



Power-Xtra 6LR61/9V Size Alkaline Battery

6LR61

Specification of Alkaline Battery

1. Summary

This specification is suitable for 6LR61 alkaline battery of Birikim Pilleri Batarya Teknolojileri A.Ş.

1.1 Designation

IEC: 6LR61 JIS: AM-6

1.2 Reference standard

IEC 60086-1: 2021 Primary Batteries-Part 1: General.

IEC 60086-2: 2021 Primary Batteries-Part 2: Physical and electrical specification.

IEC 60086-5: 2016 Primary Batteries-Part 5: Safety of batteries with aqueous electrolyte.

GB 24427: 2021 Content limitation of mercury, cadmium and lead for zinc anode primary battery.

2. Environmental requirements

Cadmium(Cd) $\leq 10\text{PPM}$

Mercury(Hg) $\leq 1\text{PPM}$

Lead (Pb) $\leq 40\text{PPM}$

3. Normal voltage:

4. Average weight (Ref.) : $44.5 \pm 1.5\text{g}$

5. Operating temperature: $-30^{\circ}\text{C} \sim 50^{\circ}\text{C}$

6. Nominal capacity (Ref.) : 600mAh (620 Ω , 2h/d, 0.9V at $20 \pm 2^{\circ}\text{C}$)

7. Electrical performance

(Load Resistance: 3.9 Ω ($\pm 0.5\%$), Time: 0.3s, Temperature: $20 \pm 2^{\circ}\text{C}$.)

Condition	O.C.V (V)	C.C.V (V)	Accept level
≤ 3 months after delivery	≥ 9.60	≥ 8.40	MIL-STD105E, II , AQL=0.65
After 12 Months	≥ 9.40	≥ 8.10	

(The accuracy of the measuring equipment shall be $\leq 0.25\%$ and the precision shall be $\leq 50\%$ of the value of the last significant digit. The internal resistance of the measuring instrument shall be $\geq 1\text{M}\Omega$.)

8. Service life

Application	Test condition			Unit	IEC	Initial		After 12 months	
	Load	Daily period	EV			MAD	Normal	MAD	Normal
Toy	270 Ω	1 h	5.4	hour	12	20	21	18	19
Clock radio	620 Ω	2h	5.4	hour	33	48	50	43	45
Smoke detector	Background: 10 k Ω Pulse: 620 Ω	a	7.5	day	16	20	21	18	19

a: 1 s on, 3599 s off for 24 h per day

Acceptance method:

- 8.1 9 pieces of battery will be tested for each discharging standard.
- 8.2 MAD: minimum average duration--our guarantee discharge value. The result of the Minimum Average Duration from each discharging standard shall be equal to or more than the Minimum Average Duration requirement; and no more than one battery has a service output less than 80% of the specified requirement.
- 8.3 One re-test is allowed to confirm the previous result.
- 8.4 The initial discharge test shall commence within 60 days of manufacture. During stored ,the cells shall be stored at 20 \pm 2 $^{\circ}$ C , RH 55 \pm 20% conditions.
- 8.5 MAD: minimum average duration--our guarantee discharge value.
- 8.6 Normal: normal data, it's our normal daily value, battereis dicharge value are on this as base to be upper or lower.
- 8.7 EV: end-point voltage(specified voltage of a battery at which the battery discharge is terminated.)

9. Safety performance

Item	Conditions	Request	Accept Level
Drop test	Drop at 1 m height onto concrete 6 times, twice on each the battery's 3 axes.	No fire, No explosion	N=5 Ac=0, Re=1
External Shorting	Short positive and negative terminals with 0.1 Ω resistor for 24 hours or battery temperature drop to room temperature.	No fire, No explosion	N=5 Ac=0, Re=1
Thermal Cycling Shock	Repeat the following temperature cycle 10 times: Heat to +70 $^{\circ}$ C \pm 5 $^{\circ}$ C within 30 minutes, hold for 4 hours. Cool to +20 $^{\circ}$ C \pm 5 $^{\circ}$ C within 30 minutes, hold for 2 hours. Cool to -20 $^{\circ}$ C \pm 5 $^{\circ}$ C within 30 minutes, hold for 4 hours. Heat to +20 $^{\circ}$ C \pm 5 $^{\circ}$ C within 30 minutes. After the 10th cycle store batteries for 7 days.	No leakage, No fire, No explosion	N=20 Ac=0, Re=1
Constant temperature and humidity	60 \pm 2 $^{\circ}$ C ,90 \pm 5%RH.	No leakage, No fire, No explosion	N=20 Ac=0, Re=1

10. Marking

The battery label bears the following information:

10.1 Type: 6LR61

10.2 Name or trade mark , manufacturer or supplier.

10.3 Normal Voltage: 9.0V

10.4 Polarity: polarity of the "+" and/or "-" terminal.

10.5 Caution: Battery may explode or leak if recharged or disposed of in fire.

10.6 Date of production and shelf life, or recommended deadline for use.

11. Caution for use

11.1 Since the battery is not manufactured for recharging, there are risks of electrolyte leakage or causing damage to the device if the battery is charged.

11.2 The battery shall be installed with its "+" and "-" polarity in correct position, otherwise may cause short-circuit.

11.3 Short-circuiting, heating, disposing of into fire and disassembling the battery are prohibited.

11.4 Battery cannot be forced discharged, which lead to excess gassing and, may result in bulging, Leakage and de-crimping of cap.

11.5 New and used batteries cannot be used at the same time, when replaced batteries recommend to replace all and with the same brand type.

11.6 Exhausted batteries should be removed from compartment to prevent over-discharge, which Cause leakage damage to the device.

11.7 Direct soldering is not allowed, which will damage the battery.

11.8 Battery should be kept out of the reach of children to prevent swallow, in case of accident should contact physician at once.

12. Period of validity

Store for 5 years under suitable storage conditions.(20±2°C; 55+20%/-40%RH)

13. Display and storage

13.1 Batteries shall be stored in well-ventilated, dry and cool conditions.

13.2 Battery cartons should not be piled up in several layers(or should not exceed a specified height).

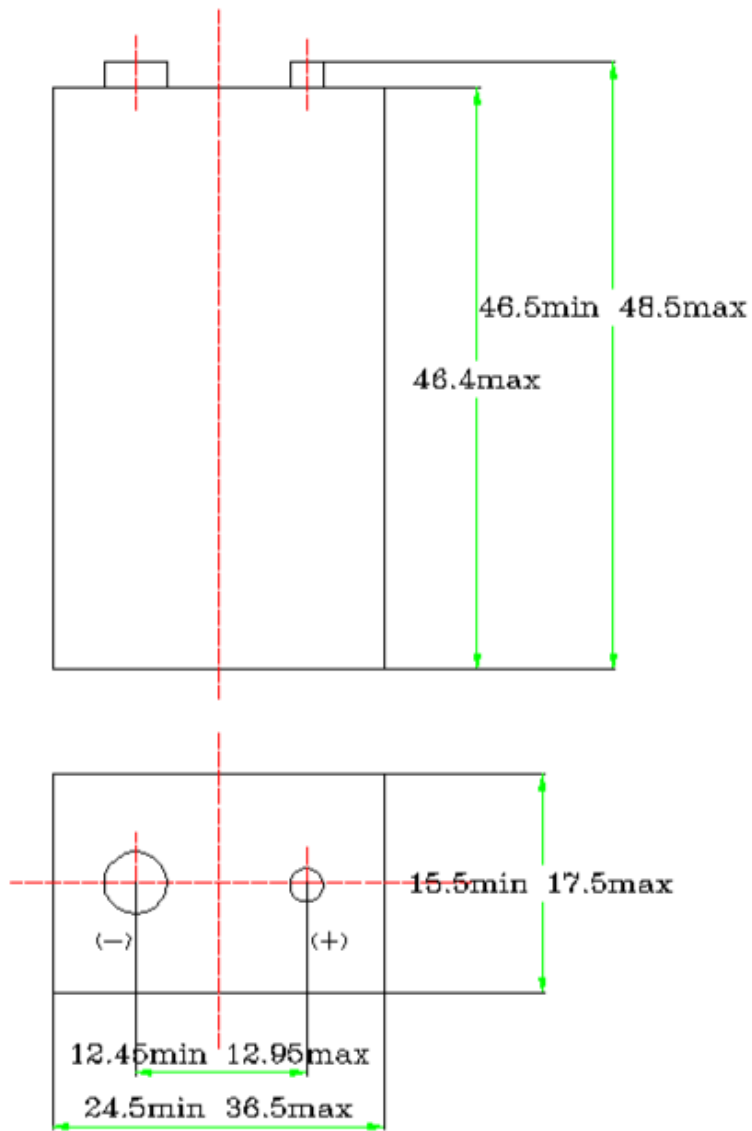
13.3 When batteries are stored in warehouses or displayed in retail stores, they should not be exposed to direct sun rays for a long time or placed in areas where they get wet by rain.

13.4 Do not mix unpacked batteries so as to avoid mechanical damage and/or short-circuit among each other.

13.5 The temperature should be between +10° C and +25° C and should never exceed +30° C.

13.6 Extremes of humidity (over 95% RH and below 40% RH)

14. Dimensions



6LR61

15. Note

Any other items do not list in here please refer to IEC 60086 standard.