



## Specification Approval Sheet

Tenergy P/N: 40430

Name: Alkaline AAA battery D9+

Approved By	Checkup	Make

Customer Confirmation	Signature	Date
	Company Name :	
	Stamp :	

436 Kato Terrace, Fremont, CA 94539 U.S.A.

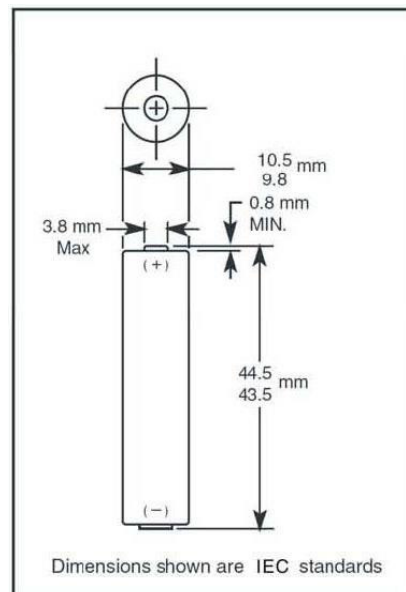
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## LR03 (D9+) MERCURY FREE ALKALINE MANGANESE BATTERY SPECIFICATION

### 1. ESSENTIAL PARAMETER

<b>Model</b>	IEC: LR03 ANSI: AAA
<b>Electrochemical System</b>	Zinc/ MnO <sub>2</sub>
<b>Nominal Weight</b>	11.5 ± 0.5 g
<b>Nominal Voltage</b>	1.5V
<b>Working Temperature</b>	-20°C~54°C
<b>Shelf Life (20°C)</b>	7 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 GB/T 8897.2 2006/66/EC



### 2. ELECTRICAL CHARACTERISTICS (20Ω, 0.8s, 20±2°C, RH: 55±20%)

/	<b>OCV (V)</b> Open-circuit Voltage	<b>CCV (V)</b> Closed-circuit Voltage	<b>SC (A)</b> Short-circuit Current
<b>Standard Value (Initially)</b>	≥ 1.60	≥ 1.50	≥ 6.0

### 3. DISCHARGE PERFORMANCE (20±2°C, RH: 55±20%)

<b>Discharge Pattern</b>	<b>Appliances (simulating)</b>	<b>End Voltage</b>	<b>Unit</b>	<b>Standard Value (Initially)</b>	<b>Actual Level (Initially)</b>
5.1Ω – 4min/h, 8h/day	Portable lighting	0.9 V	hour	3.6	4.2
24Ω - 15 s/min, 8h/day	Remote controller	1.0 V	hour	20.5	21.5
5.1Ω – 1h/day	Toy	0.8 V	hour	4.0	4.5
50mA - 1h/12h, 24h/day	Radio	0.9 V	hour	21	23

### 4. ANTI-LEAKAGE PERFORMANCE

No.	Test Item	Test Method (IEC Standard)	Sample QTY.	Standard Value (Initially)
1	High Temperature Anti-leakage Test	Store the battery (batteries) under an environmental condition of Temp.60±2°C and RH: 90±5% for certain days, then put them under normal atmospheric temperature for 4~24 hours.	10 pcs	No leakage within 50 days

### 5. SECURITY CHARACTERISTICS (Environment Temp.20±2°C, RH.55±15%)

No.	Security Test Item	Test Method	Sample QTY.	Specification Standard
1	Over discharge Anti-leakage Test	IEC Standard	5 pcs	No explosion
2	External Short-Circuit	IEC Standard	5 pcs	No explosion
3	Improper Installation	IEC Standard	5 groups	No explosion
4	Free Drop Test	IEC Standard	5 pcs	No explosion

### 6. 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) Exhausted batteries should be immediately removed from the equipment;
- (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. Naked battery is recommended to be stored after being labeled.