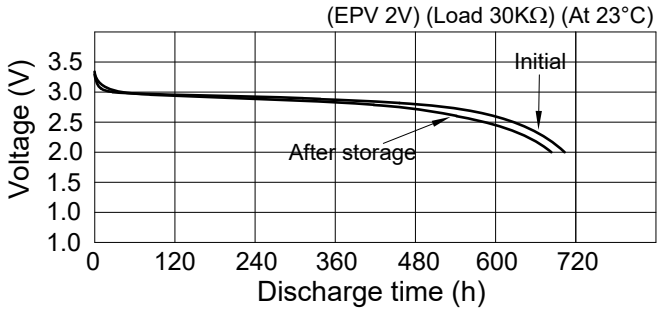

Figure 6. Storage Characteristics

5. Reliability Test

5.1. Open-circuit Voltage : Subject samples to +20 ± 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 ± 2 °C and 0 ± 2 °C for 8 hours or longer. Then measure the voltage between both terminals with voltmeter while the 30KΩ 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 30kΩ. 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 ± 2 °C for 20 days. Then subject samples to +20 ± 2 °C and ordinary humidity 65% ± 20% for 12 hours or longer and continuously discharge through 30KΩ. Discharge until the voltage falls below the dicharge 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 ± 2 °C and ordinary humidity 75% ± 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 ± 2 °C and 65% ± 5% relative humidity and tested for service life in accordance with the method specified in 5.3. Self-discharge shall be determined as follows:

Self-discharge rate (%) = (Y1-Y2)/Y1 x 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)

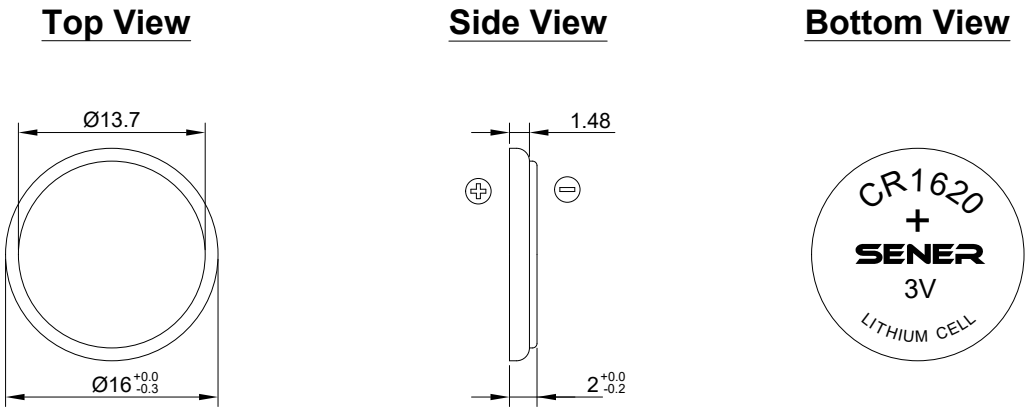

Figure 7. SCR1620 Mechanical Layout