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|----------------|---------------------------------|-------------|---------------|
| Product | Alkaline battery; 9Volts | Page | 1 of 3 |
| Size | IEC 6LR61 | | |

6LR61 STANDARD QUALITY Battery Specification

1. Type designation: IEC 6LR61

JIS: 6LR61

2.Chemical system:

Electrolyte-zinc-manganese dioxide (mercury & cadmium free)

3.Dimension: Diameter: 24.5-26.5mm

15.5-17.5mm

Height: 46.5-48.5mm

4.Nominal voltage: 9.0Volts

5.Nominal:

The weight of each battery is approximately: **44.5g**

6.Heavy Metal content (%):

| Mercury content | Cadmium | Lead |
|-----------------|---------|--------|
| ≤1ppm | ≤10ppm | ≤40ppm |

7.Appearance and terminal:

Battery shall be clean and have no dirt, no leakage, and no deformation which may affect their performance and actual use and shall have clearly visible markings.

8.Battery capacity: (Test environment : 20°C±2,60%±15%R.H)

(Load resistance:**620 ohms**, Daily period:**24h/d**, Cut off voltage:**4.8V** ; According to as the above the same discharge condition, the capacity of each battery is approximately:**600mAh**)

9.Storage characteristics:

After 12 months storage at 20°C, 90% capacitance of fresh cells.

After 60 months storage at 20°C, 80% capacitance of fresh cells.

10.Electrical characteristics:

| | | | |
|----------------|---------------------------------|-------------|---------------|
| Product | Alkaline battery; 9Volts | Page | 2 of 3 |
| Size | IEC 6LR61 | | |

(Test environment:20°C±2,60%±15%R.H)(Load resistance: **180 ohms**, Measure time: **0.3S**)

(All samples shall be normalized for a minimum of 8 hours at the above environment prior to measurement)

| | OCV (V) | SCC (A) |
|-------------------------|---------|---------|
| Initial | ≥9.5 | ≥4 |
| After 12 months storage | ≥9.4 | ≥3 |

Remark: OCV: Open Circuit Voltage; CCV: Close Circuit Voltage; SCC: Short Circuit Current

11. Discharge test (service life) (Test environment: 20°C±2,45%--75%R.H)

| Load | 10kΩ , 620Ω | 270Ω | 620Ω |
|-------------------------|----------------|-------|-------------|
| Discharge mode | 24h/d , 1s/h | 1h/d | 2h/day |
| End voltage | 7.5V | 5.4V | 5.4V |
| Initial | 20.5d | 20.5h | 45h |
| After 12 months storage | 19.5d | 19.5h | 40h |
| Applications | Smoke detector | Toy | Clock radio |

Remark: The initial discharge test shall commence within 30 days of manufacture.

The discharge time is the minimum average duration (MAD).

Test quantity: n=9pcs (for per discharge test)

12. Safety test (Test environment: 20°C±2,60%±15%R.H)

| Test item | Test method | Test pcs | Requirements |
|-----------------------------|--|----------|--------------|
| Over-discharge leakage test | 270 ohms (24h/d) 48hours | 9pcs | No leakage |
| | 270 ohms (1h/d) to 3.6V | 9pcs | No leakage |
| | 620 ohms (2h/d) to 3.6V | 9pcs | No leakage |
| High temperature test | 60±2°C,RH:90±5%, after 20 days storage, the cells shall be stored in an ambient temperature of 20± | 40 | No leakage |



PRODUCT SPECIFICATION

| | | | |
|----------------|---------------------------------|-------------|---------------|
| Product | Alkaline battery; 9Volts | Page | 3 of 3 |
| Size | IEC 6LR61 | | |

| | | | |
|--|--|----|----------------------------|
| | 2°C,RH:60±5%, for 4-24hours. | | |
| One piece of battery Short circuit test | The terminal of an un-discharged battery is connected by wire. The circuit is completely for 24hours or until the case temperature has return to environment. | 10 | No explosion |
| Free fall test | The battery free drops from one-meter height for 6 times, then store for 1h | 10 | No explosion |
| Impact under high and low temperature | Un-discharged battery store in test box under 70±2°C for 24h,then change to -20°C for 24h, repeat the above condition for 10 cycles. | 20 | No explosion |
| Storage after partial discharge | 50% discharged battery stored under 45±5°C for 30days | 9 | No leakage No explosion |

13.Expiry period: 5 years

14. Expiry period marking :

① Expiry date marked on the bottom plate of finished battery . For example: 2013-08 means the production date is August 2013.

② For private label, can mark according to customer's requirement.



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| | | | |
|----------------|--------------------------|-------------|--------|
| Product | Alkaline battery; 9Volts | Page | 4 of 3 |
| Size | IEC 6LR61 | | |