

GP Batteries

Product Specifications

Model No.: GP1604AX

Document Number: AX005

Revision:00

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1. APPLICABILITY

This specification is applicable to GP Extra Alkaline grade batteries. (GP model no. : GP1604AX).

2. TYPE

Six layers built alkaline manganese batteries

3. NOMINAL VOLTAGE

9 Volts

4. TERMINALS

Nickel plated miniature snap fasteners

5. SHELL

Printed metal jacket

6. IDENTIFICATION

Expiry code of 4 digits will be printed on the bottom of each battery (e.g. 08-03 represents expiry date of August, 2003).

7. QUALITY REQUIREMENT

7.1 Conventions:

n = Number of batteries shall be tested.

c = Permissible number of defects.

k = Actual number of defects.

x = Average of (n-k) good result.

N0 = Test within 3 months of delivery.

N12 = Test within 12 months of manufacture code.

N18 = Test within 18 months of manufacture code.

N36 = Test within 36 months of manufacture code.

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7.2 Test conditions:

- 7.2.1 All tests (Voltage, Storage, Service life etc) shall be performed at the ambient temperature of $20\pm 2^{\circ}\text{C}$ and at the relative humidity of $60\%\pm 15\%$
- 7.2.2 The voltmeter shall have an accuracy of $\pm 0.01\text{V}$ and with a internal impedance of $1\text{M}\Omega$ minimum.
- 7.2.3 Unless otherwise stated, samples for acceptance testing shall be selected per MIL-STD-105D, LEVEL II normal inspection.

7.3 Open circuit voltage[OCV]

	Minimum voltage	AQL
N0	9.30V	0.65%
N12	9.20V	0.65%
N36	8.70V	0.65%

7.4 Closed circuit voltage [CCV] (Load 47Ω for 0.3 seconds).

	Minimum voltage	AQL
N0	7.60V	0.65%
N12	7.40V	0.65%
N36	7.25V	0.65%

7.5 Service life (Batteries tested shall be complied with either one of the following requirements.)

7.5.1 Requirements

Resistance	Discharge duration	End Voltage	Specification (Hours)						
			N0	N12	N36				
			Mean	Min	Mean	Min	Mean	Min	
180 Ω	Continuous	5.40V	12.0	9.6	10.8	8.7	10.0	7.8	
	30min/day	4.80V	12.5	9.6	11.2	8.7	10.5	7.8	
270 Ω	1hr/day	5.40V	18.0	16.5	16.2	14.8	14.6	13.4	
620 Ω	2hrs/day	5.40V	45.0	40.5	40.5	36.5	36.5	32.9	

7.5.3 n=10, c=1. In case of k=2, one retest is allowed.

7.6 External leakage

7.6.1 No battery shall leak during the service life tests before the end point voltage is reached.

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7.6.2 For undischarged batteries.

	AQL
N0	0.65%
N12	0.65%
N18	0.65%

7.7 Appearance

	AQL
Major defects	0.65%
Minor defects	0.65%

Major defects

- 1) Loose or damaged terminals
- 2) Incorrect polarity.
- 3) Visible rust on metal parts.

Minor defects

- 1) Substandard appearance.
- 2) Heavy scratches.
- 3) Serious deformation.
- 4) Serious displacement of artworks.

8. CONTENT OF MERCURY AND CADMIUM

8.1 Mercury - 1ppm maximum per battery weight.

8.2 Cadmium - 1ppm maximum per battery weight.

9. BATTERY DIMENSION

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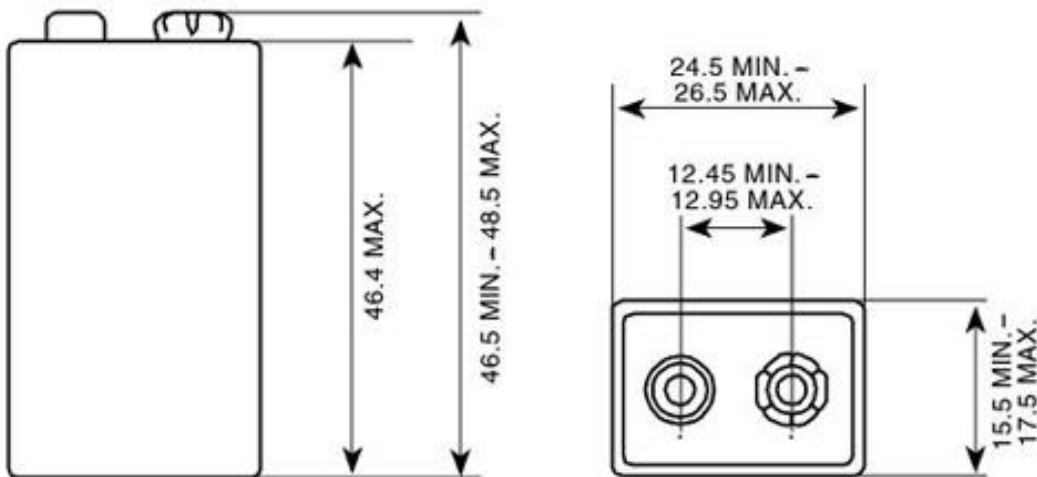
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Unit: mm