

LRV08

Product specifications for cylindrical alkaline battery


FOREWORD

- The preparation and approval of this controlled document is administered by designated personnel.
- The approval authority bears the authority and responsibility for the revision of this document.

PREPARATION AND VERIFICATION

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APPROVAL OF THIS DOCUMENTATION

	Document Initiator	Signature	Date
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Position :	Quality Manager		

All signatures could be verified through division's authorized (signature) list

1. Battery Type and Performance

Type (JIS Designation) : -

(IEC Designation) : -

Nominal voltage : 12 volts

Standard capacity : 38 milliampere - hours

Out side shape dimensions and terminals:

In accordance with the appended drawing.

Appearance :

Defects, such as flaws, dirty spots, deformation discoloration, etc, which damage commercial values shall not be present.

Characteristics

Open circuit voltage : See table 1

Closed circuit voltage : See table 1

Service life : See table 1

Electrolyte leakage resistance : See table 1

Symbol of manufactured month and year:

Manufactured month and year will be punched at the +Ve terminal.

Example:

///1\\ (Manufactured in January to February, 2001)

///1\\ (Manufactured in March to April, 2001)

//1\\ (Manufactured in May to June, 2001)

//1 (Manufactured in July to August, 2001)

/1\\ (Manufactured in September to October, 2001)

/1 (Manufactured in November to December, 2001)

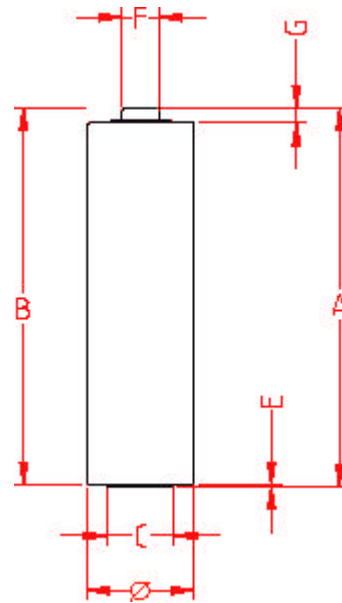
Brand : The "Panasonic" brand will be adopted as a product brand..

Manufactured by GPI International Ltd

2. Battery Dimensions

Dimension	Max	Min	Typical
A	28.0	27.0	27.50
B	28.5	27.5	28.00
C	5.8	5.2	5.50
E	0.3		
F	5.8	5.2	5.50
G		0.5	
Ø	10.22	10.62	10.12

Unit : mm



3. Inspection

- Temperature and Humidity
- Measurement conditions
Unless otherwise specified, the measurement will be executed at temperature of 20 ± 2 °C and at relative humidity of $65 \pm 20\%$. The test after storage will be commenced within 1 month after storage.
- Measuring instruments and devices
- Voltage measurement will be carried out using the DC voltmeter which can measure from 0V to 15V. The precision of the voltmeter will be ± 10 mV or more precise and the input impedance will be more than 1 M ohm.
- Load resistance will include all the resistance of the external circuit and its tolerance will be within 0.5%.
- Dimension measurement will be carried out using the caliper whose measuring range is from 0mm to 150mm and precision is 1/100mm or more precise.
- Inspection methods
- Dimensions
Use of the measuring instruments as specified in the Item 4.2.3.
- Appearance
Examination will be carried out by visual inspection.

- Open circuit voltage
Measure the voltage between both terminals using the voltmeter specified in the Item 4.2.1.
- Closed circuit voltage
Leave the battery samples at the temperature of 20 ± 5 °C for above 12 hours, discharge them through the discharge load specified in table 1 and measure the voltage between both terminals after 2 seconds from starting of the discharge.
- Service life
Leave the battery samples at the temperature of 20 ± 5 °C for above 12 hours, and discharge them continuously through the discharge load specified in Table 1. Carry out the discharge test until the discharge voltage falls down to not less than the final voltage specified in Table 1, and the service life will be the discharge time while the discharge voltage keeps above the specified final voltage.
- Electrolyte leakage resistance
Check the state of the leakage by naked eye 30cm away from them under the light of 40-watt fluorescent lamp one meter above..
- Sampling plans and acceptance criteria
- Single sampling plan with MIL-STD-105E
Item Level AQL
OCV/ CCV II 0.65
Leakage II 0.65
Dimension S-4 1.50
Appearance II 2.50
- Service life
n=8 pieces, no battery permitted to go below 8% of service life specified in table 1. Only 1 retest is allowed. The minimum average service hours shall be as specified in table 1.

4. Packaging

Packaging shall be a form agreed by both parties.

5. 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.

6. Storage

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