

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

Unique encapsulation technology with low self-discharge, annual rate below 2%.



APPLICATION

- Industrial Control Computers • Servers • Set-Top Boxes
- Smart Meters • Computer Motherboards
- Vehicle GPS Systems • Security Surveillance • Toys
- Data Transmission for Natural Gas Pipelines

GENERAL SPECIFICATION

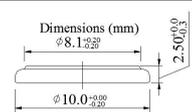
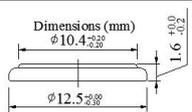
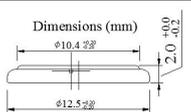
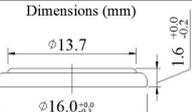
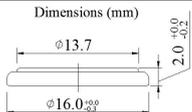
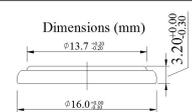
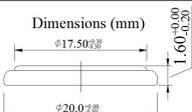
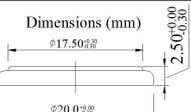
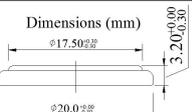
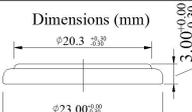
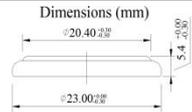
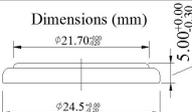
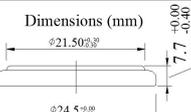
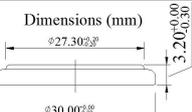
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Nominal Voltage(V)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Nominal Capacity(mAh) ^①	30	25	38	50	70	120	80	150	220	245	260	520	600	1000	500
Nominal Discharge current(μA)	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.4	0.4	0.6	0.4
Max. Continuous Current(mA)	2	2	2	3	3	3	5	5	5	6	6	6	7	7	10
Max. Pulse Current(mA)	5	5	5	8	8	8	15	15	15	18	20	20	25	25	30
Operating Temperature Range(°C)	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85	-20~+70	-40~+85	-40~+85	-40~+85	-40~+85	-40~+85
Size ^②	Diameter(mm)	10.0	12.5	12.5	16.0	16.0	16.0	20.0	20.0	20.0	23.0	23.0	24.5	24.5	30.0
	Height(mm)	2.5	1.6	2.0	1.6	2.0	3.2	1.6	2.5	3.2	3.2	3.0	5.4	5.0	7.7
Weight ^②	0.7	0.7	0.8	1.2	1.3	2.0	2.0	2.6	3.2	3.2	4.0	6.9	6.8	10.5	6.8

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

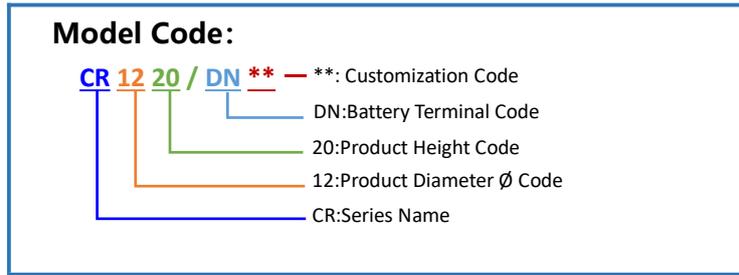
②Dimensions and weight are specified for the battery alone and may vary due to factors such as terminal pin shapes.

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

DEMENSIONS

CR1025	CR1216	CR1220	CR1616	CR1620
				
CR1632	CR2016	CR2025	CR2032/CR2032H	CR2330
				
CR2354	CR2450	CR2477	CR3032	
				

PRODUCT MATERIAL CODE EXPLANATION



BUTTON CELL PACKING CONFIGURATION

Item	Packaging type		Configuration Type
	Insulating sleeve with PET	Insulating sleeve without PET	
CR1025	T1	CR1025/DN	T1
CR1220	H1	CR1220/DN	H1
CR2032	FA	CR2032/DN	T2
CR2354	H2	CR2354/DN	F90
CR2430	H2	CR2430/DN	H2
CR2450	G	CR2450/DN	G
CR3032	G	CR3032/DN	G

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

CONFIGURATION TYPE

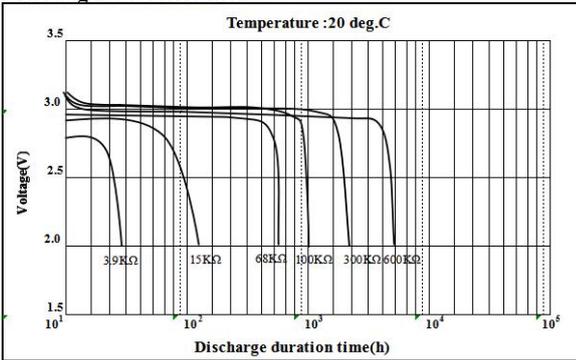
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T1 -TYPE	T2 -TYPE	V -TYPE	V1-TYPE	W -TYPE
F90 -TYPE	FA -TYPE	DN -TYPE	1ST-TYPE	1S-TYPE

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

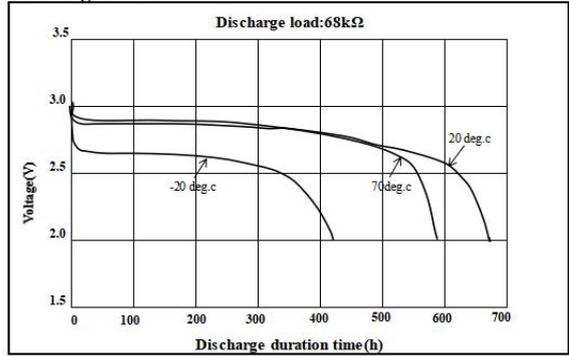
DISCHARGE CHARACTERISTIC

CR1025

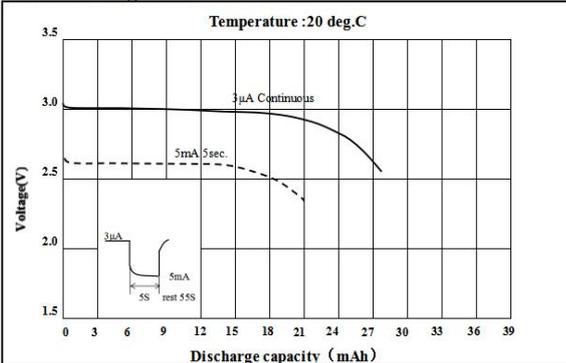
Discharge Characteristics



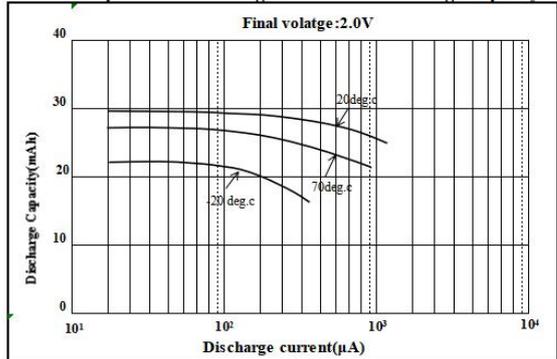
Discharge Characteristics



Pulse Discharge Characteristics

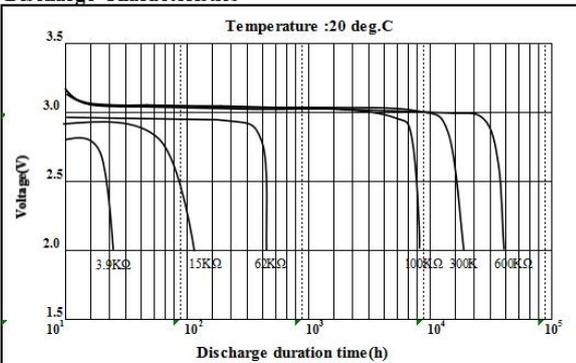


Relationship between Discharge Current and Discharge Capacity

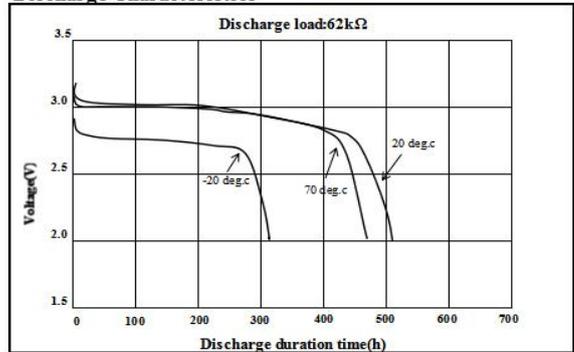


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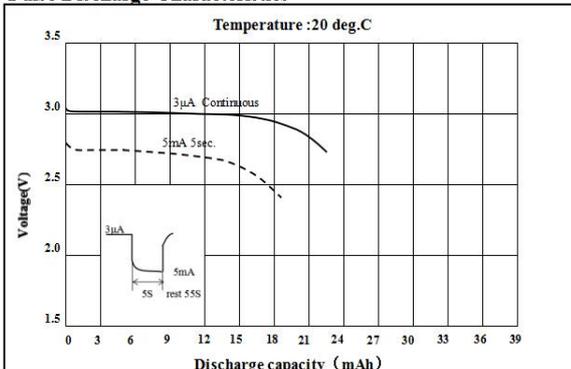
Discharge Characteristics



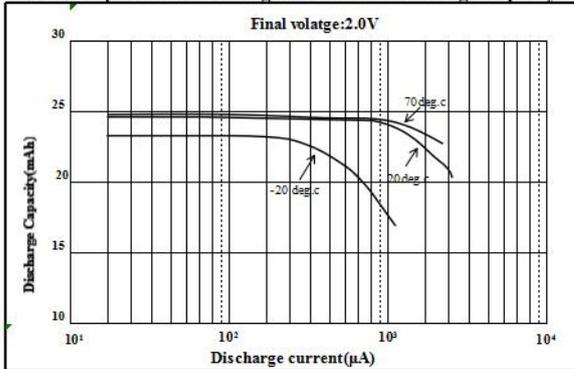
Discharge Characteristics



Pulse Discharge Characteristics



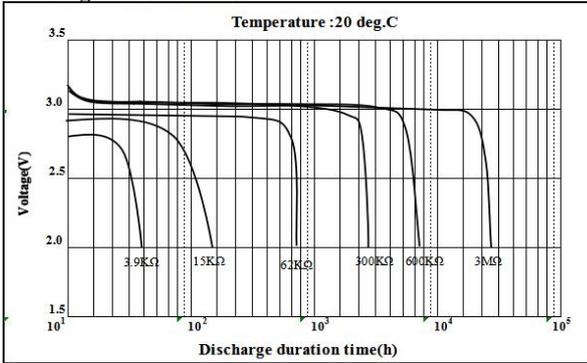
Relationship between Discharge Current and Discharge Capacity



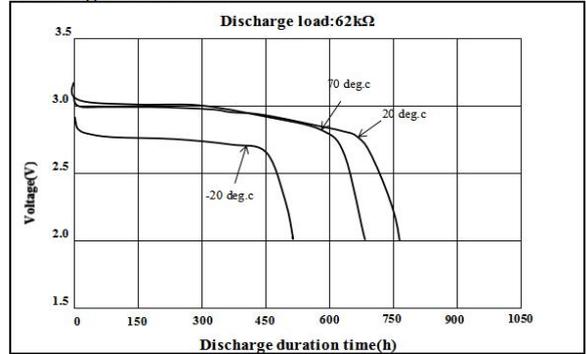
DISCHARGE CHARACTERISTIC

CR1220

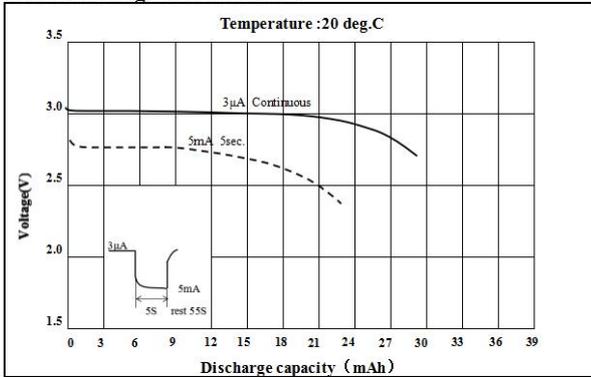
Discharge Characteristics



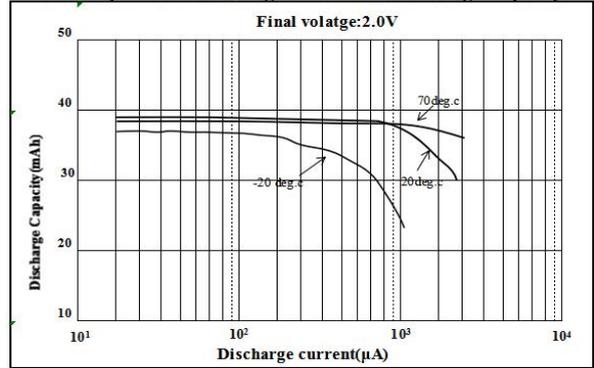
Discharge Characteristics



Pulse Discharge Characteristics

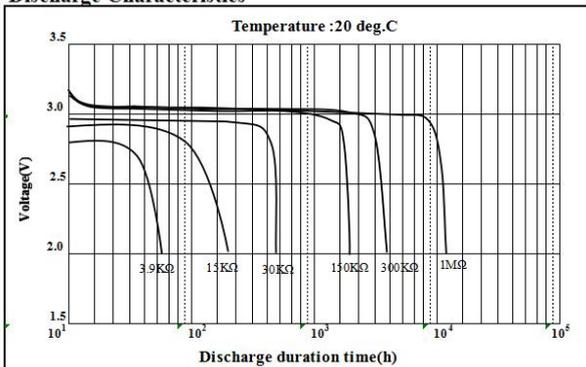


Relationship between Discharge Current and Discharge Capacity

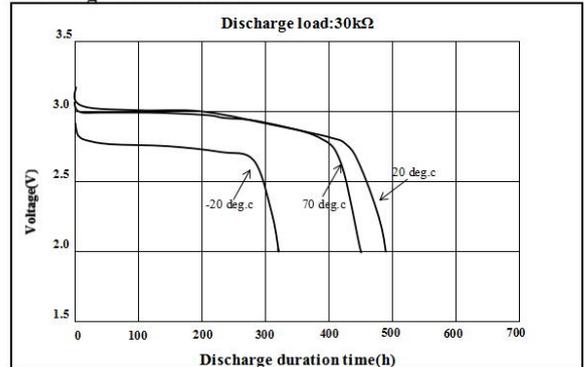


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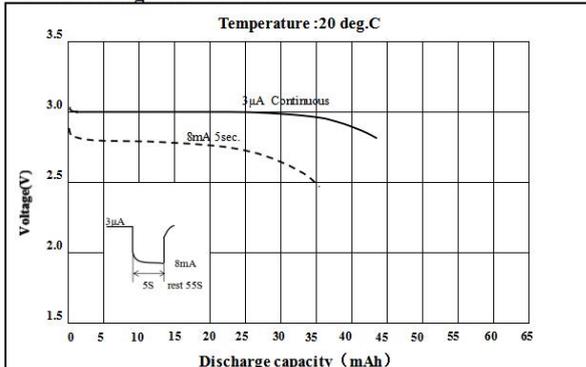
Discharge Characteristics



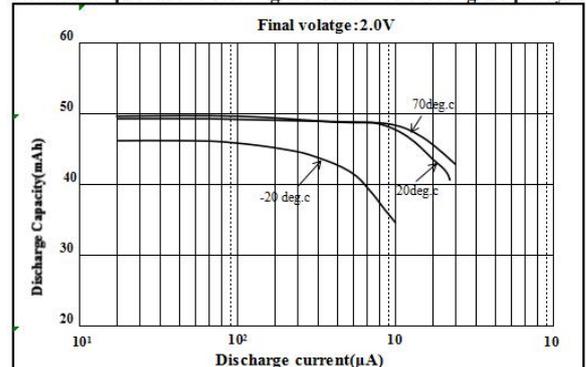
Discharge Characteristics



Pulse Discharge Characteristics



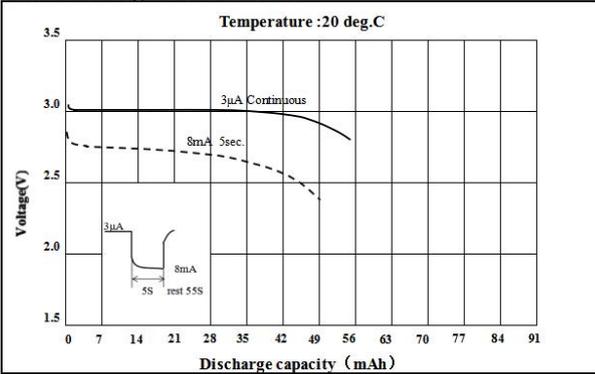
Relationship between Discharge Current and Discharge Capacity



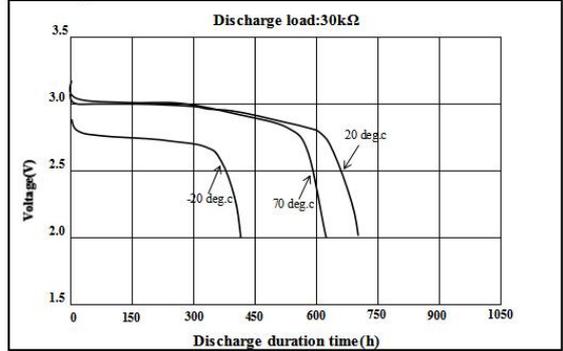
DISCHARGE CHARACTERISTIC

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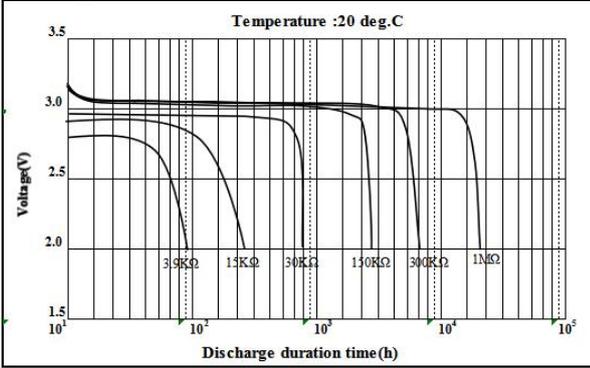
Pulse Discharge Characteristics



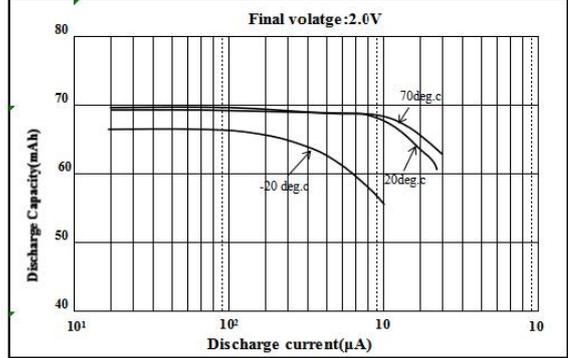
Discharge Characteristics



Discharge Characteristics

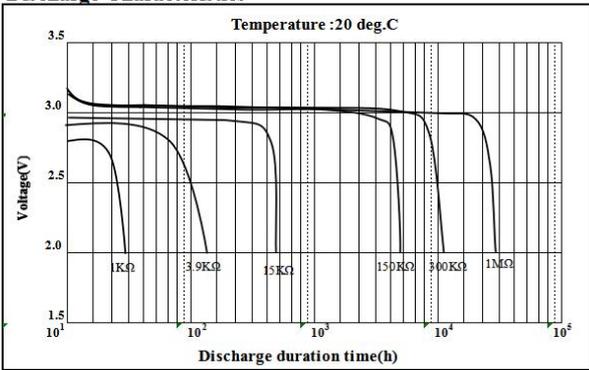


Relationship between Discharge Current and Discharge Capacity

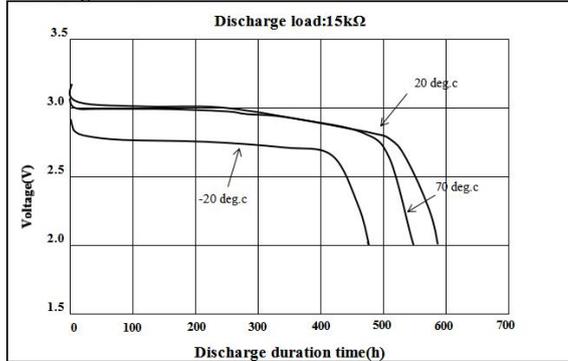


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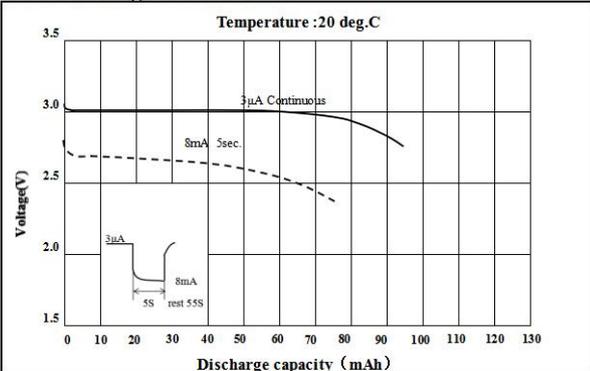
Discharge Characteristics



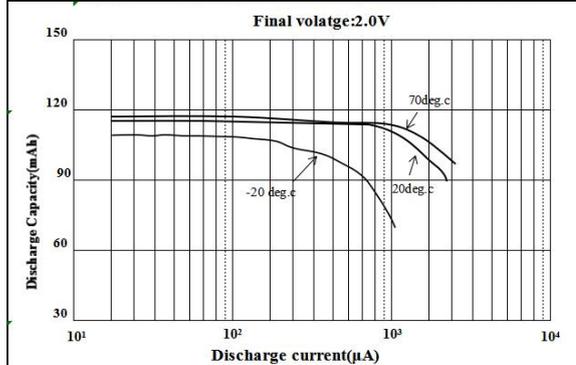
Discharge Characteristics



Pulse Discharge Characteristics



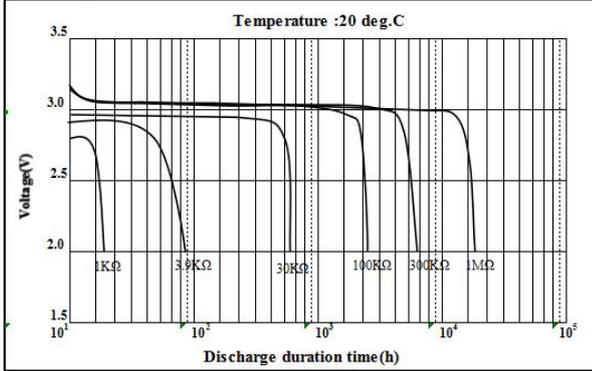
Relationship between Discharge Current and Discharge Capacity



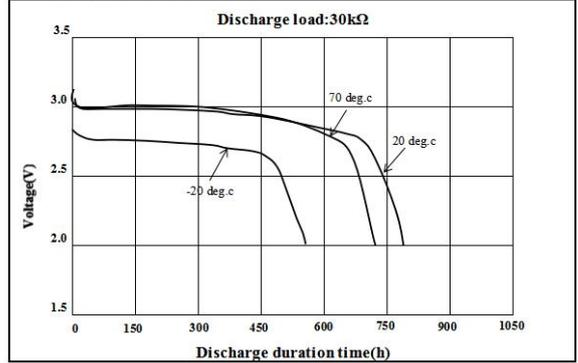
DISCHARGE CHARACTERISTIC

CR2016

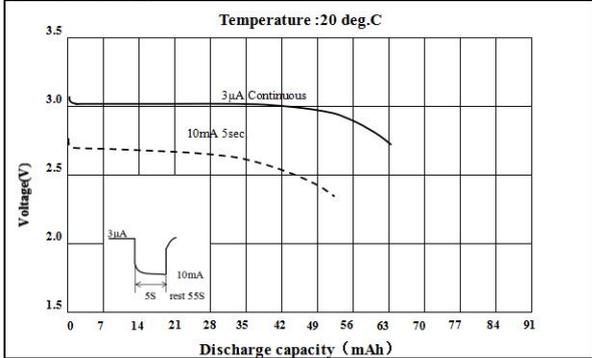
Discharge Characteristics



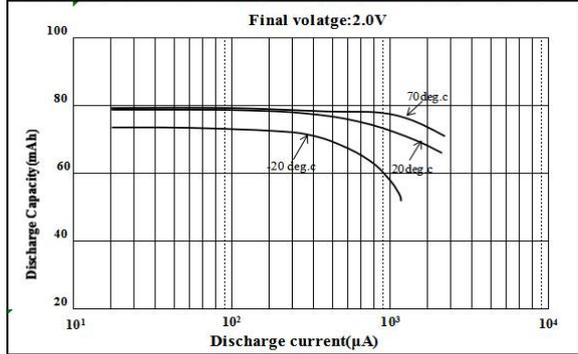
Discharge Characteristics



Pulse Discharge Characteristics

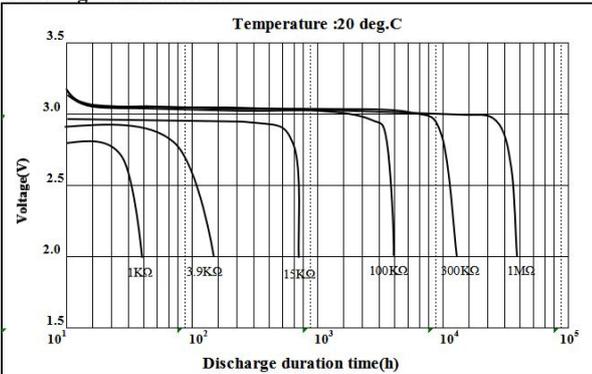


Relationship between Discharge Current and Discharge Capacity

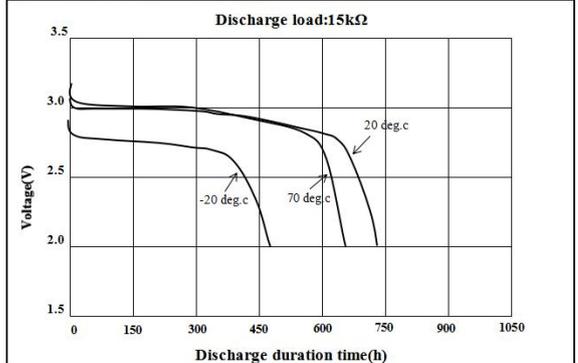


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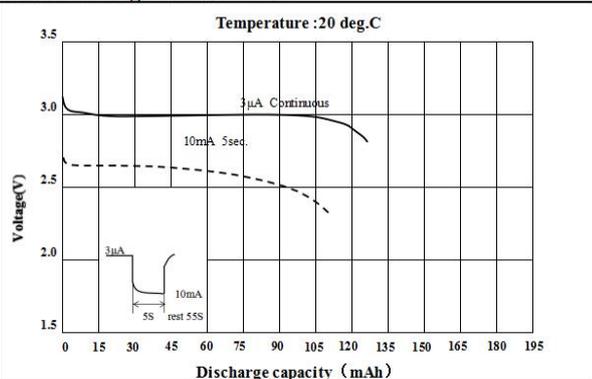
Discharge Characteristics



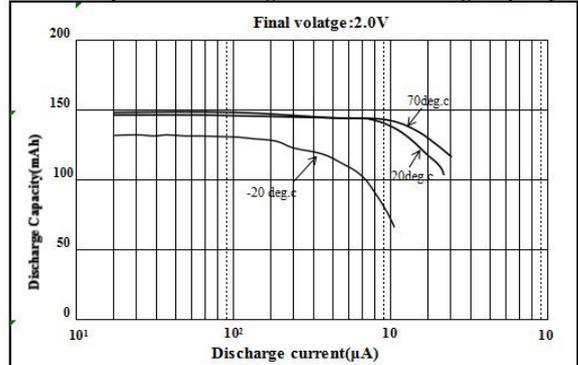
Discharge Characteristics



Pulse Discharge Characteristics



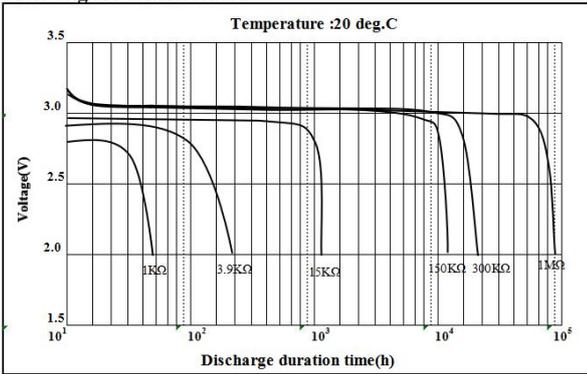
Relationship between Discharge Current and Discharge Capacity



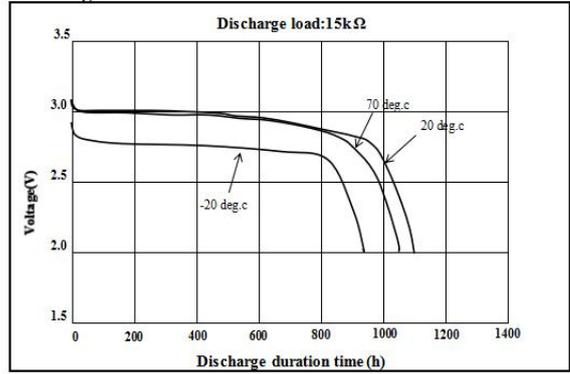
DISCHARGE CHARACTERISTIC

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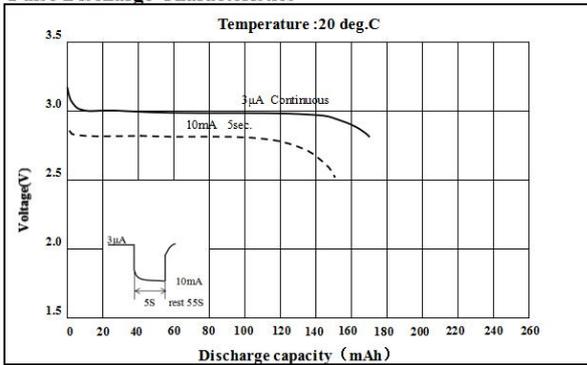
Discharge Characteristics



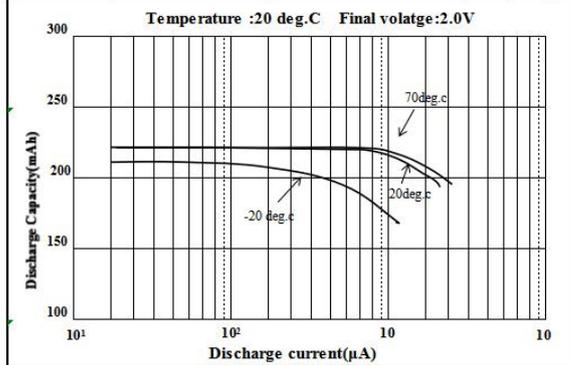
Discharge Characteristics



Pulse Discharge Characteristics

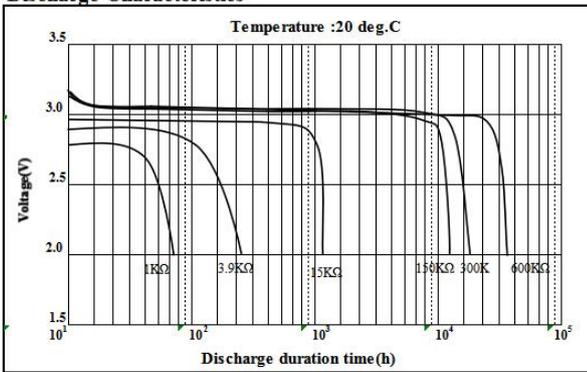


Relationship between Discharge Current and Discharge Capacity

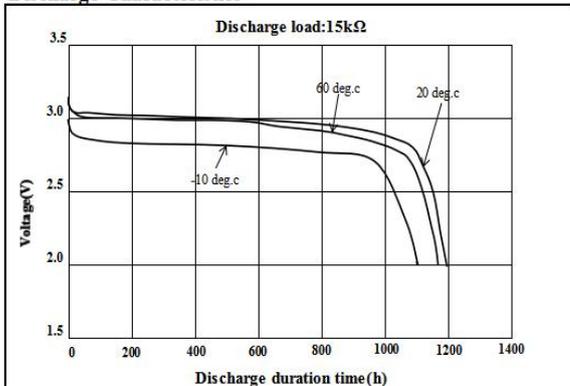


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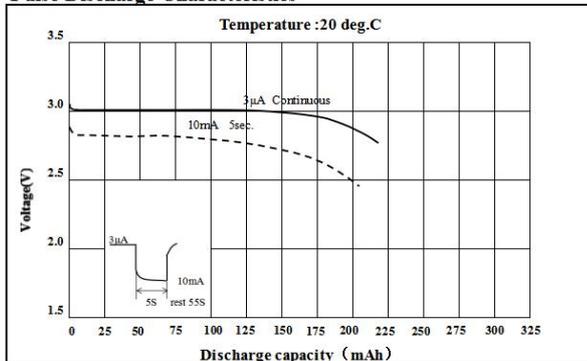
Discharge Characteristics



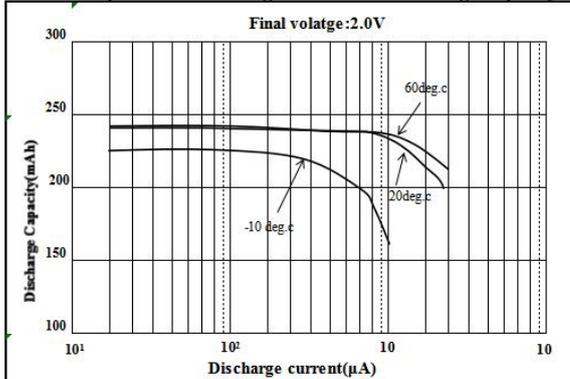
Discharge Characteristics



Pulse Discharge Characteristics



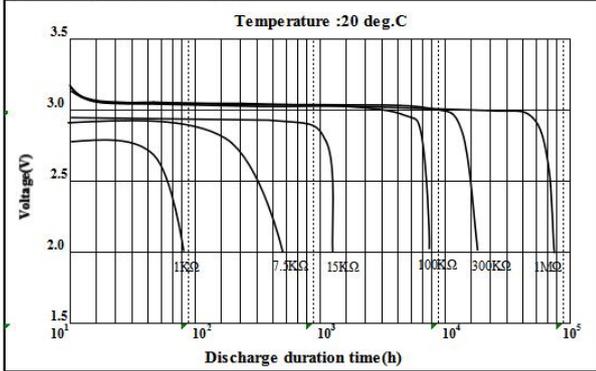
Relationship between Discharge Current and Discharge Capacity



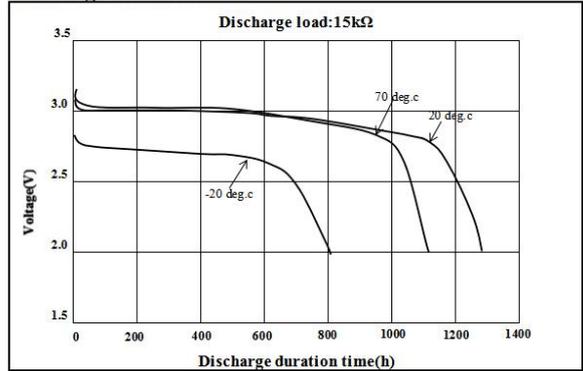
DISCHARGE CHARACTERISTIC

CR2330

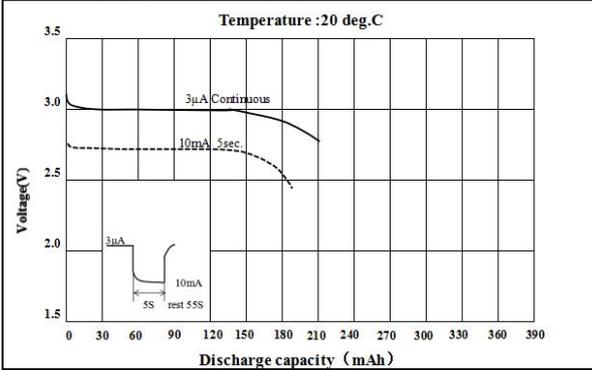
Discharge Characteristics



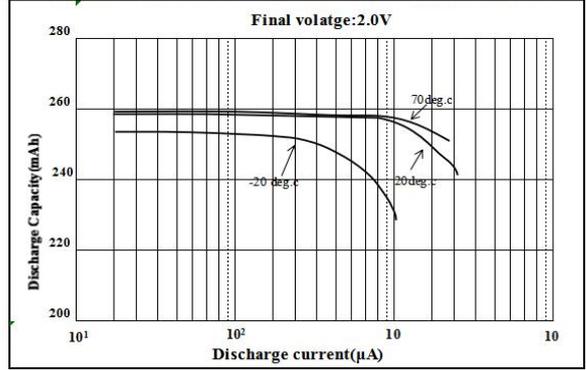
Discharge Characteristics



Pulse Discharge Characteristics

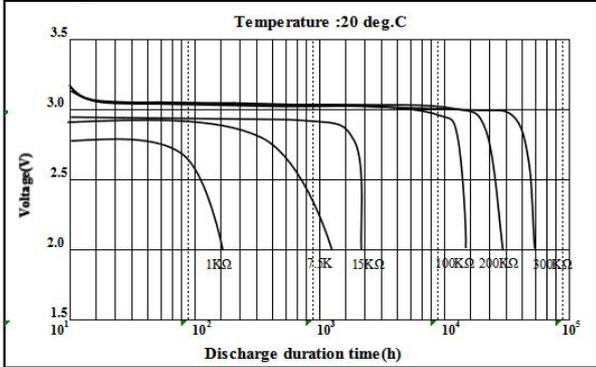


Relationship between Discharge Current and Discharge Capacity

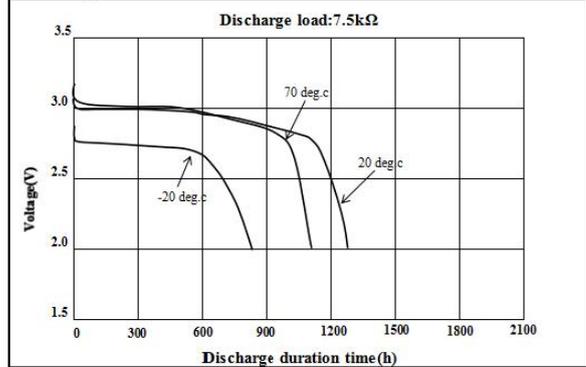


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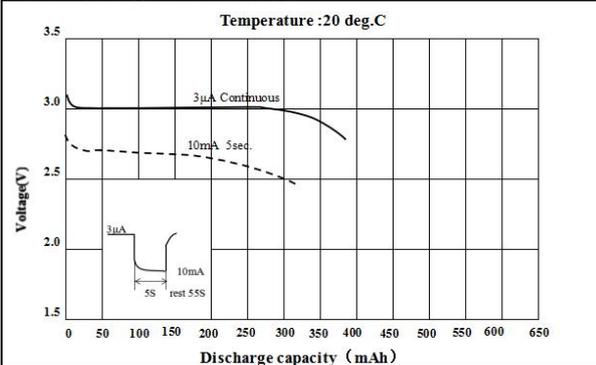
Discharge Characteristics



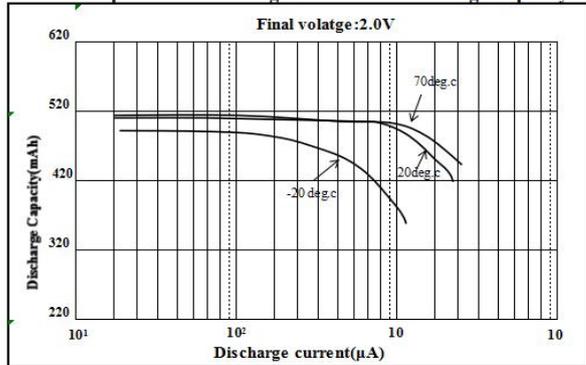
Discharge Characteristics



Pulse Discharge Characteristics



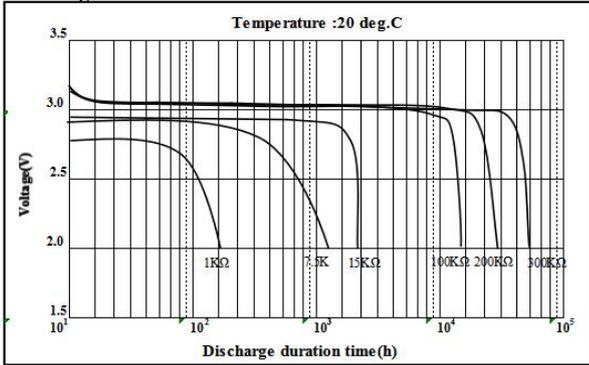
Relationship between Discharge Current and Discharge Capacity



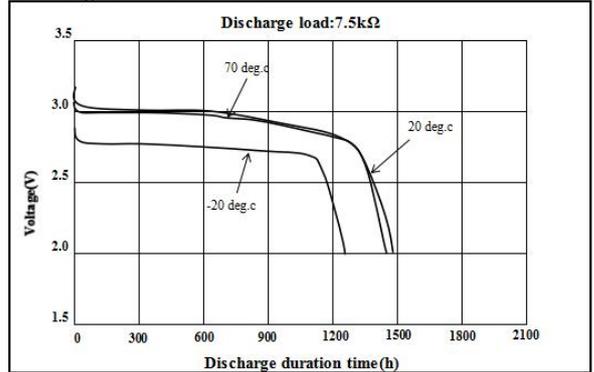
DISCHARGE CHARACTERISTIC

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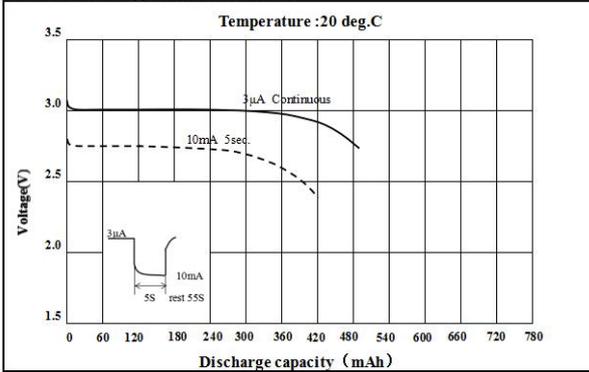
Discharge Characteristics



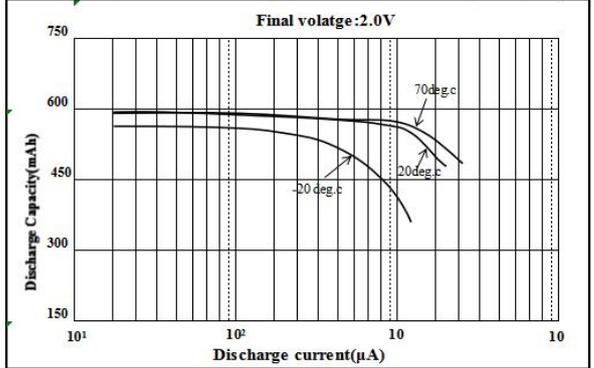
Discharge Characteristics



Pulse Discharge Characteristics

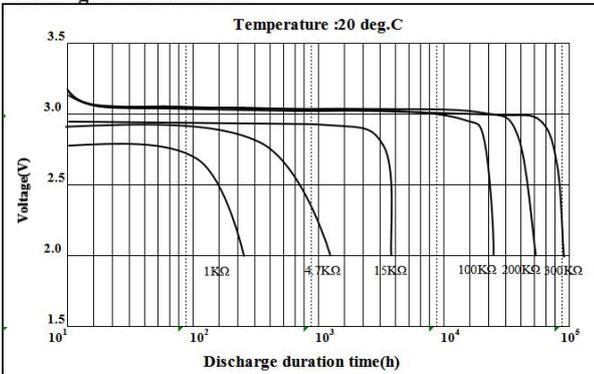


Relationship between Discharge Current and Discharge Capacity

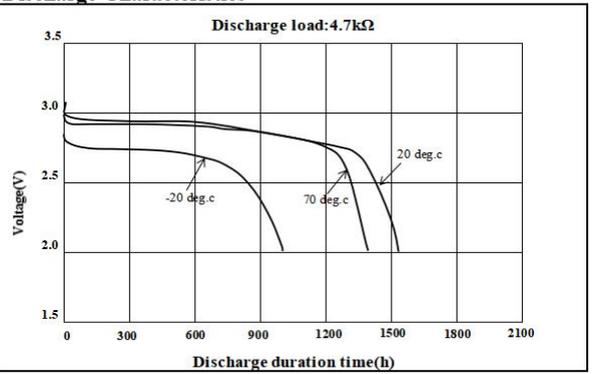


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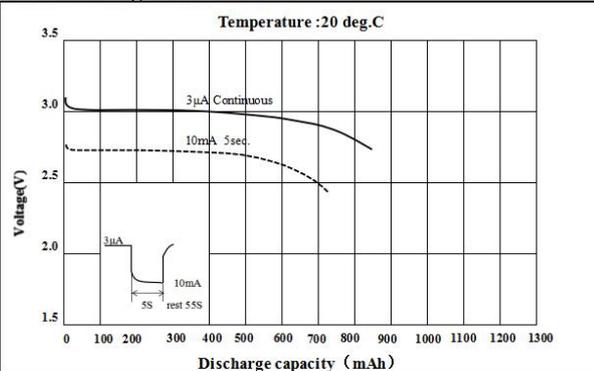
Discharge Characteristics



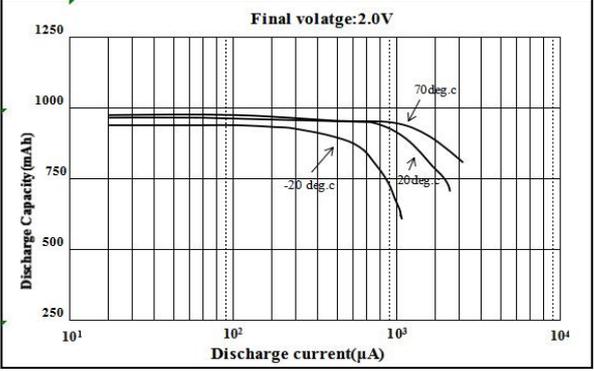
Discharge Characteristics



Pulse Discharge Characteristics



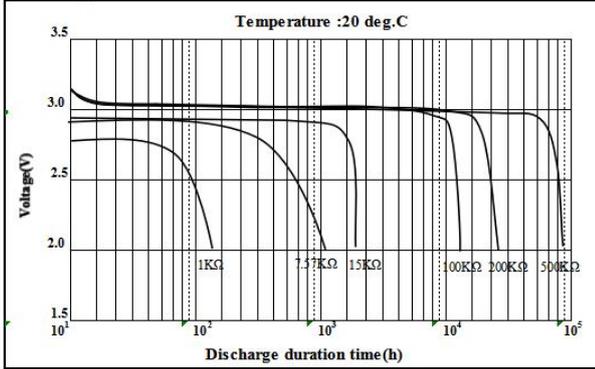
Relationship between Discharge Current and Discharge Capacity



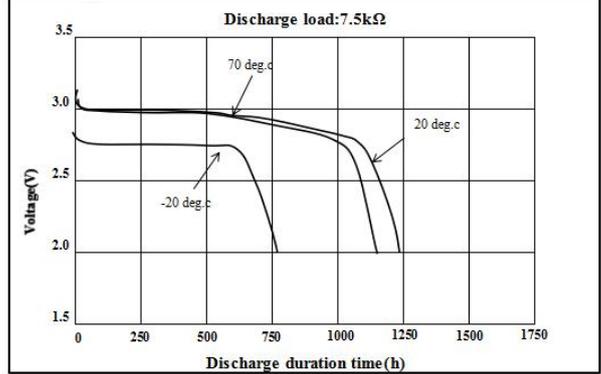
DISCHARGE CHARACTERISTIC

CR3032

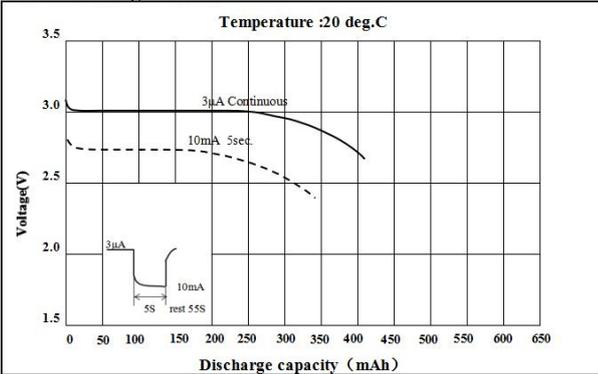
Discharge Characteristics



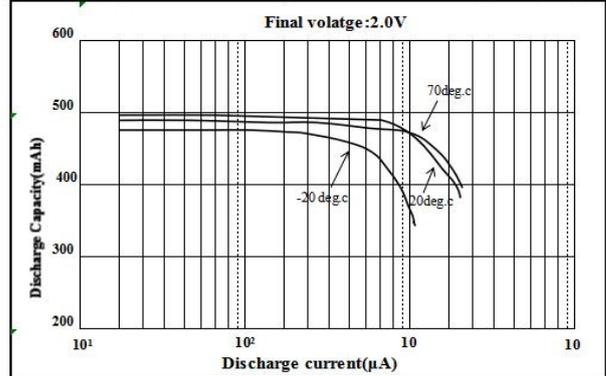
Discharge Characteristics



Pulse Discharge Characteristics

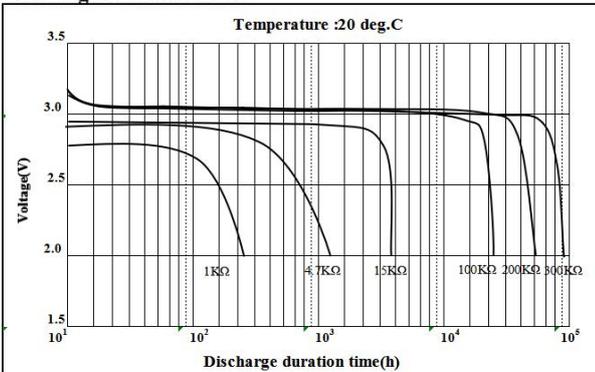


Relationship between Discharge Current and Discharge Capacity

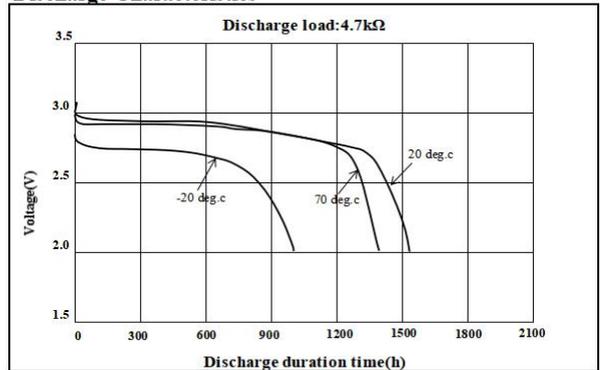


CR2477

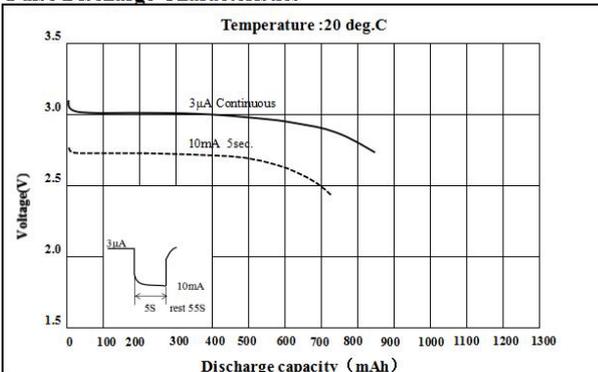
Discharge Characteristics



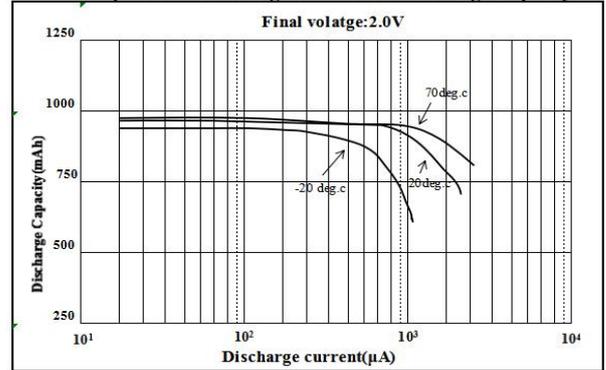
Discharge Characteristics



Pulse Discharge Characteristics



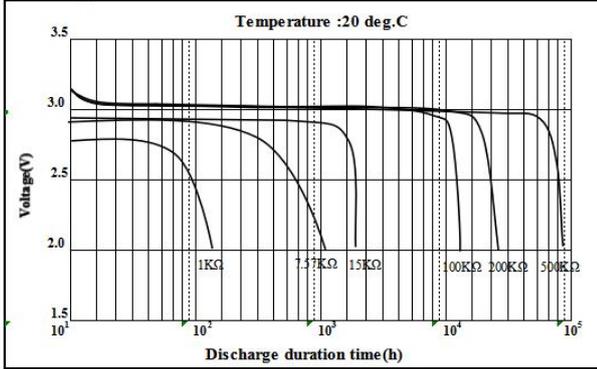
Relationship between Discharge Current and Discharge Capacity



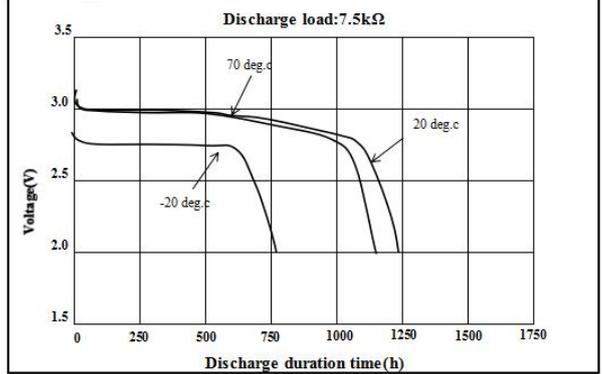
DISCHARGE CHARACTERISTIC

CR3032

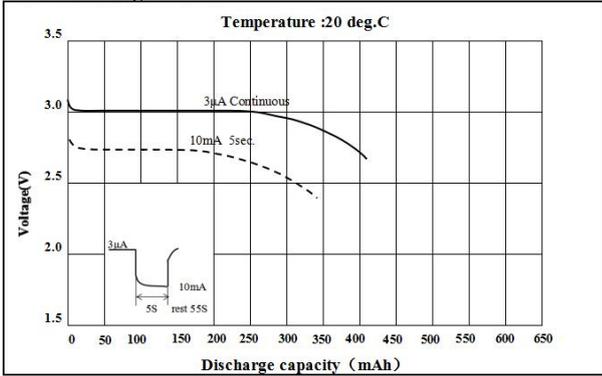
Discharge Characteristics



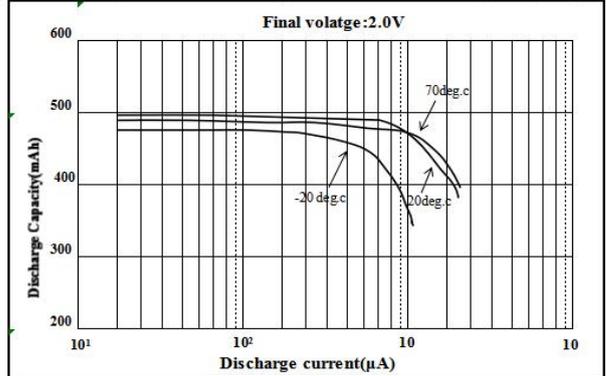
Discharge Characteristics



Pulse Discharge Characteristics

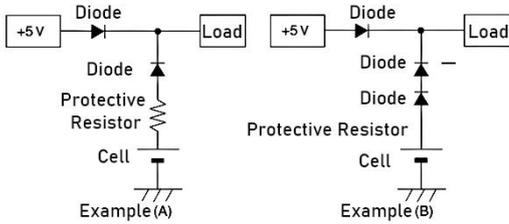


Relationship between Discharge Current and Discharge Capacity



⚠ 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

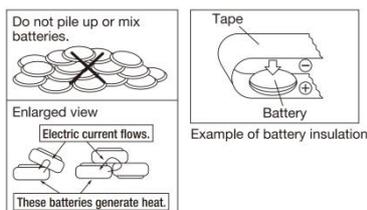
Use a protective resistor to prevent excessive charging in case of diode failure. For example, in a CR2032 battery circuit (Case A) connected to a 5V power source, with a maximum allowable charging current of 10mA and a 3V battery, a resistor with a minimum value of 0.2k ohms is required to ensure the maximum current stays within safe limits.

Item	Max. Current	Item	Max. Current
CR1025	2.5mA	CR2032	10mA
CR1216	2.5mA	CR2032H	10mA
CR1220	10mA	CR2330	10mA
CR1616	10mA	CR2354	10mA
CR1620	10mA	CR2450	15mA
CR1632	10mA	CR2477	15mA
CR2016	10mA	CR3032	15mA
CR2025	10mA		

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.

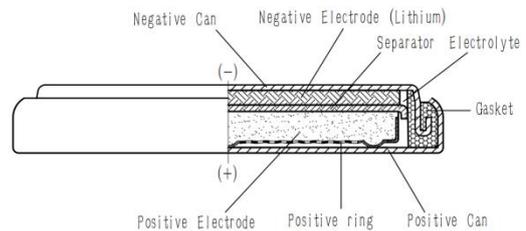
● Strictly prohibit storing the battery in hot and high-humidity environments.

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.