

## FEATURE

### • High Voltage, High Energy Density

The battery operates at 3.0V, twice the voltage of regular dry cells, allowing for space savings and lightweight design.

### • High-Temperature Resistance

Stable discharge in high temperatures ensures safe and reliable operation.

### • Superior Discharge Stability

Stable voltage even during prolonged discharge.

### • Excellent Storage Characteristics

With unique encapsulation technology, this battery has minimal self-discharge, resulting in a low annual rate.



## APPLICATION

- Industrial Control Computers • Servers • Set-Top Boxes • Smart Meters • ETC • Security Surveillance • Photovoltaic Systems • Data Transmission for Natural Gas Pipeline

## GENERAL SPECIFICATION

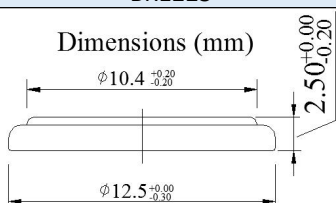
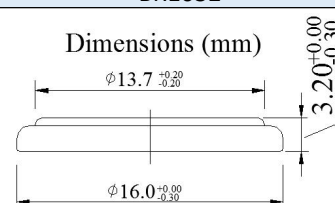
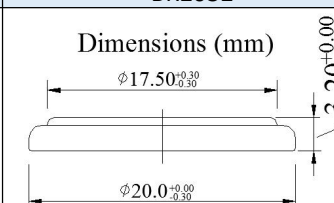
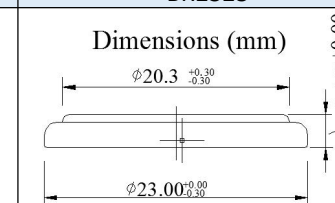
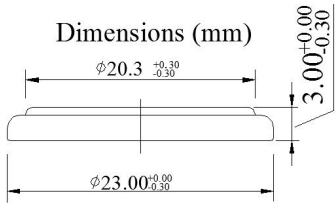
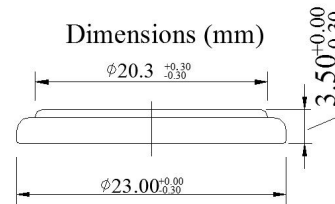
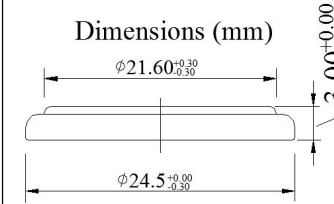
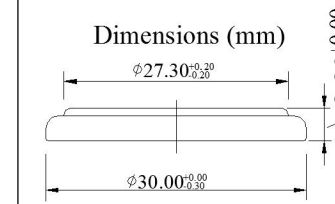
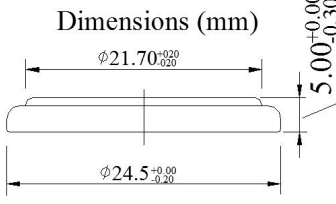
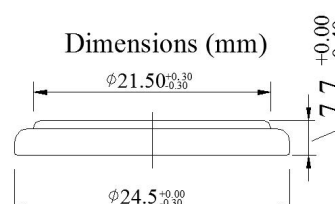
Item	BR1225	BR1632	BR2032	BR2325	BR2330	BR2335	BR2430	BR3032	BR2450	BR2477
Nominal Voltage(V)	3	3	3	3	3	3	3	3	3	3
Nominal Capacity(mAh) <sup>①</sup>	45	120	200	170	240	280	230	500	550	900
Nominal Discharge current(μA)	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.6
Maximum Continuous Current(mA)	1	2	3	4	4	4	5	8	5	5
Maximum Pulse Current(mA)	3	5	6	10	10	10	15	20	15	15
Operating Temperature Range(°C)	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85
Size <sup>②</sup>	Diameter(mm)	12.5	16.0	20.0	23.0	23.0	23.0	24.5	30.0	24.5
	Height(mm)	2.5	3.2	3.2	2.5	3.0	3.5	3.0	3.2	7.7
Weight <sup>②</sup>	0.8	1.8	3.0	3.2	3.5	4.3	4.2	5.5	6.0	9.6

①Nominal capacity refers to the discharge capacity when the battery is discharged at standard discharge current in a 20°C environment until the discharge voltage drops to 2.0V

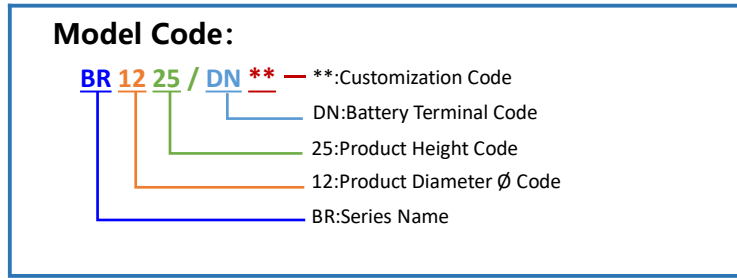
②Dimensions and weight are specified for the battery alone and may vary due to factors such as terminal pin shapes.

\*Note: For continuous usage outside the temperature range of +80°C or below -20°C, please contact CDA.

## DEMENSIONS

BR1225	BR1632	BR2032	BR2325
			
BR2330	BR2335	BR2430	BR3032
			
BR2450	BR2477		
			

**PRODUCT MATERIAL CODE EXPLANATION**



**BUTTON CELL PACKING CONFIGURATION**

Item	Packaging type		Configuration Type
	Insulating sleeve with PET	Insulating sleeve without PET	
BR1225	T1	BR1225/DN	T1
BR1632	H1	BR1632/DN	H1
BR2032	FA	BR2032/DN	T2
BR2325	H2	BR2325/DN	F90
BR2335	H2	BR2335/DN	H2
BR2450	G	BR2450/DN	G
BR3032	F	BR3032/DN	F

\*All the above models can be supplied with bare cells or without sleeves and with pins.

**CONFIGURATION TYPE**

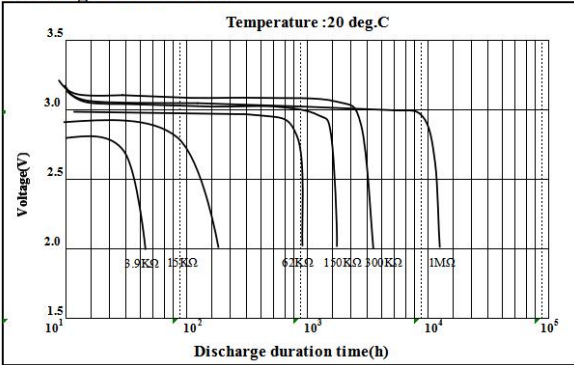
G -TYPE	H -TYPE	H1 -TYPE	H2-TYPE	R -TYPE
T1 -TYPE	T2 -TYPE	V -TYPE	V1-TYPE	W -TYPE
F90 -TYPE	FA -TYPE	DN -TYPE	1ST-TYPE	1S-TYPE

\*The above configuration types can be customized according to customer requirements for corresponding pin type/pitch and different terminal type.

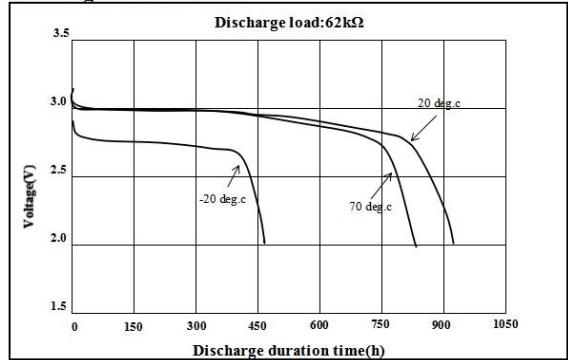
**DISCHARGE CHARACTERISTIC**

**BR1225**

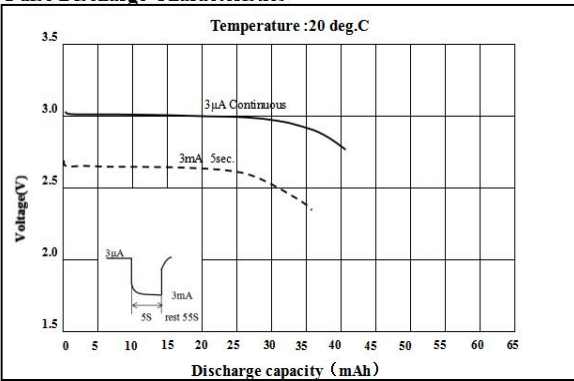
**Discharge Characteristics**



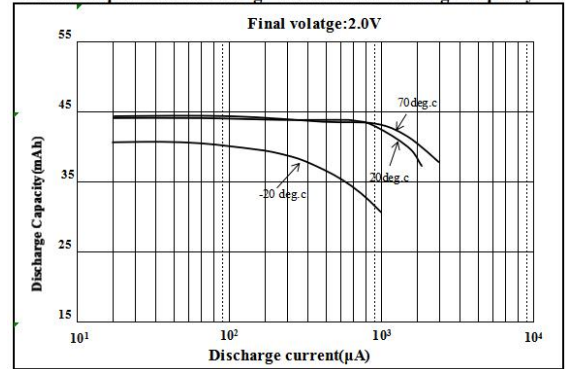
**Discharge Characteristics**



**Pulse Discharge Characteristics**

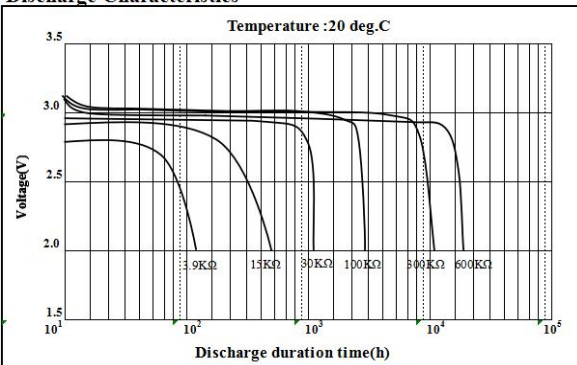


**Relationship between Discharge Current and Discharge Capacity**

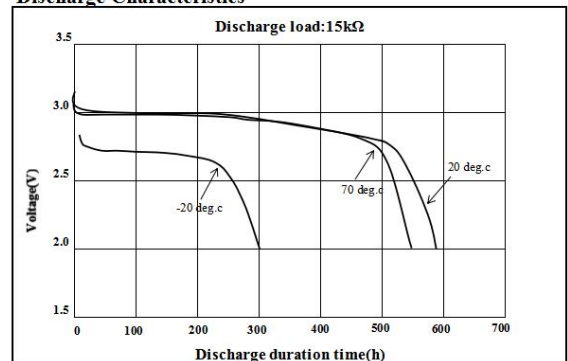


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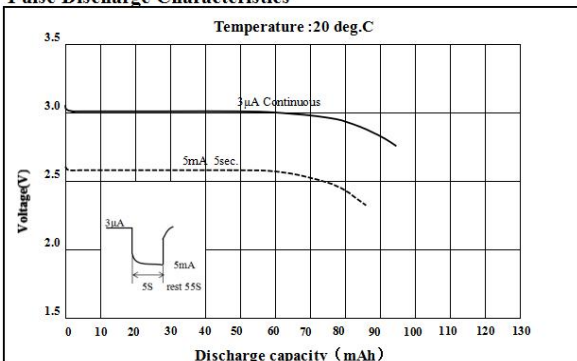
**Discharge Characteristics**



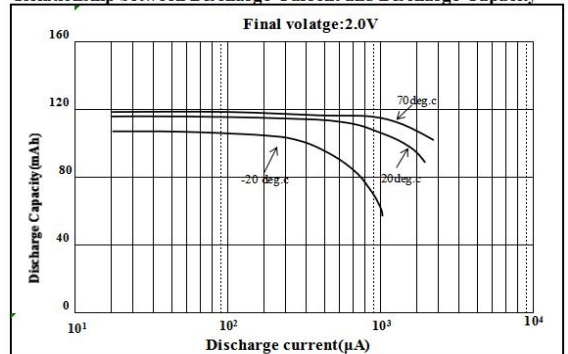
**Discharge Characteristics**



**Pulse Discharge Characteristics**



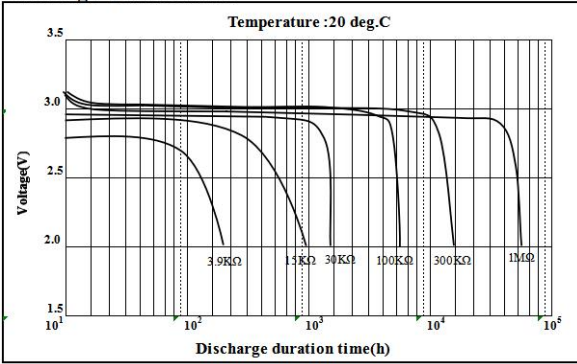
**Relationship between Discharge Current and Discharge Capacity**



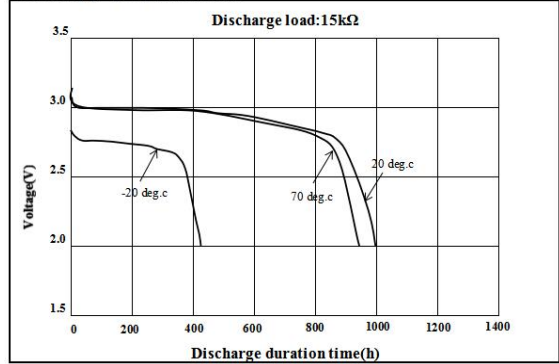
**DISCHARGE CHARACTERISTIC**

**BR2032**

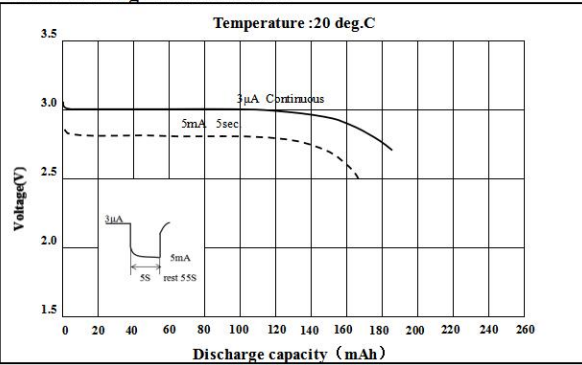
**Discharge Characteristics**



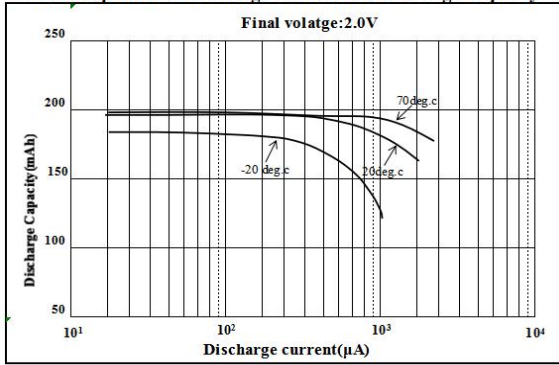
**Discharge Characteristics**



**Pulse Discharge Characteristics**

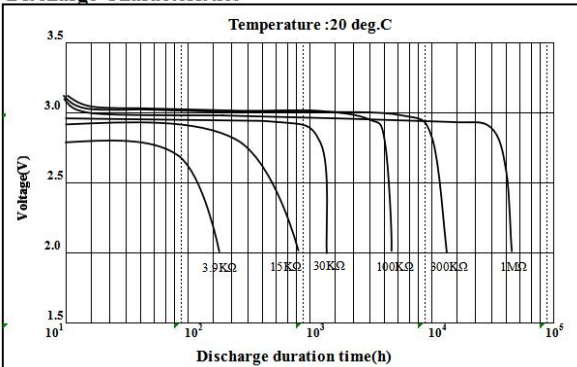


**Relationship between Discharge Current and Discharge Capacity**

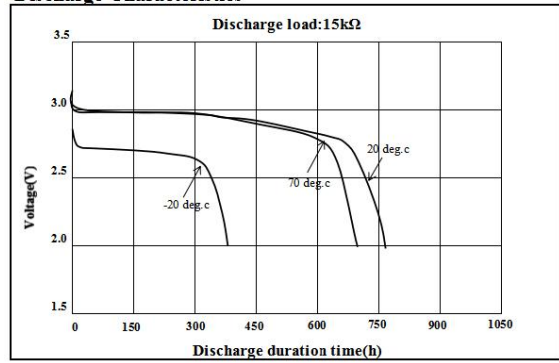


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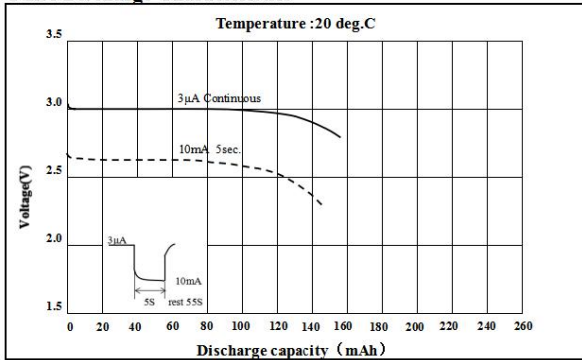
**Discharge Characteristics**



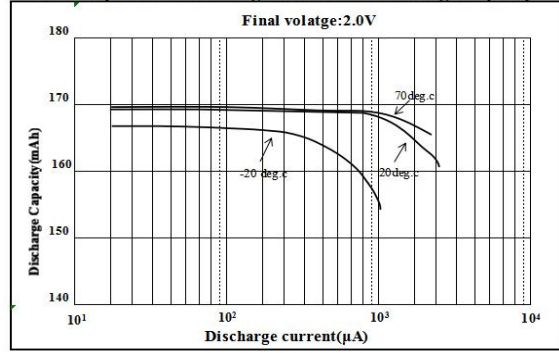
**Discharge Characteristics**



**Pulse Discharge Characteristics**



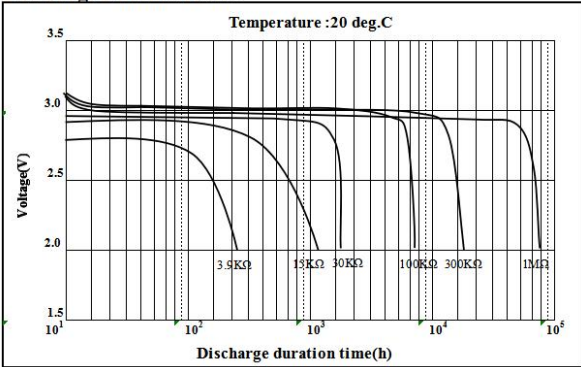
**Relationship between Discharge Current and Discharge Capacity**



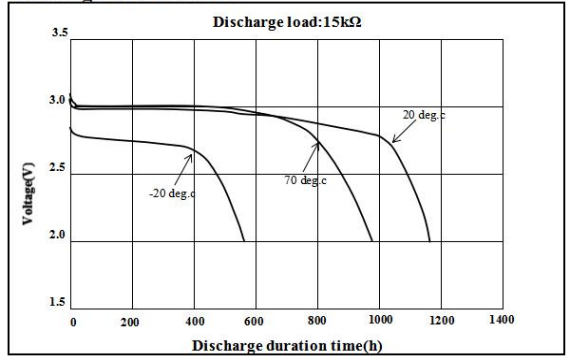
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**BR2330**

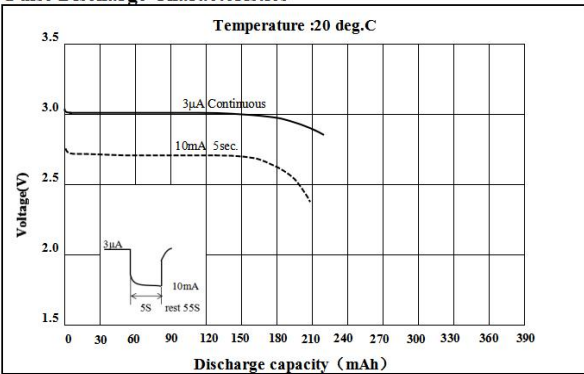
**Discharge Characteristics**



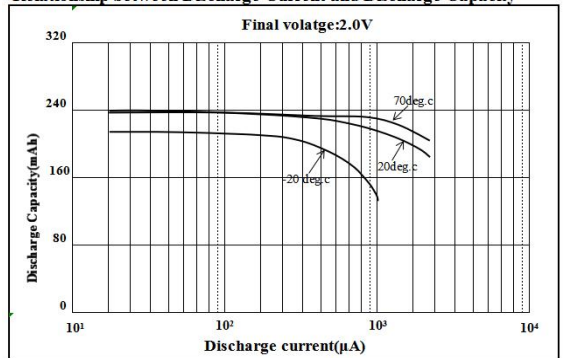
**Discharge Characteristics**



**Pulse Discharge Characteristics**

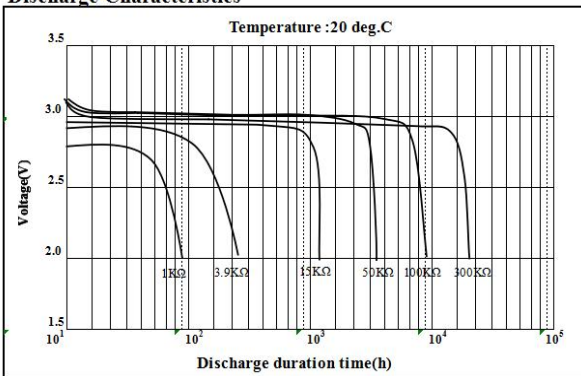


**Relationship between Discharge Current and Discharge Capacity**

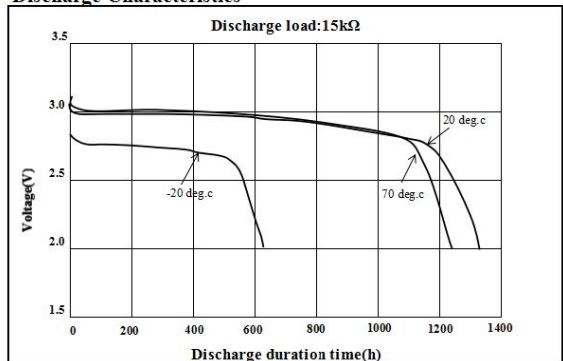


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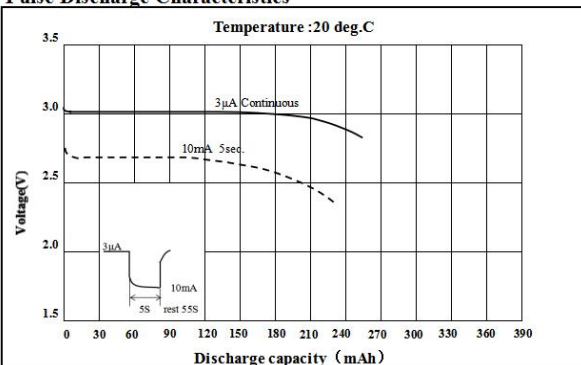
**Discharge Characteristics**



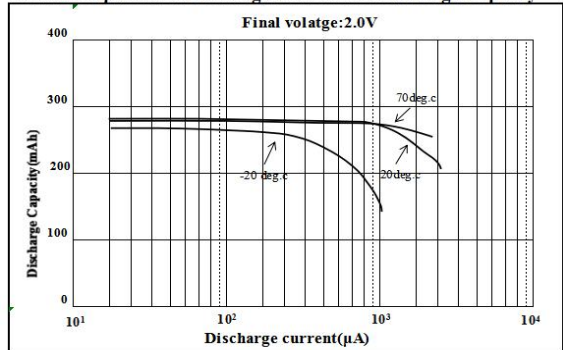
**Discharge Characteristics**



**Pulse Discharge Characteristics**



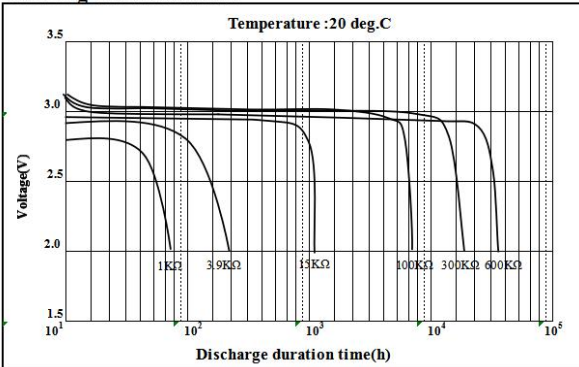
**Relationship between Discharge Current and Discharge Capacity**



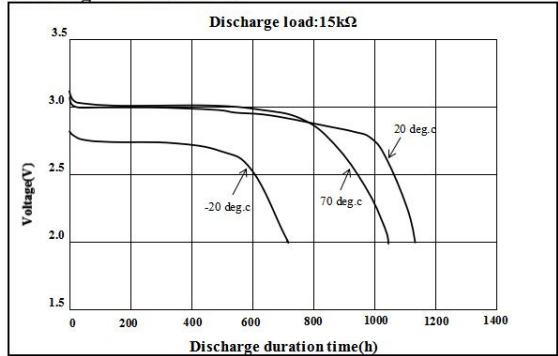
**DISCHARGE CHARACTERISTIC**

**BR2430**

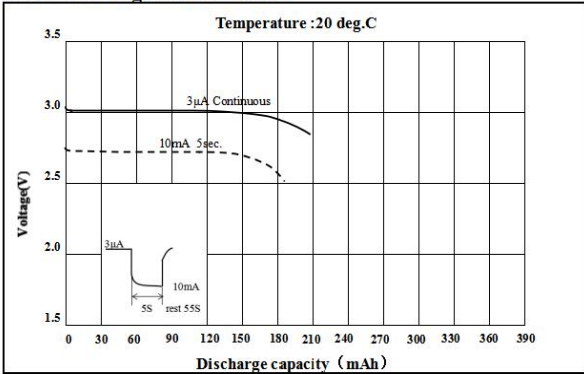
**Discharge Characteristics**



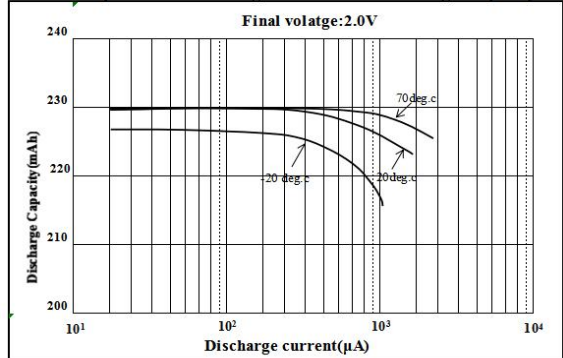
**Discharge Characteristics**



**Pulse Discharge Characteristics**

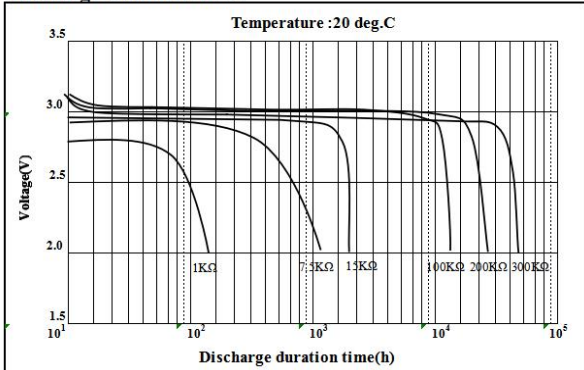


**Relationship between Discharge Current and Discharge Capacity**

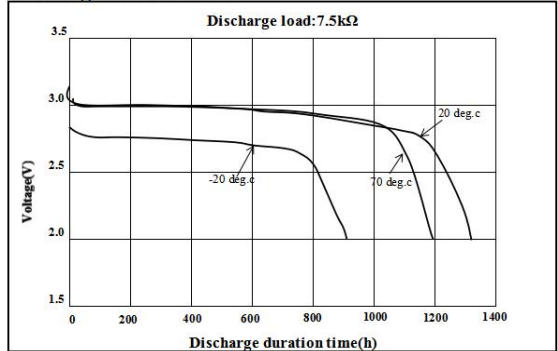


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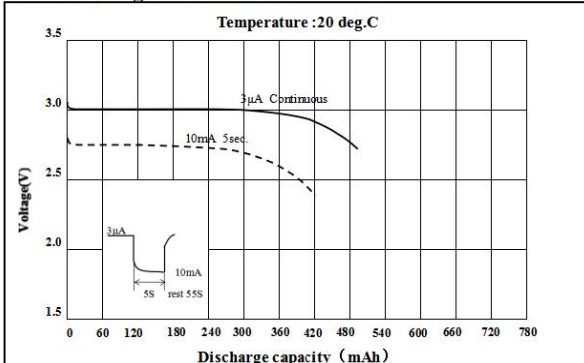
**Discharge Characteristics**



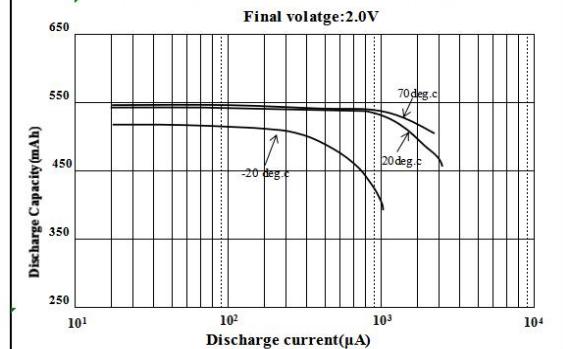
**Discharge Characteristics**



**Pulse Discharge Characteristics**



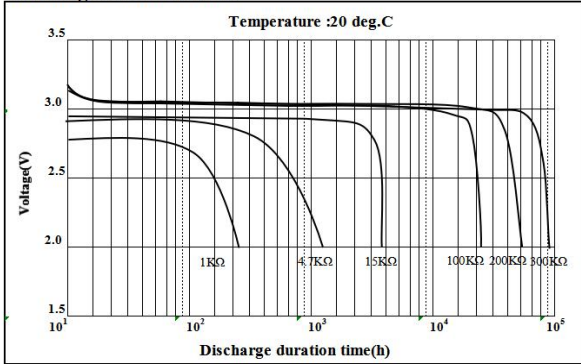
**Relationship between Discharge Current and Discharge Capacity**



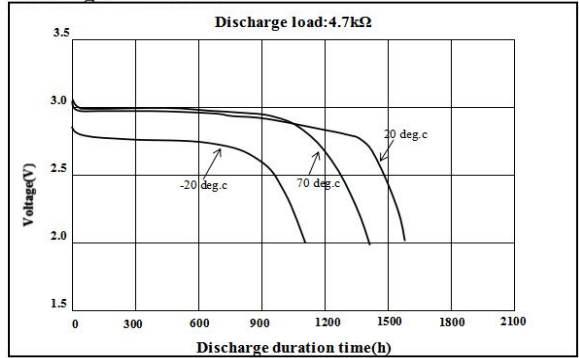
**DISCHARGE CHARACTERISTIC**

**BR2477**

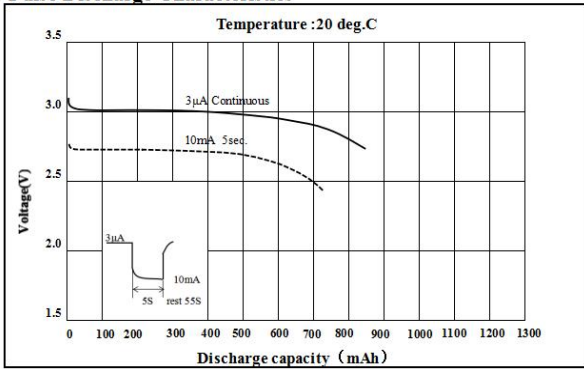
**Discharge Characteristics**



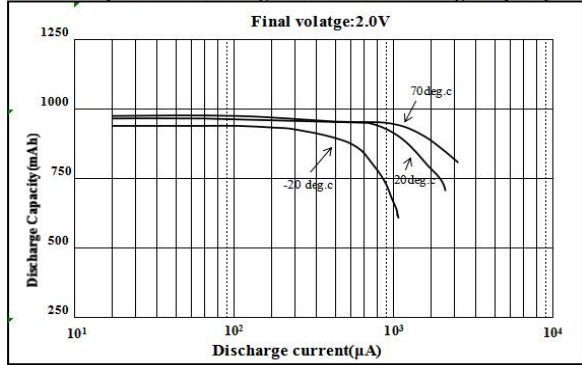
**Discharge Characteristics**



**Pulse Discharge Characteristics**

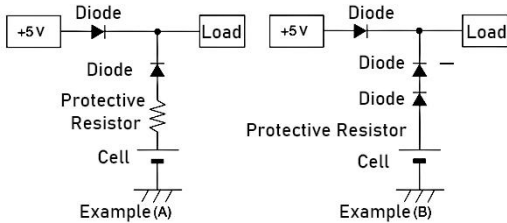


**Relationship between Discharge Current and Discharge Capacity**



**Warning - Circuit Design**

This battery is non-rechargeable and should not be charged. If used as a memory or RTC backup power source, a diode must be employed to prevent the main power source or other batteries from charging it. Additionally, protective resistors should be used to control the current, as illustrated in the diagram below. When selecting the diode and protective resistor, the following points should be particularly noted.



**Load Supply Voltage**

Due to the voltage drop caused by the diode and resistor during operation, please consider these voltage drops in the supplied voltage to the load.

**Use a diode to prevent charging**

Select a diode with the lowest possible leakage current. Ensure that the charging capacity due to leakage current is controlled within one percent of the nominal capacity.

**Utilize and configure protective resistors**

Use a protective resistor to prevent excessive charging in case of diode failure. Ensure the maximum current stays within specified values. For instance, in the CR2032 battery circuit (Case A) connected to a 5V source, with a maximum allowable charging current of 10mA and a 3V battery, choose a resistor with  $R \geq (5V-3V)/5mA = 0.4k$  ohms or higher.

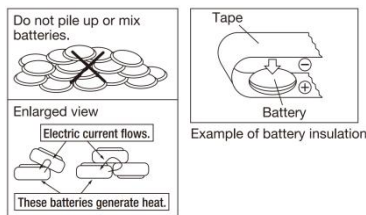
Item	Max. Current
BR1225	2.5mA
BR1632	2.5mA
BR2032	5mA
BR2325	5mA
BR2330	5mA
BR2335	5mA
BR2430	5mA
BR2450	5mA
BR2477	5mA
BR3032	5mA

Caution: In the event of diode failure, prompt replacement is necessary, despite the use of protective resistors. Due to the potential for diode and resistor malfunctions, the circuit should include additional safety measures.

**Warning - Disposal**

Batteries are subject to national or local regulations. Please comply with the relevant legal requirements. Due to the residual charge in discarded batteries,

contact with other metals can lead to deformation, leakage, overheating, or explosion. Therefore, before disposal, ensure to wrap the (+) and (-) terminals with insulating materials such as tape to prevent any contact.



**Caution - Operation, Use, and Storage**

**Do not place the battery in ultrasonic waves under any circumstances**

Placing the battery in an ultrasonic environment may cause internal metal fragmentation, leading to a short circuit, and ultimately resulting in battery deformation, leakage, overheating, explosion, or ignition.

**Strictly avoid subjecting the battery to severe vibrations.**

Dropping, throwing, or stepping on the battery may result in battery deformation, leakage, overheating, explosion, or fire.

**Strictly prohibit the battery from coming into contact with water.**

Contact with water may cause the battery to rust or lead to deformation, leakage, overheating, explosion, or fire.

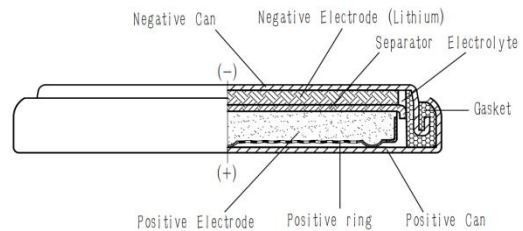
**Strictly prohibit storing the battery in hot and high-humidity environments.**

This can lead to deterioration in battery performance. Moreover, in such environments, the battery may deform, leak, overheat, explode, or catch fire.

**Maintain a contact pressure of 2N or higher**

Due to poor contact, the battery voltage may fall below the target value. Therefore, maintain a contact pressure of 2N or higher to ensure proper contact resistance.

**Structure**



**Warning - Handling**

**Strictly prohibited to swallow**

Keep batteries away from infants and children to prevent swallowing. If a battery is swallowed, seek medical attention immediately.

**Strictly prohibited to replace**

Due to potential performance differences among batteries from different manufacturers, even of the same model or type, it is crucial to use new batteries of the identical type and model when replacing batteries in electronic devices. Rechargeable batteries differ significantly from regular ones, and substituting them with non-rechargeable batteries may lead to smoke, short circuits, and various hazards, including deformation, leakage, overheating, explosion, or fire. Design your equipment to prevent end-users from accidentally replacing batteries.



**⚠Warning - Handling****●Strictly prohibited to install batteries with reversed polarity.**

Inappropriate installation of batteries may lead to short circuits, charging, or forced discharge, resulting in battery deformation, leakage, overheating, explosion, or fire.

**●Strictly prohibited to short-circuit the battery.**

Do not short-circuit the positive and negative terminals. Avoid carrying or storing batteries with metal items such as necklaces and hairpins. During installation, prevent contact with metal objects that could cause a short circuit, as it may result in battery deformation, leakage, overheating, explosion, or fire.

**● Strictly prohibited to heat**

Heating the battery to over 100 degrees Celsius increases internal pressure, leading to battery deformation, leakage, overheating, explosion, or fire.

**●Strictly prohibited to place in an open flame**

Placing the battery in an open flame can cause the lithium metal to melt, leading to battery ignition or explosion.

**●Strictly prohibited to disassemble the battery**

Do not disassemble the battery, as it may damage insulation layers or seals, resulting in battery deformation, leakage, overheating, explosion, or fire.

**●Strictly prohibited to touch the battery electrodes**

Do not allow the battery electrodes to come into contact with your skin or fingers. Moisture from your skin may cause the battery to discharge, leading to exposure to chemicals that can cause chemical burns.

**● Place leaking batteries away from open flames**

If there is suspicion of leakage or a strong odor is detected, place the battery away from open flames, as the leaked liquid may be flammable.

**● Strictly prohibited to directly solder wires or terminals onto the battery body**

Heating during soldering can cause lithium to melt or damage the insulation material inside the battery. This can result in battery deformation, leakage, overheating, explosion, or fire. If you need to solder the battery directly to the device, only solder on the terminal pins or wires. Even in this case, the temperature of the soldering iron must be below 350 degrees Celsius, and the soldering time should be less than 5 seconds. Do not use a solder bath, as the circuit board containing the battery may stop moving or fall into the solder bath. Additionally, avoid using excessive solder, as it may flow into areas of the board where it should not, causing short circuits or affecting battery charging.

**● Strictly prohibited to allow leaked battery liquid to come into contact with eyes or mouth.**

As this liquid can cause serious harm, if it comes into contact with your eyes, immediately rinse with plenty of water and consult a doctor. Similarly, if the liquid enters your mouth, rinse immediately with plenty of water and seek medical advice.

**● Place leaking batteries away from open flames**

If there is suspicion of leakage or a strong odor is detected, place the battery away from open flames, as the leaked liquid may be flammable.

**● Safety Instructions**

The battery contains lithium, organic solvents, and other flammable materials. Improper handling of the battery may lead to battery deformation, leakage\*, overheating, explosion, or fire, resulting in bodily harm or equipment issues. Please read the following instructions carefully to prevent accidents. \*Leakage is defined as the unintentional release of liquid from the battery.