

Model No.: GPZA13

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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 : Refer to Drawing 1.

dimension

2.4 Typical Capacity : 230mAh (continuous discharge under 1300Ω to 0.9V at 20°C

2.5 Typical weight : 0.8g2.6 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. APPFARANCE

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±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±2°C, 65±20%RH and discharge tests shall be at 20±2°C, 65±20%RH.

#### 5.2 Service Life

	Test Mode	Application	Initial	Initial	12 months storage at
					20 <b>°</b> C
			(Nominal)	(Minimum)	(Nominal)
Service	$1.3$ k $\Omega$ continuous	Reference test	220H	200H	198H
life at	(EPV=0.9V)				
20±2°C					

M: minute H: hour EPV: end point voltage

## 6. ELECTROLYTE LEAKAGE

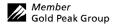
#### 6.1 Leakage on arrival at warehouse.

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  $20 \pm 15$  °C,  $65\pm 20$  %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



<sup>\*</sup>The initial discharge test shall commence within 30 days of manufacture. During this period, the cells shall be stored under room temperature conditions.

<sup>(20±2°</sup>C and 65±20% relative humidity)



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Within thirty days of manufacture, the cell shall be stored for 30 days at 45±2°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  $1.3k\Omega$  continuously down to 0.35V at  $20\pm2^{\circ}C$ ,  $65\pm20\%$ 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.
- 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 is 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.

# **GP** Batteries

# **Product Specifications**

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## **Drawing 1**

