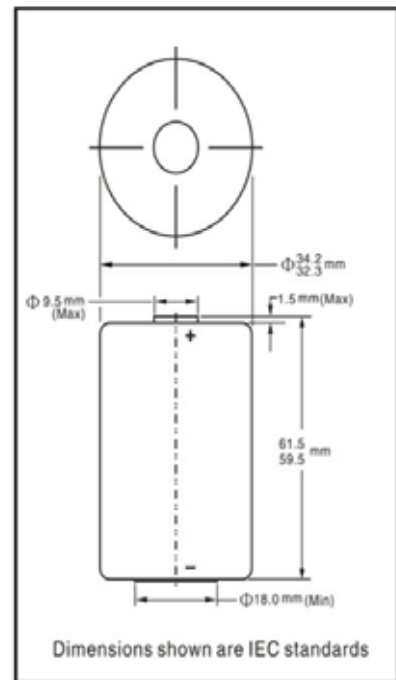




AM1 MERCURY FREE ALKALINE MANGANESE BATTERY SPECIFICATION

1. ESSENTIAL PARAMETER

Model	IEC LR20 ANSI D
Electrochemical System	Zinc/ MnO ₂
Nominal Weight	140 g
Nominal Voltage	1.5 V
Working Temperature	-20°C~54°C
Shelf Life (20°C)	5 years
Packaging and Mark	PET label (aluminum jacket) marked with expiry date
Hazardous Substance	Hg Content ≤ 1ppm Cd Content < 20ppm Pb Content < 40ppm
Reference Standard	IEC 60086-2 GB/T 8897.2 2006/66/EC



2. ELECTRICAL CHARACTERISTICS (3.9Ω, 0.2s, 20±2°C)

	OCV (V) Open-circuit Voltage	CCV (V) Closed-circuit Voltage	SC (A) Short-circuit Current
Standard Value (Initially)	≥ 1.59	≥ 1.35	≥ 9.0

3. DISCHARGE PERFORMANCE (20±2°C, RH: 45%~75%)

Discharge Pattern	Appliances (simulating)	End Voltage	Unit	Standard Value (Initially)	Actual Level (Initially)
2.2Ω - 1h/day	Portable stereo	0.8V	hour	20	21.5
10Ω - 4h/day	Radio	0.9V	hour	110	120
1.5Ω - 4min/15min, 8h/day	Toy	0.9V	hour	12	13.5
600mA - 2h/day	Portable light	0.9V	hour	13.5	15.5

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4. SECURITY CHARACTERISTICS (Environment: Temp.20±2 °C, RH.60±15%)

No.	Security Test Item	Test Method (IEC Standard)	Sample QTY	Specification Standard
1	Over discharge – Anti-leakage Test	2.2Ω continuous discharge to 0.6V; visual observation.	9 pcs	No leakage
2	High Temperature – Anti-leakage Test	Store for 20 days under 60±2°C and RH: 90±5%; then store for 4~24 hours under 20±2°C and RH: 60±15%.	10 pcs	No leakage
3	External Short-Circuit	Keep the battery external short-circuit for 24hours under the specified condition.	5 pcs	No explosion
4	Improper Installation	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 be avoided.