

Coin type Primary Lithium Batteries High Temperature Resistance

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Panasonic Energy Co., Ltd.

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Coin type Primary Lithium Batteries High Temperature Resistance

High performance available under severe conditions

■ Value Proposition

- 1) Enables to use for automotive applications under severe conditions
- 2) Stable output for a long time by technologies preventing swollen batteries
- 3) Wide lineup of sizes and operating temperatures

■ Panasonic Original Technique

- 1) Original negative electrode surface treatment technology to maintain high voltage under low temperatures
- 2) Maintains the sealing property inside battery by heat-resistant gasket
- 3) Prevents gas evolution at high temperatures by original electrolyte formulation

Panasonic
Only

Benchmark					Application	Schedule
Item \ Product	Panasonic CR coin type for high temperature	Panasonic CR standard battery	Panasonic BR battery	A company CR battery for high temperature	<ul style="list-style-type: none"> • TPMS • ETC • Automotive electric components • IoT applications using outdoor etc. 	<div style="border: 2px solid black; padding: 10px; text-align: center;"> <h2>Mass Production</h2> </div>
High temperature storage	○ 125°C	× 85°C	◎ 125°C	○125°C (短期)		
Discharge characteristics under low temperatures	◎ -40°C	△ -30°C	○ -40°C	○-40°C		
Material price	○	◎	△	○		

Before

CR series Coin type Primary Lithium Batteries

Limited operating temperature range
(-30°C~85°C)



Insufficient performance
required for automotive
applications



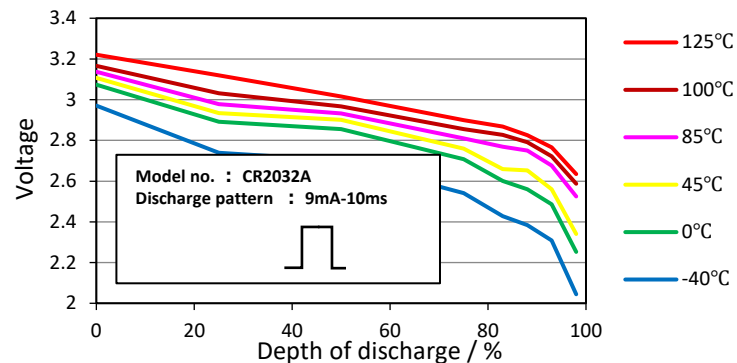
After

CR series Coin type Primary Lithium Batteries High Temperature Resistance

2032/2050 size : -40~125°C

2450 size : -40~105°C (CR2450A : 125°C product)

© Enables to use from low to high temperatures

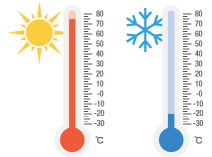


© Heat-resistant technology by original electrolyte formulation

© Highly improved low temperature characteristics by surface treatment technology of negative electrode

Comparison of Coin type Primary Lithium Batteries temperature range **Panasonic ENERGY**

Coin-type primary lithium batteries for high temperature enable to operate from low to high temperatures required for automotive applications

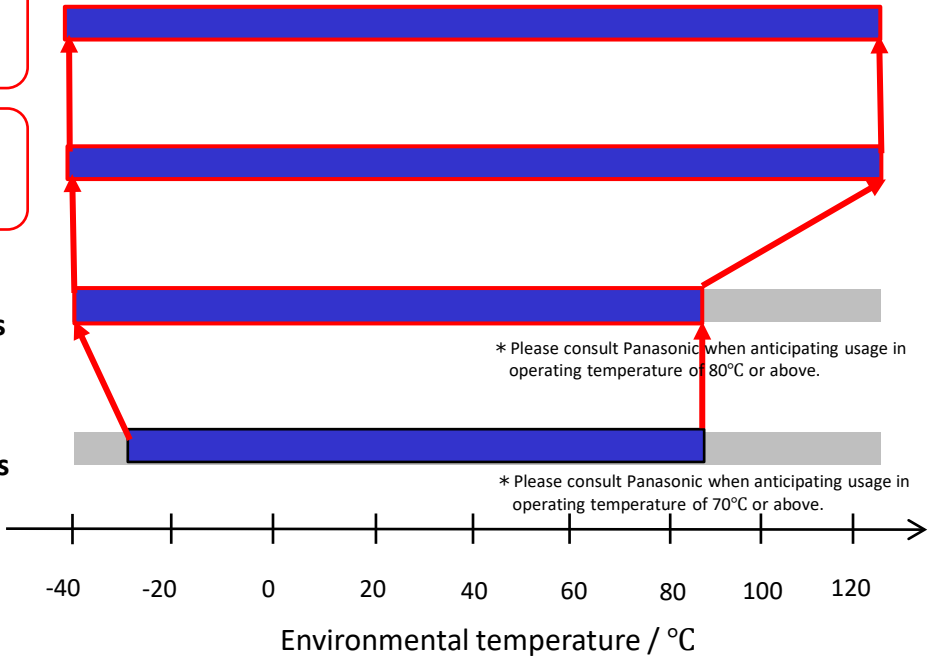


BR series Coin-type Primary Lithium Batteries for High Temperature

CR series Coin-type Primary Lithium Batteries for High Temperature

BR series Coin-type Primary Lithium Batteries

CR series Coin-type Primary Lithium Batteries



Comparison of Coin-type Primary Lithium Batteries High Temperature Resistance

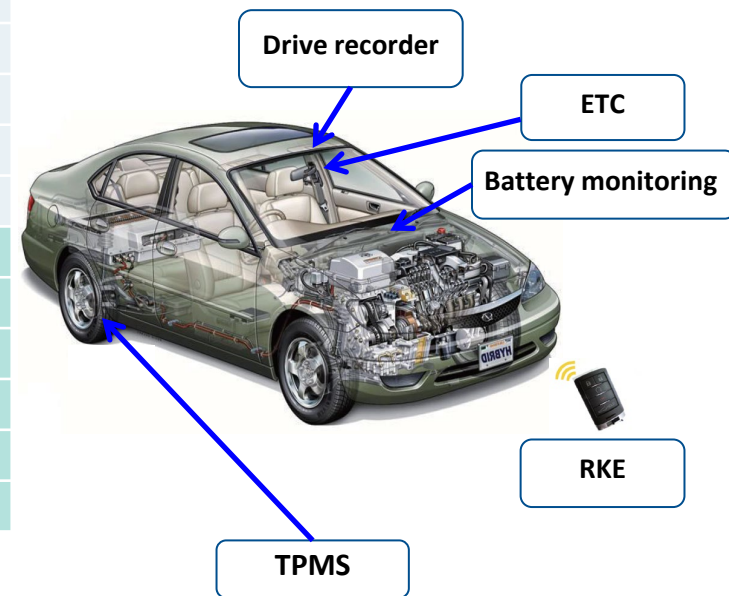
		BR Series	CR Series
Material	Positive electrode	Poly-carbonmonofluoride (CF) _n	Manganese dioxide MnO ₂
	Negative electrode	Lithium	
	Electrolyte	Organic electrolyte	
Characteristic	Discharge capacity	BR ≒ CR	
	Sustaining voltage during discharge	BR < CR (∼50%DOD : Higher)	
	Load characteristic	BR < CR (∼50%DOD : Better)	
	Long-term usage	(Stable) BR > CR	
	Storage characteristic (Storage deterioration)		
	<60°C	(Stable) BR ≒ CR	
	> 60°C	(Stable) BR > CR	
Merit		Achieves long-term usage and excellent storage characteristics under high temperature.	CR maintains high voltage during discharge and achieve excellent discharge characteristic

Lineup of Coin type Primary Lithium Batteries High Temperature Resistance

Lineup

Model No.	Nominal voltage (V)	Nominal capacity (mAh)	Continuous drain (mA)	Diameter (mm)	Height (mm)	Mass 約 (g)	Operating temperature range (°C)
BR1225A	3	48	0.03	12.5	2.5	0.8	-40 ~ 125
BR1632A	3	120	0.03	16.0	3.2	1.5	-40 ~ 125
BR2330A	3	255	0.03	23.0	3.0	3.2	-40 ~ 125
BR2450A	3	550	0.03	24.5	5.0	4.9	-40 ~ 125
BR2477A	3	1000	0.03	24.5	7.7	7.9	-40 ~ 125
CR2032A	3	210	0.2	20.0	3.2	3.0	-40 ~ 125
CR2032B	3	210	0.2	20.0	3.2	3.0	-40 ~ 120
CR2050A	3	345	0.2	20.0	5.0	4.1	-40 ~ 125
CR2050B2	3	345	0.2	20.0	5.0	4.1	-40 ~ 120
CR2450A	3	550	0.2	24.5	5.0	6.2	-40 ~ 125
CR2450B	3	560	0.2	24.5	5.0	6.2	-40 ~ 105

Applications



Please feel free to contact us

[Panasonic Energy Website for Business Products](#)

