PRODUCTS

INDUSTRIAL SOLUTIONS

LITHIUM - Coin Type

Coin type lithium batteries are high energy, high reliability batteries for a variety of applications. The full 3 volts in these high energy density batteries is about twice that of conventional dry batteries.

Panasonic coin type lithium batteries are available in two types: poly-carbonmonofluoride lithium batteries (BR series) for uses that require extended reliability and safety, and manganese dioxide lithium batteries (CR series) for uses that require high voltage and strong load pulse characteristics.

The CR Lithium primary coin cells contain Perchlorate over the limit specified by the state legislature of California and are therefore subject to requirements in the California Code of Regulations, title 22, division 4.5: Chapter 33 – Best Management Practices for Perchlorate Materials.



Features:

- High voltage of 3 volts twice that of conventional dry batteries
- Extremely small self-discharge for long service and shelf life
- A wide operational temperature range
- Compact and lightweight; extremely high energy density per unit weight
- Very safe (poly-carbonmonofluoride lithium)
- Extremely strong load pulse characteristics (manganese dioxide lithium)
- Operating temperature range:

BR Coin Cells: -30°C ~ +80°C CR Coin Cells: -30°C ~ +60°C

Applications:

- Calculators
- Cameras
- Compact, low power consuming cordless applications
- Electronic translators

Technical Data - Table 1 - (CF)n/LI: Poly-Carbon Monofluoride (BR)

- Electronic watches (digital and analog)
- Memory back-up in all types of devices (with tab terminals)

Model	Electrical Characteristics (20°C)		Standard Load	Dimensions			Tab Configurations			
No.	Nominal Voltage (V)	*Nominal Capacity (mAh)	Continuous Drain (mA)	Diameter (mm)	Height (mm)	Weight (g)		Tab Configurations		
BR1220	3	35	0.03	12.5	2.00	0.7				
BR1225	3	48	0.03	12.5	2.50	0.8				
BR1632	3	120	0.03	16.0	3.20	1.5				
BR2032	3	190	0.03	20.0	3.20	2.5				
BR2325	3	165	0.03	23.0	2.50	3.2				
BR2330	3	255	0.03	23.0	3.00	3.2				
BR3032	3	500	0.03	30.0	3.20	5.5				
* Nominal ca	apacity show	vn is based o	* Nominal capacity shown is based on standard drain and cut off voltage down to 2.0V at 20°C.							

Technic	Technical Data - Table 2 - Mn0 ₂ /LI:Manganese Dioxide (CR)								
Model	Electrical Characteristics (20°C)		Standard Load	Dimensions		Tob Configurations	Tab Configurations		
No.	Nominal Voltage (V)	*Nominal Capacity (mAh)	Continuous Drain (mA)	Diameter (mm)	Height (mm)	Weight (g)		Tao Configurations	
<u>CR1025</u>	3	30	0.10	10.0	2.50	0.7			
<u>CR1216</u>	3	25	0.10	12.5	1.60	0.7			

<u>CR1220</u>	3	35	0.10	12.5	2.00	1.2		
<u>CR1612</u>	3	40	0.10	16.0	1.20	0.8		7
<u>CR1616</u>	3	55	0.10	16.0	1.60	1.2		7
<u>CR1620</u>	3	75	0.10	16.0	2.00	1.3		
<u>CR1632</u>	3	140	0.10	16.0	3.20	1.8		1
CR2016	3	90	0.10	20.0	1.60	1.6		7
CR2025	3	165	0.20	20.0	2.50	2.3		
CR2032	3	225	0.20	20.0	3.20	2.9		
CR2330	3	265	0.20	23.0	3.00	3.8		7
<u>CR2354</u>	3	560	0.20	23.0	5.40	5.8		7
<u>CR2412</u>	3	100	0.20	24.5	1.20	2.0		
CR2450	3	620	0.20	24.5	5.00	6.3		
<u>CR2477</u>	3	1000	0.20	24.5	7.70	10.5		7
CR3032	3	500	0.20	30.0	3.20	6.8		7
Note: Cells	are avail	lable in assor	ed on standard drain ted tab configuration e for additional info	ns.	ii voltage	down to 2	.0V at 20°C.	
Note: Cells Consult you	are avail ur local r	lable in assor	ted tab configuratio	ns. rmation.				
Note: Cells Consult you	are availur local r	lable in assor	ted tab configuration for additional info	ns. rmation.	figuratio	ons (BF		T
Note: Cells Consult you Technic Model	are availur local real Data	lable in assor egional office a - Table	ted tab configuration of the for additional information of the formation of the following the follow	ab Conf	figuration Drawing	ons (BF		
Note: Cells Consult you Technic Model I BR1225/	are availur local real Data	lable in assor egional office a - Table : 2 pin, horizor	ted tab configuration of the for additional information of the format of	ab Conf Description	figuration Drawing	ons (BF		
Note: Cells Consult you Technic Model I BR1225/	are availur local real Data No. (1HC)	lable in assoregional office a - Table 3 2 pin, horizor 2 pin, vertica	ted tab configuration of the for additional information of the formation o	ab Confine Description hole, (with in	figuration Drawing	ons (BF		
Note: Cells Consult you Technic Model I BR1225/	are availur local ral Data No. //HC //UC	lable in assoregional office a - Table : 2 pin, horizor 2 pin, vertica 2 pin, horizor	ted tab configuration of the for additional information of the formation o	ab Continue Description hole, (with in hole, (with hol	figuration Drawing in insulation valuation val	ons (BF g n wrap) vrap) n wrap)	R Series)	
Note: Cells Consult you Technic Model 1 BR1225/ BR1632/	are availur local ral Data No. (1HC) (1VC) (1HF) (1GU)	a - Table : 2 pin, horizon 2 pin, horizon 2 pin, horizon 3 pin, horizon	ted tab configuration of the for additional information of the formation o	ab Confidence of the confidenc	figuration Drawing in insulation valuation valuation whout insulation to the control of the cont	ons (BF g n wrap) vrap) n wrap) ation wrap	R Series)	
Note: Cells Consult you Technic Model 1 BR1225/ BR1632/ BR2032/	are availur local real Data No. (1HC) (1VC) (1HF) (1GU) (1HE)	a - Table 3 2 pin, horizon 2 pin, horizon 3 pin, horizon 2 pin, horizon	ted tab configuration of the for additional information of the formation o	ab Continue Description hole, (with in hole, (with hol	figuration Drawing in insulation was insulation was insulation to the insulation to the insulation out insulation to the insulation	ons (BF g n wrap) wrap) n wrap) ation wrap	R Series)	
Note: Cells Consult you Technic Model 1 BR1225/ BR1225/ BR1632/ BR2032/	are availur local rall Data No. 'IHC 'IVC 'IHF 'IGU 'IHE 'IVB	a - Table : 2 pin, horizon 2 pin, horizon 3 pin, horizon 2 pin, horizon	ted tab configuration of the for additional information of the format of	ab Continued to Description hole, (with in hole, (with	figuration Drawing in insulation was insulation was insulation to the insulation to the insulation out insulation to the insulation	ons (BF g n wrap) wrap) n wrap) ation wrap	R Series)	
Note: Cells Consult you Technic Model 1 BR1225/ BR1632/ BR2032/ BR2032/ BR2032/	are availur local rall Data No. (1HC) (1HC) (1HF) (1HE) (1HE) (1VB) (1F2)	a - Table : 2 pin, horizon 2 pin, horizon 3 pin, horizon 2 pin, horizon	ted tab configuration of the for additional information of the formation o	ab Continue of Description hole, (with in hole, (with hole, (without n wrap))	figuration Drawing the insulation who insulation who insulation thout insulation to the insulation out insulation the insulation of the in	ons (BF g n wrap) vrap) n wrap) ation wrap ation wrap on wrap)	R Series)	
Note: Cells Consult you Technic Model 1 BR1225/ BR1632/ BR2032/ BR2032/ BR2032/ BR2032/	are availur local real part lo	a - Table 3 2 pin, horizon 2 pin, horizon 3 pin, horizon 2 pin, thorizon 2 pin, thorizon 2 pin, thorizon 2 pin, thorizon	ted tab configuration of the for additional information of the format of	hole, (with hole,	figuration Drawing in insulation who insulation whout insulation to the insulation insul	ons (BF g n wrap) wrap) n wrap) ation wrap on wrap) n wrap)	R Series)	
Note: Cells Consult you Technic Model 1 BR1225/ BR1225/ BR1632/ BR2032/ BR2032/ BR2032/ BR2032/ BR2032/ BR2032/	are availur local real part and part an	a - Table 3 2 pin, horizon 2 pin, horizon 3 pin, horizon 2 pin, flat mo 2 pin, horizon 2 pin, horizon 2 pin, horizon	ted tab configuration of the for additional information of the formation o	ab Continue of Description of Descri	figuration Drawing in insulation valuation valuation valuation to insulation to insulation insulati	ons (BF g n wrap) wrap) n wrap) ation wrap on wrap) n wrap)	R Series)	
Note: Cells Consult you Technic Model 1 BR1225/ BR1225/ BR1632/ BR2032/ BR2032/ BR2032/ BR2032/ BR2325/	are availur local rall pata al Data No.	lable in assoregional office a - Table ; 2 pin, horizor 2 pin, horizor 3 pin, horizor 2 pin, horizor 2 pin, vertica 2 pin, horizor 2 pin, horizor 2 pin, flat mo 2 pin, horizor 2 pin, vertica	ted tab configuration of the for additional information of the format of	ab Continue of Description of Descri	figuration Drawing in insulation who insulation who insulation ins	ons (BF g n wrap) vrap) ntion wrap on wrap) n wrap) n wrap) n wrap)	R Series)	
Note: Cells Consult you Technic Model 1 BR1225/ BR1225/ BR1632/ BR2032/ BR2032/ BR2032/ BR2032/ BR2325/ BR2325/	are availur local real part lo	a - Table 3 2 pin, horizon 2 pin, horizon 3 pin, horizon 2 pin, horizon	ted tab configuration of the for additional information of the format of	ab Continue Description hole, (with in hole, (with hol	figuration Drawing in insulation who insulation who insulation ins	ons (BF g n wrap) wrap) ntion wrap ation wrap on wrap) ntion wrap on wrap)	R Series)	

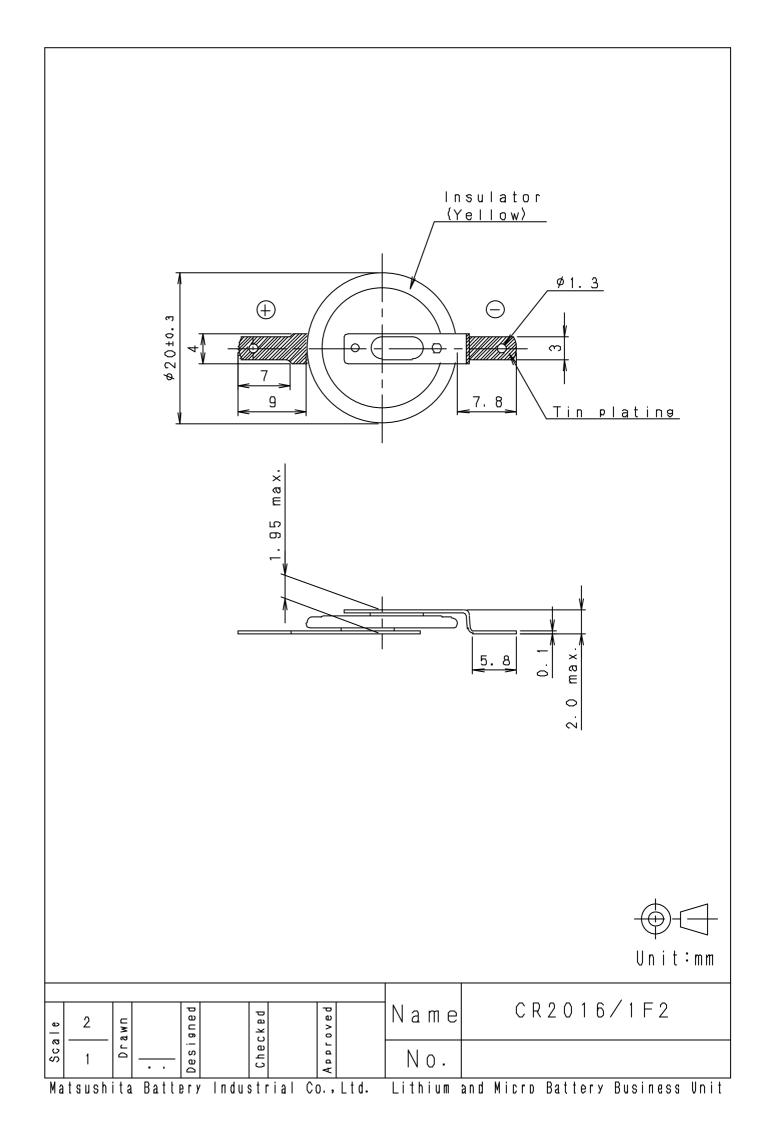
2 pin, vertical mount, through hole, (with insulation wrap)

3 pin, vertical mount, through hole, (with insulation wrap)

BR2330/1VC

BR2330/1GVF

Technical Data - Table 4 - Coin Cell Tab Configurations (CR Series)					
Model No.	Tab Description Drawing				
<u>CR1220/1HF</u>	2 pin, horizontal mount, through hole, (with insulation wrap)				
CR1616/1F2	2 pin, flat mount, (without insulation wrap)				
CR2016/1F2	2 pin, flat mount, (with insulation wrap)				
CR2032/1F4	2 pin, flat mount, (with insulation wrap)				
CR2330/1HF	2 pin, horizontal mount, through hole, (with insulation wrap)				
<u>CR2330/1VC</u>	2 pin, vertical mount, through hole, (with insulation wrap)				
CR2354/1HF	2 pin, horizontal mount, through hole, (with insulation wrap)				
<u>CR2354/1GU</u>	3 pin, horizontal mount, through hole, (without insulation wrap)				
<u>CR2354/1VC</u>	2 pin, horizontal mount, through hole, (without insulation wrap)				
<u>CR2477/1VC</u>	2 pin, vertical mount, through hole, (with insulation wrap)				
<u>CR2477/1HF</u>	2 pin, horizontal mount, through hole, (with insulation wrap)				



Coin Type Lithium Batteries

Manganese Dioxide Lithium Batteries (CR Series)



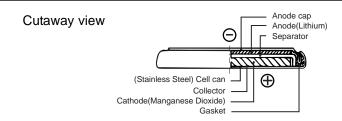




<u>Features</u>

As with the BR series of coin-type lithium batteries, these batteries feature a high energy density, and they were developed and commercialized via Panasonic's extensive experience and battery technology. These batteries have proven to be especially useful in equipment requiring relatively high currents.

Construction



Applications

Calculators Electronic watches (digital and analog)

Cameras Memory backup

Compact, low power consuming cordless appliances IC card

Note: Always confirm that the battery to be used is suitable for the intended application before purchase and/or use.



General Specifications

Model No.	Electrical Characteristics (20°C)		Dimensions (mm)		Weight (g)	JIS	IEC	
Model No.	Nominal Voltage (V)	*Nominal Capacity (mAh)	Continuous Drain (mA)	Diameter	Height	weight (g)	313	IEC
CR1025	3	30	0.1	10.0	2.5	0.7	CR1025	CR1025
CR1216	3	25	0.1	12.5	1.6	0.7	CR1216	CR1216
CR1220	3	35	0.1	12.5	2.0	1.2	CR1220	CR1220
CR1612	3	41	0.1	16.0	1.2	0.8	CR1620	-
CR1616	3	55	0.1	16.0	1.6	1.2	CR1616	CR1616
CR1620	3	75	0.1	16.0	2.0	1.3	-	CR1620
CR1632	3	140	0.1	16.0	3.2	1.8	-	-
CR2012	3	55	0.1	20.0	1.2	1.4	CR2012	CR2012
CR2016	3	90	0.1	20.0	1.6	1.6	CR2016	CR2016
CR2025	3	165	0.2	20.0	2.5	2.3	CR2025	CR2025
CR2032	3	225	0.2	20.0	3.2	2.9	CR2032	CR2032
CR2330	3	265	0.2	23.0	3.0	3.8	CR2330	CR2330
CR2354	3	560	0.2	23.0	5.4	5.8	CR2354	CR2354
CR2412	3	100	0.2	24.5	1.2	2.0	-	-
CR2450	3	620	0.2	24.5	5.0	6.3	CR2450	CR2450
CR2477	3	1000	0.2	24.5	7.7	10.5	-	-
CR3032	3	500	0.2	30.0	3.2	6.8	-	CR3032

^{*} Nominal capacity shown above is based on standard drain and cut off voltage down to 2.0V at 20°C

Poly-carbonmonofluoride (BR Series) and Manganese Dioxide (CR Series)

COIN CELL TAB CONFIGURATIONS

Model	Tab	Configuration			
Number	With Insulation Wrap	Without Insulation Wrap	Diagram No.		
BR TYPE					
BR1220	/1HF	/1HE	1		
BR1220	/1VC	/1VB	2		
BR1225	/1HC	/1HB	3		
BR1225	/1VC		4		
BR1632	/1HF		5		
BR2032	/1HM		6		
BR2032		/1HG	7		
BR2032	/1HS	/1HSE	8		
BR2032	/1GUF	/1GU	9		
BR2032	/1HF	/1HE	10		
BR2032		/1VB	11		
BR2032	/1GVF	/1GV	12		
BR2032	/1F4		13		
BR2032	/1F2		14		
BR2325	/1HC	/1HB	15		
BR2325	/1VC		16		
BR2325		/1HG	17		
BR2325	/2HC		18		
BR2325		/1VG	19		
BR2330	/1HF	/1HE	20		
BR2330	/1GUF	/1GU	21		
BR2330	/1VC	/1VB	22		
BR2330	/1GVF	/1GV	23		
BR2330	/1F3		24		
BR2330	/1F4C		25		
BR3032	/1VC		26		
BR3032	/1F2		27		

Note: Refer to page 60 for BR "A" (High Temp) Tab configurations. Please contact Panasonic for requests on custom Tab configurations. Minimum order requirements may apply.

Model	Tab	Configuration					
Number	With Insulation Wrap	Diagram No.					
CR TYPE							
CR1220	/1HF	/1HE	1				
CR1220	/1VC	/1VB	2				
CR1616		/1F2	28				
CR1632	/1HF		29				
CR2016	/1F2		6				
CR2025	/1F2		30				
CR2032		/1HU3	31				
CR2032	/1VS1		32				
CR2032		/1HG	8				
CR2032	/1HS	/1HSE	9				
CR2032	/1GUF	/1GU	10				
CR2032	/1HF	/1HE	11				
CR2032		/1VB	12				
CR2032	/1GVF	/1GV	13				
CR2032	/1F4		14				
CR2032	/1F2		15				
CR2330	/1HF	/1HE	20				
CR2330	/1GUF	/1GU	21				
CR2330	/1VC	/1VB	22				
CR2330	/1GVF	/1GV	23				
CR2330	/1F3		24				
CR2330	/1F4C		25				
CR2354	/1HF	/1HE	33				
CR2354	/1GUF	/1GU	34				
CR2354	/1VC	/1VB	35				
CR2477	/1VC	/1VB	36				
CR2477	/1HF	/1HE	37				
CR2450	/H1A		38				
CR2450	/G1A		39				
CR3032	/1VC		26				
CR3032	/1F2		27				