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SENER Brand Power Product

www.jlsener.com

Document Type : Specification
 Product Type : Lithium Manganese Dioxide (LiMnO₂) Cylindrical Battery
 Ordering Code : SCR17335A
 Part Number : CR123A
 Cell UL Number : MH61795

A1 - New issue created by Leo, Sin on 16 Feb., 2004	A5 - Updated to hermetically construction by Leo, Sin on 30 Apr., 2009	A9 - Updated section 4 and 7 by Loki, Lo on 8 Oct., 2018
A2 - UL number added by Leo, Sin on 30 Aug., 2005	A6 - Updated format & layout by Holmes, Poon on 10 Nov., 2011	
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A4 - Updated to semi-sealed construction by Leo, Sin on 1 Nov., 2007	A8 - Updated section 4 and 6 by Ting Lok, Ngan on 14 Nov., 2013	

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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

Ø17 x 34.5 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	: Ø17 x 34.5 mm
4.1.2.	Weight	: Approx. 16.3g
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	: 1700mAh
4.2.3.	Standard Discharge current	: 20mA
4.2.4.	Maximum Continuous Discharge Current	: 1500mA

4.3. Standard Characteristics

4.3.1. Discharge Characteristics

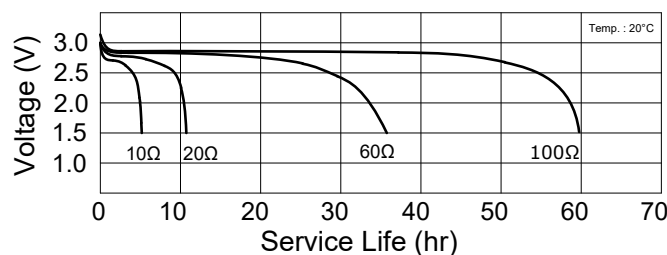


Figure 1. Discharge Characteristics

4.3.2. High Drain Discharge Characteristics

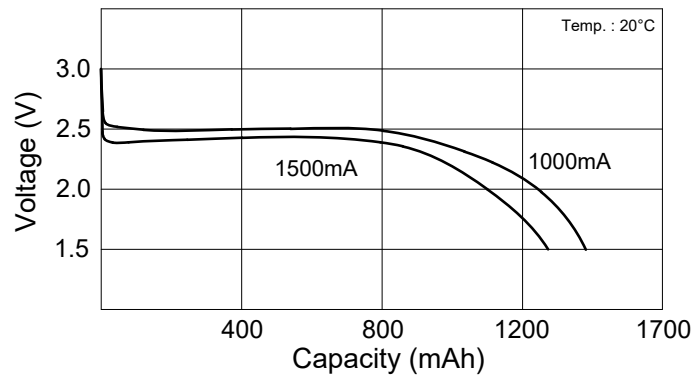


Figure 2. High Drain Discharge Characteristics

4.3.3. Pulse Discharge Characteristics

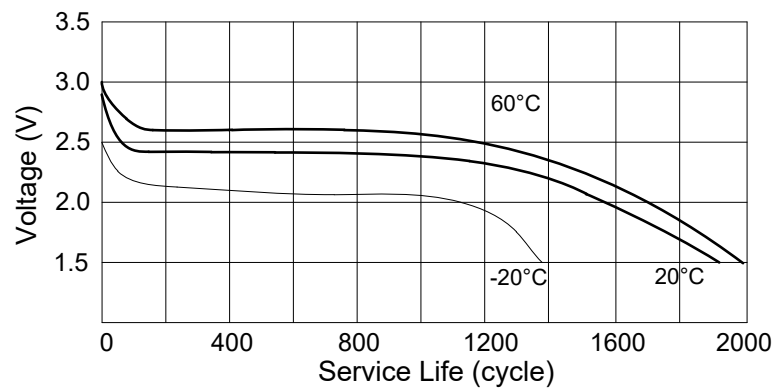


Figure 3. Pules Discharge Characteristics

4.3.4. Temperature Characteristics (20mA)

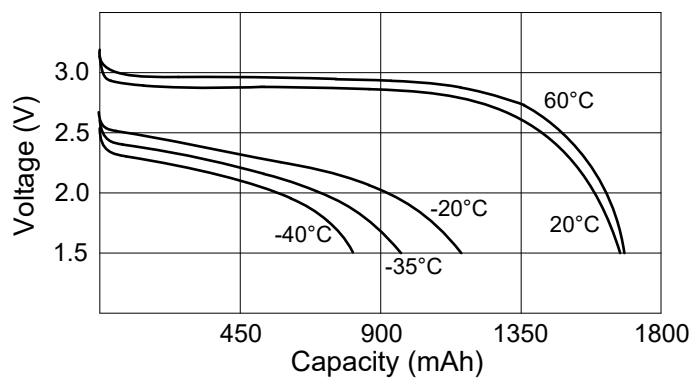


Figure 4. Temperature Characteristics (20mA)

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 >10MΩ 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.
- 5.9. PTC Device Performance** : Applying 1KHz, 0.1mA sine wave to samples and measure it's PTC device performance.

6. Caution

- 6.1.** Do not short or charge the battery.
- 6.2.** Over-discharge, crushing, incinerating and disassembling the battery are prohibited.
- 6.3.** Do not heat the battery beyond the permitted temperature range.
- 6.4.** Remove the battery when the cut-off voltage is reached.
- 6.5.** Bury the used battery deeply underground or store the used battery in a deep water tank.

7. Mechanical Layout

Unit : mm

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

(unless otherwise specified)

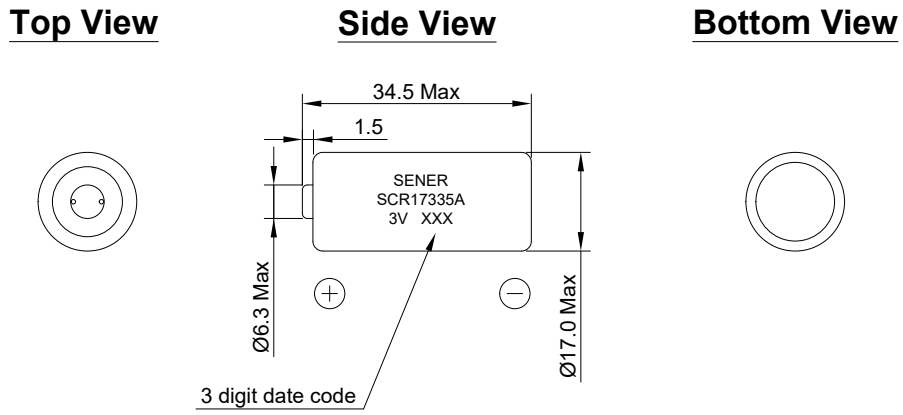


Figure 5. SCR17335A Mechanical Layout