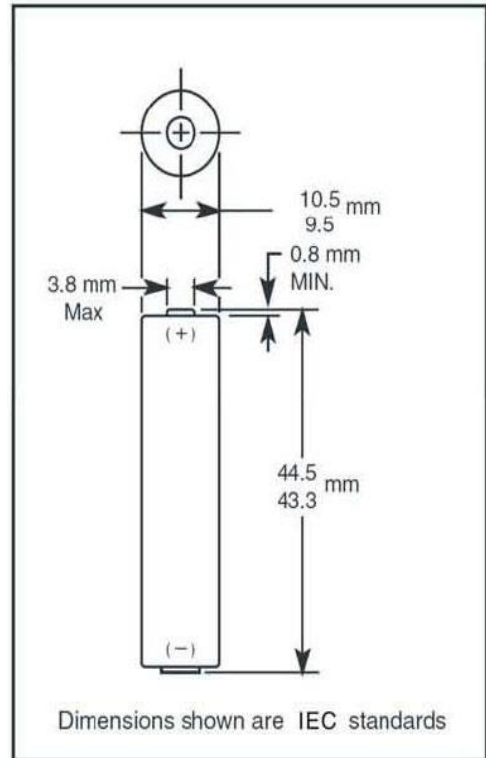


## LR03 MERCURY FREE ALKALINE MANGANESE BATTERY SPECIFICATION

### 1. Essential Parameters

<b>Model</b>	IEC LR03 ANSI AAA JIS AM-4
<b>Electrochemical System</b>	Zinc/ MnO <sub>2</sub>
<b>Nominal Weight</b>	11.3g
<b>Nominal Voltage</b>	1.5V
<b>Working Temperature</b>	-20°C~54°C
<b>Shelf Life (20°C, 40%~90% RH)</b>	10 years
<b>Packaging and Mark</b>	PET label (aluminum jacket) marked with expiry date
<b>Hazardous Substance</b>	Hg Content < 1ppm Cd Content < 20ppm Pb Content < 40ppm
<b>Reference Standard</b>	IEC 60086-2; GB/T 8897.2; 2006/66/EC; ANSI C18.M.



### 2. Electrical Characteristics (20Ω, 0.2s, 20±2°C)

Initially	OCV (V) Open-circuit Voltage	CCV (V) Closed-circuit Voltage	SC (A) Short-circuit Current
<b>Value</b>	>1.60	≥1.50	≥7.0

### 3. Discharge Performance (20±2°C, RH: 45%~75%)

Discharge Pattern	Appliances (simulating)	End Voltage	Unit	Standard Value (Initially)	Actual Level (Initially)
5.1Ω - 4min/h, 8h/day	Portable lighting	0.9 V	minute	210	240
24Ω - 15 s/min, 8h/day	Remote controller	1.0 V	hour	20.0	21.0
5.1Ω-1h/d	Toy	0.8 V	hour	3.5	4.5
75Ω - 4h /day	Radio	0.9 V	hour	70	75
600mA - 10s/min, 1h/day	Photoflash	0.9 V	pulse	330	380
100mA-1h/d	Digital audio	0.9 V	hour	9.0	10.0

**4. Security Characteristics (Environment: Temp.20±2°C, RH.60±15%)**

No.	Test Item	Test Method	Sample QTY.	Specification Standard
1	Over discharge – Leakage-proof Test	20±2°C, RH60±15%: 20Ω continuous discharge to 0.6V; visual observation.	9 pcs	No leakage
2	High Temperature – Leakage-proof Test	Store for 60 days under 60±2°C and RH: 90±5%; then store for 4~24 hours under 20±2°C and RH: 60±15%.	20 pcs	No leakage
3	External Short-Circuit	20±2°C, RH60±15%: Keep the battery external short-circuit for 24hours under the specified conditions.	10 pcs	No explosion
4	Improper Installation	20±2°C, RH60±15%: Keep four un-discharged batteries from the same batch series connected with one of them (the Test Battery) reversed.	5 groups	No explosion

**5. Usage Guide (Please refer to IEC60086.5 for detailed safety and storage specifications.)**

- (1) Insert batteries correctly with regard to the polarities (“+”/“-”) marked on the battery and the electrical appliances;
- (2) Do not short-circuit, recharge, heat, disassemble the battery, or dispose of in fire;
- (3) Do not mix use old batteries with new ones, or mix use batteries of different types or brands;
- (4) Remove the exhausted battery from the appliances immediately;
- (5) Keep the batteries away from small children; do not let the child remove/ replace batteries without monitoring from adults.
- (6) Storage condition of the batteries shall be Temperature: 15°C~25°C (no higher than 30°C), while extremely damp environment beyond RH: 40%~90% shall also be avoided.