



WAMA ELECTRONICS TECH CO.,LTD

Alkaline AA (LR6) Battery

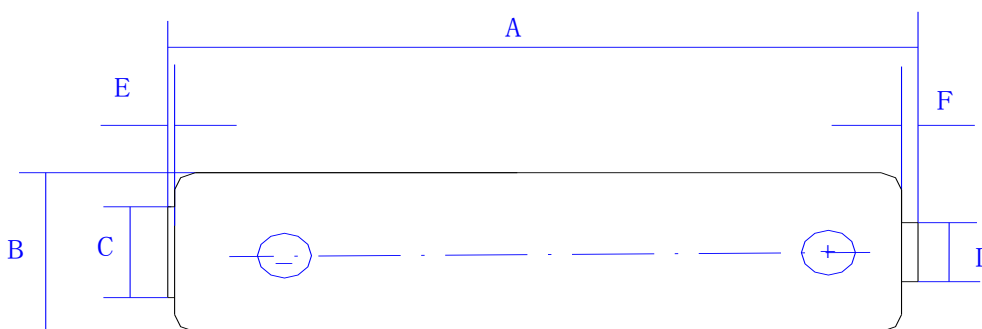
Notes:

The technical standards in this specification apply only to the alkaline (Zinc-Mn₂) dry battery provided by WAMA. the cells should meet the rules IEC 60086-1.2 and GB/T 7112 standard.

Discharge time: 360 minutes

1. Dimensions

Cell dimensions is as follows



Unite: mm

| Dimension | Maxi. | Min. |
|-----------|-------|------|
| A | 50.5 | 49.2 |
| B | 14.5 | 13.5 |
| C | -- | 7.0 |
| D | 5.5 | -- |
| E | 10.5 | -- |
| F | -- | 1.0 |

2. Nominal Voltage

Max. 1.650V

Min. 1.500V



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3 Electrical properties

Test is carried on the under condition: temperature: 20°C±2°C relative humidity: 60±15%RH

- | | | | | |
|-----|--|---------------------------------------|---------------------|----------------------|
| 3.1 | Load resistance | precision is not lower than±0.5%----- | 10Ω | |
| | Discharge period | | ----- | 24h/d |
| | Terminal voltage | | ----- | 0.9V |
| | Minimum average discharge duration | | | |
| | Initial period (Battery is considered as in initial period, which is within 30 days after production.) | | | 18.3 h |
| | Battery is stored for 12 months under20°C±2°C and 60±10% of relative humidity. | | | 17.4 h |
| | Battery is stored for 24months under 20°C±2°C and 60±10% of relative humidity. | | | 16.5 h |
| | Battery is stored for 36 months under 20°C±2°C and 60±10% of relative humidity. | | | 15.5 h |
| | | | | |
| 3.2 | Load resistance | precision is not lower than±0.5%. | | 1.8 Ω |
| | Discharge period | | | 15s/min 24h/d |
| | Terminal voltage | | | 9V |
| | Minimum average discharge duration | | | |
| | Initial period (Battery is considered as in initial period, which is within 30 days after production.) | | | 550times |
| | Battery is stored for 12 months under20°C±2°C and 60±10% of relative humidity. | | | 511 times |
| | Battery is stored for 24 months under 20°C±2°C and 60±10% of relative humidity. | | | 495 times |
| | Battery is stored for 36 months under 20°C±2°C and 60±10% of relative humidity. | | | 440 times |
| | | | | |
| 3.3 | Load resistance | precision is not lower than ±0.5%. | | 3.9 Ω |
| | Discharge period | | | 24h/d |
| | Terminal voltage | | | 0.8V |
| | Minimum average discharge duration | | | |
| | Initial period (Battery is considered as in initial period, which is within 30 days after production) | | | 6.0 h |
| | Battery is stored for 12 months under 20°C±2°C and 60±10% of relative humidity. | | | 5.5 h |
| | Battery is stored for 24 months under 20°C±2°C and 60±10% of relative humidity. | | | 5.1 h |
| | Battery is stored for 36 months under 20°C±2°C and 60±10% of relative humidity. | | | 4.8 h |
| | | | | |
| 3.4 | Load resistance | precision is not lower than ±0.5%. | 3.9 Ω | |
| | Discharge period | | 1h/d | |
| | Terminal voltage | | 0.8V | |
| | Minimum average discharge duration | | | |
| | Initial period (Battery is considered in initial period, which is within 30 days after production) | | | 6.6 h |
| | Battery is stored for 12 months under 20°C±2°C and 60±10% of relative humidity. | | | 6.1 h |
| | Battery is stored for 24 months under 20°C±2°C and 60±10% of relative humidity. | | | 5.9 h |
| | Battery is stored for 36 months under 20°C±2°C and 60±10% of relative humidity | | | 5.2 h |
| | | | | |
| 3.5 | Load resistance | | 43Ω | |
| | Discharge period | | 1h/d | |
| | Terminal voltage | | 0.9V | |
| | Minimum average discharge duration | | | |
| | Initial period (Battery is considered in initial period, which is within 30 days after production) | | | 85.0 h |
| | Battery is stored for 12 months under 20°C±2°C and 60±10% of relative humidity. | | | 80.0 h |
| | Battery is stored for 24 months under 20°C±2°C and 60±10% of relative humidity. | | | 77.0 h |
| | Battery is stored for 36 months under 20°C±2°C and 60±10% of relative humidity | | | 72.0 h |
| | | | | |
| 3.6 | Load resistance | | 1000 mA | |
| | Discharge period | | 15s/min 1h/d | |
| | Terminal voltage | | 0.9V | |
| | Minimum average discharge duration | | | |
| | Initial period (Battery is considered in initial period, which is within 30 days after production) | | | 250 times |



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4. Leakage-resistance property

4.1 Storage test under high temperature and humidity

Test condition

60 ±2°C 90±5 RH

Test period

20days

During the test period, battery doesn't leak, that is, the cell surface doesn't have electrolyte, sealant or other internal component.

4.2 High-temperature test

Test condition

70 ±2°C

Test period

7 days

During the test period, battery doesn't leak, that is, the cell surface doesn't have electrolyte, sealant or other internal component.

5 Safety performances

5.1 Short-circuit test

Under standard environmental condition, short-circuit is carried on for the two-pole of the battery. It should not exceed the specified limit and no explosion may occur. The leakage is tolerable,

The maximum temperature of cell surface

150 °C

Test duration

6 h

5.2 Safety valve test

Four cells are connected in a series with a load resistor and one of the 4 cells is connected with reverse polarity. Connect the circuit to the scheduled time by switch; the safety valve of battery should be opened and no explosion may occur. Leakage is tolerable,

Load resistance

3.9 Ω

Time

24 h

5.3 Forced over discharge test

Put four pieces of battery together into a circuit, and access to a resistor, one piece of battery among them is reverse. These batteries conduct a continuous discharge under 3.9 ohms until its load voltage is 0.9 volt. Connect the circuit to the scheduled time by switch; the safety valve of battery should be opened (Leakage is allowed), but not an exploration.

Load resistance

3.9 Ω

Time

3 days

6. Heavy metal content

Heavy metal content in the battery should be controlled:

Mercury (on the basis of each battery weight) Maximum **0.0001%**

Cadmium (on the basis of each battery weight) Maximum **0.0001%**