

GP Batteries

Product Specifications

Model No.:GPZA13

Document Number: ZA0002

Revision:0

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1. APPLICABILITY

This specification is applicable to GP Zinc Air GPZA13.

2. GENERAL

- 2.1 Type designation : PR48(IEC/JIS) / 7000ZD(ANSI)
- 2.2 Nominal voltage : 1.4V
- 2.3 Shape and dimension : Refer to Drawing 1.
- 2.4 Typical Capacity : 230mAh (continuous discharge under 1300 Ω to 0.9V at 20°C)
- 2.5 Typical weight : 0.8g
- 2.6 Warranty period : 12 months
- 2.7 Date code : Unless otherwise specified, every battery will carry an expiry date code for 36 months. (e.g. a battery manufactured on January 1999 will carry an expiry code of 01-02.)

3. APPEARANCE

There shall be no dirt, scratch or deformation detrimental to practical service in appearance.

4. CELL VOLTAGE

4.1 Test method I

- Method of sampling : MIL-STD-105E level II single sampling normal inspection.
- Voltmeter : Digital Voltmeter (DVM) with the precision of 1mV (internal resistance not less than 1 Megohm)
- Test temperature : 20 \pm 2°C

4.2 Off Load Voltage

At shipping	12 months after manufactured
1.35V to 1.45V	1.35V to 1.45V

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4.3 On Load Voltage

Initial	12 months after manufactured
Above 1.3V	Above 1.3V

Load resistance : $1.3k\Omega \pm 0.5\%$ (measure time : 0.8 seconds)

5. SERVICE OUTPUT

5.1 Test method

- (1) The resistance of external discharge circuit shall be as specified plus or minus 0.5%.
- (2) The duration of discharge time periods shall be as specified plus or minus 1%.
- (3) Storage shall be at $20\pm 2^{\circ}\text{C}$, $65\pm 20\%\text{RH}$ and discharge tests shall be at $20\pm 2^{\circ}\text{C}$, $65\pm 20\%\text{RH}$.

5.2 Service Life

	Test Mode	Application	Initial (Nominal)	Initial (Minimum)	12 months storage at 20°C (Nominal)
Service life at $20\pm 2^{\circ}\text{C}$	$1.3k\Omega$ continuous (EPV=0.9V)	Reference test	220H	200H	198H

M: minute H: hour EPV: end point voltage

*The initial discharge test shall commence within 30 days of manufacture. During this period, the cells shall be stored under room temperature conditions.
($20\pm 2^{\circ}\text{C}$ and $65\pm 20\%$ relative humidity)

6. ELECTROLYTE LEAKAGE

6.1 Leakage on arrival at warehouse.

Leakage shall be checked with naked eye. No leakage shall be observed with the naked eye; and no bulging exceeding the maximum dimensions shall result.

6.2 Leakage at room temperature

After storing for 12 months at $20 \pm 15^{\circ}\text{C}$, $65\pm 20\%\text{RH}$, no leakage shall be observed with the naked eye; and no bulging exceeding the maximum dimensions shall result.

6.3 Leakage at high temperature

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Within thirty days of manufacture, the cell shall be stored for 30 days at $45\pm 2^{\circ}\text{C}$ and below 70% relative humidity, no leakage shall be observed with the naked eye; and no bulging exceeding the maximum dimensions shall result.

6.4 Leakage of over discharge

After loading with $1.3\text{k}\Omega$ continuously down to 0.35V at $20\pm 2^{\circ}\text{C}$, $65\pm 20\%\text{RH}$, no leakage shall be observed with the naked eye; and no bulging exceeding the maximum dimensions shall result.

7. QUALITY ASSURANCE

DESCRIPTION	AQL
Battery dimensions	0.65%
Appearance	1.0%
Off load voltage	0.65%
On load voltage	1.0%
Service output	Note 1
Leakage 6.1	0.65% (Note 2)
6.2	Note 3
6.3	Note 4
6.4	Note 4

Note 1 : Acceptance / rejection in accordance with IEC publication (1993) 86-1, Sub-clause 8.8.

Note 2: Leakage on arrival at warehouse is within two months after shipping.

Note 3: Sample size : $n=20$

Judgement : $Ac=1$ $Re=2$

Note 4: Sample size : $n=20$

Judgement : $Ac=0$, $Re=1$

8. PACKAGING

Packaging shall be a form agreed by both parties.

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Precaution & Handling

- 1) Do not disassemble or short-circuit batteries.
- 2) Do not recharge batteries.
- 3) Do not dispose of batteries in fire.
- 4) Do not allow metal objects to contact the battery terminals.
- 5) Do not mix with used or other battery type (such as alkaline with carbon zinc).
- 6) Do not solder the batteries directly. If soldering or welding connection to the battery is required, consult our engineer for proper methods.
- 7) Do not over-discharge batteries. Force discharging batteries by external power source in a series may cause explosion.
- 8) To install or remove batteries, follow the equipment manufacturer's instructions.
- 9) Keep battery away from small children. If swallowed, consult a physician at once.
- 10) Remove batteries from device when it is not in use.

Storage

- 1) Store in a cool, dry place before use.
- 2) Do not keep batteries at temperature of 45°C or above.
- 3) Do not keep batteries at relative humidity of 75% or above.

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Drawing 1

