

Features

- Non-Rechargeable button battery
- High energy density
- Wide operating temperature range
- Low self-discharge
- UN38.3
- UL

RS PRO Non-Rechargeable Button Battery Packs

RS Stock No.: 2841818



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

Product Description

Consistent and reliable RS PRO BR Series Poly-Carbon monofluoride Lithium coin button batteries offering a compact efficient power source. These nonrechargeable Lithium batteries ideal for small electronic devices such as cameras and watches featuring a longer life span than their Alkaline equivalents. Able to hold their charge for long periods of time both when in use and during storage the 2841818 battery benefits from a very low level of self-discharge, high energy density and a consistent and reliably stable voltage.

General Specifications

Chemistry	Poly-Carbon Monofluoride Lithium Battery
Number Of Cells	1
Size	2841818
Shelf Life	5 years
Application	Industrial equipment, Memory support, Toys, Scales hearing Aids.

Electrical Specifications

Nominal Voltage	3V
Nominal Capacity	120mAh
Nominal Discharge Current	0.2mA
Continuous standard load	15(KΩ)
Maximum pulse current	5mA
Operation temperature	-40-85°C
Standard weight	1.8g

Table1

Test Items	Temperature	Initial	After 12 months	Remarks
Open-circuit Voltage	20±2°C	3.0V to 3.4V	3.0V to 3.4V	
Closed-circuit Voltage	20±2°C	3.0V to 3.4V	3.0V to 3.4V	Standard Load Resistance 0.8 Sec.

Table2

Test Items	Temperature	Initial	After 12 Months	Remarks
Service Life	20±2°C	See graph for detail	≥98% of initial capacity	Continuous Discharge Under

				Load to 2.0V End-Voltage.
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Table 3

Test Item	Storage Temp	Storage Period	Requirement	Remark
Service Life After Storage at High Temperature	60±2°C	20 Days	≥98% of initial capacity	Continuous Discharge At 20±2 °C Under Standard Load to 2.0V End - Voltage After Storage.

Table 4

Test Item	Requirement	Test Conditions
Leakage Characteristics	No Leakage	Temperature: 45±2°C, Relative Humidity: 75% Storage: 30 Days; Shall be inspected by visual means

Table 5

Test Item	Requirement	Test Conditions
Self-discharge	2% or below	Continuous Discharge under standard load to 2.0V end-voltage after 12 months storage at 20°C. (To obtain from the mean value of the same Lot)

Model	Maximum Abnormal charging current	Model	Maximum Abnormal charging current	Maximum Abnormal charging voltage
2841817	2.5mA	BR2335	5mA	5V
2841818	2.5mA	BR2430	5mA	
2841820	5mA	2841821	5mA	
BR2325	5mA	2841822	5mA	
BR2330	5mA			

Mechanical Specifications

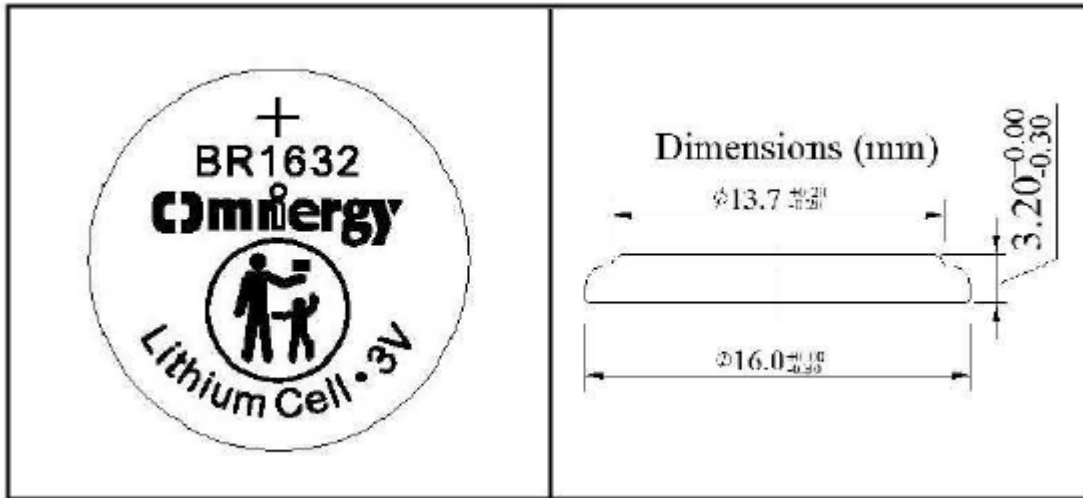
Width	16mm
Height	3.2mm
Relative Humidity	65%±20%

Operation Environment Specifications

Discharge Temperature Range	-40°C to 85°C
Storage Temperature Range	0°C to 30°C

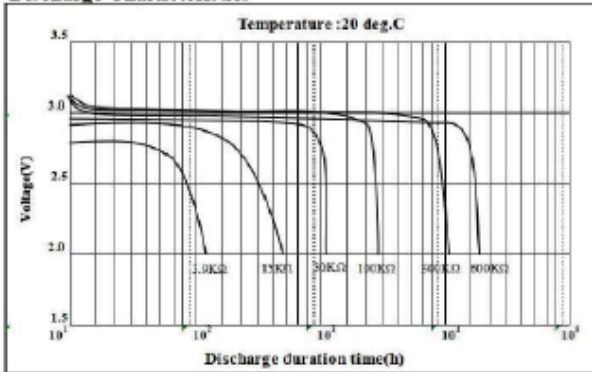
Approvals

Declarations	CE UKCA
Compliance/Certifications	UL UN38.3 ROHS

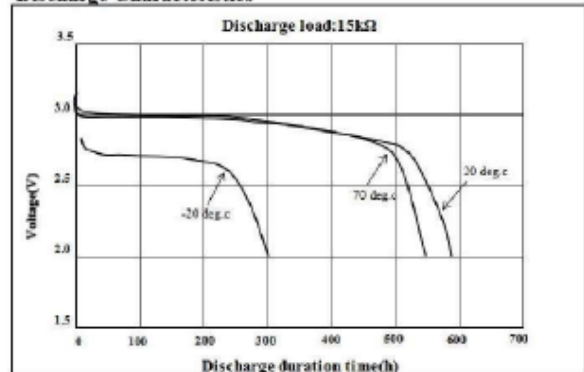


Characteristics

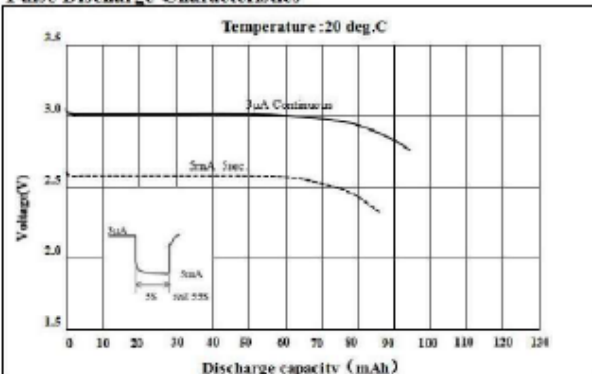
Discharge Characteristics



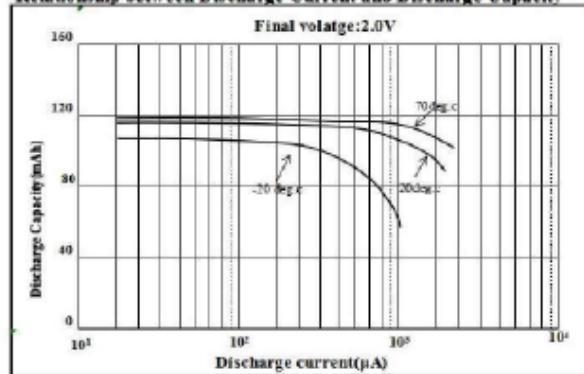
Discharge Characteristics



Pulse Discharge Characteristics



Relationship between Discharge Current and Discharge Capacity

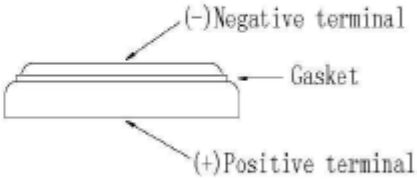
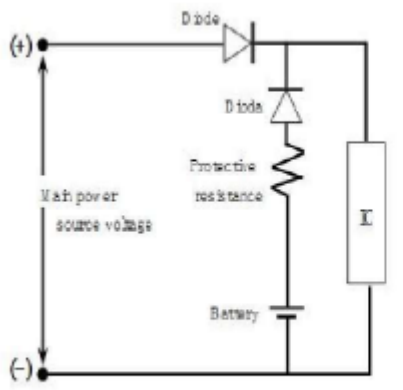


Warning:

1. Never charge the battery. Charging the battery may cause seethe of the battery electrolyte or increase of the battery internal pressure. Leakage, heating, explosion, or ignition of the battery may be caused as a result of it.
2. Keep away from infants. If infant happens to swallow the battery, Consult a doctor immediately.
3. Note: If the temperature is higher than the continuous use +60°C or below -10°C, please contact the manufacturer.

Precautions in Designing a Memory Backup Circuit

A primary lithium battery is not rechargeable, when used for memory backup in combination with another power source, current may flow into the battery from the other source, To prevent this, include a protection diode and resistor in the circuit so that no battery charging or over discharging can occur. Allowable Range of Diode Back-Leakage Current. To prevent the battery from being charged by the main power source, be sure to use a back-current prevention diode and a protection resistor. Select a silicon diode or a Schottky diode with minimum leakage current, and design the circuit so that the amount of charging due to leakage current does not exceed 1% of the nominal battery capacity over the total period of use.



Back-current Prevention Diode and Protection Resistor Used

Protection resistance R must exceed the value calculated in the following formula.

$$R \geq \frac{V(\text{Main Power Source Voltage})}{I (\text{Maximum allowable charge current per battery})}$$

Precautions for mounting

1. Overlapping for Mounting

Lithium Manganese Dioxide Battery is shaped as shown on page 1. It has exposed positive (+) and negative (-) metallic surfaces with a thin cylindrical seal, called the gasket, in between them. When the batteries are overlapped or mixed in a disorderly way, their positive (+) and negative (-) terminals touch each other, causing short-circuits.

2. The Batteries Put in a Metallic Container or on Metallic plate

Similar to the overlapping battery problem. when the batteries are put in a metallic container or on the metallic plate, their positive (+) and negative (-) terminals may shortcircuit through the conductive surface, depending on how the batteries are positive.

3. When The Battery is Held with Metallic Tweezers

When held with a pair of metallic tweezers as shown, the battery short-circuits through the tweezers.

4. When The Battery Lead Plates Touch Each Other

V(Main Power Source Voltage)
I (Maximum allowable charge current per battery)

When the battery lead plates bend and touch each other or other either terminal, the battery short -circuits.

5. Older Bridges

Solder may bridge between circuit board conductors, causing a short-circuit and draining the battery.

6. Short-circuits through Soldering Irons

Similar to solder bridging, when the circuit board wiring is short-circuited by a soldering iron for an extended period the battery is drained and consumed. Complete short-circuits through soldering iron within 5 seconds.

7. Short-circuits through Piled Circuit Boards

When circuit boards with the batteries are piled on top of one another, their conductive

traces may touch and form a battery discharge circuit that consumes the battery's power.

8. Discharge through Conductive Electrostatic Prevention Mats

Conductive mats are widely used to prevent static electricity from destroying semiconductors. If a circuit board with mounted battery is put on a conductive mat, the soldered conductors may touch the mat, providing a discharge path for the battery.

9. Improper Battery Mounting Polarity

When the battery's positive (+) and negative (-) terminals are reversed with respect to the battery mounting's polarity marks, the battery may be discharge, depending on the type of electric circuit.

10. Solder

When the battery lead plates are dipped in a molten solder bath, the battery is temporarily short-circuited. Therefore, complete dipping within 5 seconds.

v Handling Precautions

1. Please read observe the following precautions thoroughly.
2. Lithium Manganese Dioxide Battery contains flammable materials, such as organic solvent.
3. Improper battery handling may cause leakage, heating explosion or ignition of battery, which may lead to injury or product failure.

v Precautions

1. Do not put the battery into microwave oven or drying machine.
2. Do not drop, apply excessive damage, or deform the battery.
3. Do not mix the used battery together with the new battery or different type of batteries.
4. Do not store the battery in high temperature and high humidity location and where the battery is exposed to sunlight to avoid performance deterioration, swelling or leakage, of the battery.