



ENGLIS

Datasheet

RS Article:1834307

RS Pro Primary Lithium Cylindrical battery



1. Sc

This specification is suitable for the performance for the Lithium and Iron Disulfide battery.

2. Model

RS-AAA/IEC R3 (Li/FeS₂)

3. Reference Document

Q/(GZ) PH001-2004: Lithium and iron disulfide battery

IEC60086-4: 2000 Primary batteries- Part 4 Safety of lithium batteries

4. Specification

| No. | Dimensions in mm (inches) Items | Specification |
|-----|------------------------------------|-----------------------------|
| 1 | Nominal Voltage | 1.5V |
| 2 | Rated Capacity | 1100 mAh |
| 3 | Working Voltage | 1.30V@ 100mA discharge rate |
| 4 | Max. Discharge Current | 1000 mA continuous |
| 5 | Discharge Cut-off Voltage | 0.80V |
| 6 | Volume | 3.8 cubic centimeters |
| 7 | Weight | Approx. 7.5g |
| 8 | Lithium Content | Less than 0.5 gram per cell |
| 9 | Dimensions | Diameter: 10.0±0.5 mm |
| | | Height :43.9±0.6 mm |
| 10 | Operating Temperature | -40°C to 60°C |
| 11 | Storage /Shipping Temperature | -20°C to 40°C |
| 12 | Storage/Shipping Humidity | □75% |
| 13 | Shelf Life | 10 Years |

5. Drawing (unit: MM (inches))

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6. Test Conditions and Performance

6.1 Measuring Instrument or Apparatus

6.1.1 Dimension Measuring Instrument

The dimension measurement shall be implemented by calipers with equal or more precision scale of 0.01mm

6.1.2 Voltmeter

Standard class specified in the national standard or more sensitive class having inner impedance more than 10KΩ

6.1.3 Ammeter

Standard class specified in the national standard or more sensitive class. Total external resistance including ammeter and wire is less than 0.01Ω.

6.2 Standard Test Conditions

Unless other defined, test and measurement shall be done under temperature of 20±5°C and relative humidity of 45~85%. If it is judged that the test results are not affected by such conditions, the tests may be conducted at temperature 10~30°C and humidity 25~85 %RH.

6.3 Visual inspection

There shall be no such defect as scratch, flaw crack, and leakage, which may adversely affect commercial value of cell.

6.4 Basic Characteristics

| No. | Item | Measuring Procedure | Criteria |
|-----|------------------------|---|--------------------------|
| 1 | Open-Circuit Voltage | The open-circuit voltage shall be measured by voltmeter. | □1.74V |
| 2 | Dimension | Use calipers test cell's dimensions. | As item 4.9 |
| 3 | Discharge capacity | The capacity means the discharge capacity of the cell, which is measured by continuously discharging with a current of 100mA to 0.8V (25±2°C) | □1050 mAh |
| 4 | External short circuit | Positive and negative of fresh battery are connected by a Cu wire, this short-circuit condition is continued for 1 day at room temperature (20±2°C) | No leakage; No explosion |
| 5 | Forced discharge | Discharged to 0.8V at 30mA; And then the sample cell is forced discharged with 30mA for 3 hours. | No explosion ; No fire |

6.5 Mechanical Characteristics

| No. | Item | Test Method | Criteria |
|-----|-----------|--|---|
| 1 | Impact | A 15.8mm diameter bar is vertically placed across the centre of the sample cell. A 9.1 kg mass is dropped from a height of 61cm onto the sample | No explosion, No fire |
| 2 | Vibration | Freq: 10~55hz; Amp: 2mm; Three directions; total 90 min | No leakage, No explosion, no fire 0.02V total maximum OV changes |
| 3 | Crush | A samples cell is to be crushed between two flat surfaces. Force: 32mm diameter piston; Max pressure: 17.2MPa; Max force: 13KN; Released when the max pressure obtained. | No explosion, No fire |

6.6 Environmental test

| No. | Item | Test Conditions | Criteria |
|-----|--------------|---|-------------------------------------|
| 1 | Thermal test | Fresh batteries, store at 70 degree C for 4 hours; 20 degree C for 4 hours; -20 degree C for 2 hours. 20 degree C for 2 hours. All cycled 5 times | No leakage No explosion; No fire |
| 2 | Heating test | Fresh battery is heated in an oven. The rate of temperature raised: 5±2°C per minute; Max temperature 150±2°C remaining for 10 minutes | No explosion; No fire |
| 3 | Drop test | Fresh batteries; Height: 1m, 6 times: Each direction two times; Concrete floor | No leakage No explosion; No fire |

Major Applications

Lithium batteries deliver long-lasting power to keep up with today's high-tech, Power hungry devices like digital cameras , MP3, MP4 Flashlight, Electric Torch , CD, MD, Toy hand-held games etc. Which could replace for Alkaline battery and other ordinary 1.5V primary battery.

7. Cautions in use

To ensure proper use of the battery please read the manual carefully before using it.

- Handling
 - Do not expose to, dispose of the battery in fire.
 - Do not place in a pocket.

- Do not put the battery in a charger or equipment with wrong terminals connected.
- Avoid shorting the battery
- Avoid excessive physical shock or vibration.
- Do not disassemble or deform the battery.
- Do not immerse in water.
- Do not use the battery mixed with used or other different make, type model batteries.
- Keep out of the reach of children.
- Storage
 - Store the battery in a cool, dry and well-ventilated area.
 - Disposal Regulations Vary for different countries.
 - Dispose of in accordance with local regulations.

8. Battery operation instruction

8.1 Discharging current

The discharging current does not have to surpass this specification book stipulation the biggest discharging current, the over sized electric current electric discharge can cause the battery capacity play to reduce and to cause the battery heat.

8.2 Electric discharge temperature

The battery discharge must carry on in the ambient temperature scope which this specification book stipulated.

8.3 Storing the Batteries

The battery should store in the product specification book stipulation temperature range. If has surpasses above for six months the long time storage, the discharge capacity will decrees sharply

9. Other Chemical Reaction

Because batteries utilize a chemical reaction, battery performance will deteriorate over time even if stored for a long period of time without being used. In addition, if the various usage conditions such as discharge, ambient temperature, are not maintained within the specified ranges the life expectancy of the battery may be shortened or the device in which the battery is used may be damaged by electrolyte leakage. Pease change the battery in time.

10. Note

Any other items which are not covered in thus specification shall be agreed by both parties.