

Coin Cells

Introduction



Since 1982, when RENATA launched the industrial production of lithium batteries, the range of applications has grown continuously. In addition to the wide spectrum of memory backup power sources, RENATA lithium batteries are used for different applications in the computer and automotive industries, telecommunications, medical industry and in an increasing number of portable devices (measuring equipment, payment systems, toys etc.).

RENATA lithium batteries meet the highest quality standards and offer excellent reliability.

Advantages

- Nominal voltage of 3V, approx. twice the voltage level of alkaline button cells
- Wide operating temperature range depending on battery model
- Low self discharge of less than 1% per year at 23°C
- Best practical capacity/volume ratio
- Superior leakage resistance
- Excellent storage characteristics, up to 10 years storage with minimum deterioration
- Safe products: all Renata and MFR coin cells are UL-recognized products (File No. MH14002)
- Environmental-friendly, do not contain toxic substances
- No air transport restrictions (non hazardous)
- Available in a wide range of solder contact configurations or in combination with our battery holders

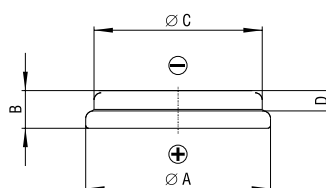
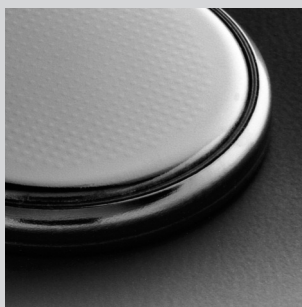
Coin Cells

Standard bare coin cells



General characteristics

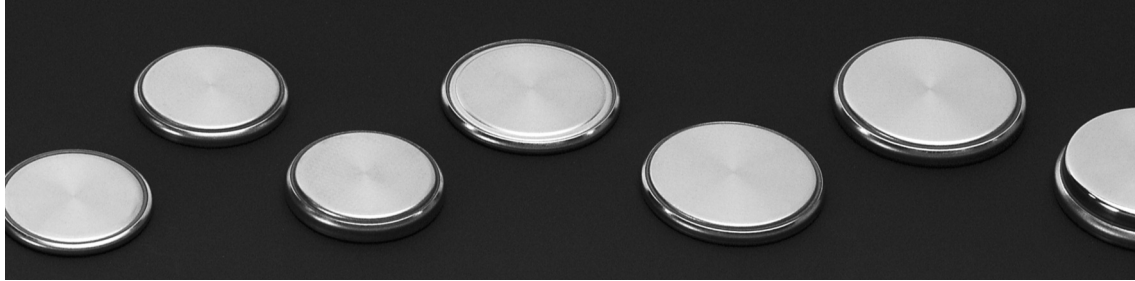
- Self-discharge: less than 1% per year at 23°C
- Shelf life: up to 10 years at max. 23°C
- Stable voltage during shelf life
- High reliability of operation, including leakage resistance
- Contains no heavy metals



Dimensions and weights

Model	Max. Dimensions (mm)				approx Weight (g)	Part.No.*
	A	B	C	D		
CR1025	10.00	2.50	Ref. 6.0	min 0.08	0.6	700263
CR1216 MFR	12.50	1.60	Ref. 10.2	min 0.05	0.7	100551
CR1220 MFR	12.50	2.00	Ref. 10.3	min 0.10	0.8	100552
CR1225	12.50	2.50	Ref. 9.0	min 0.08	0.9	700281
CR1616	16.00	1.60	Ref. 12.0	min 0.02	1.1	700287
CR1620	16.00	2.00	Ref. 12.0	min 0.06	1.2	700291
CR1632	16.00	3.20	Ref. 12.0	min 0.08	1.8	700296
CR2016 MFR	20.00	1.60	Ref. 18.0	min 0.05	1.7	100270
CR2025 MFR	20.00	2.50	Ref. 17.0	min 0.05	2.5	100271
CR2032 MFR	20.00	3.20	Ref. 17.0	min 0.05	2.8	100272
CR2320	23.00	2.00	Ref. 18.0	min 0.06	2.7	700344
CR2325	23.00	2.50	Ref. 19.0	min 0.08	3.0	700348
CR2430 MFR	24.50	3.00	Ref. 20.0	min 0.08	4.3	100350
CR2430	24.50	3.00	Ref. 20.0	min 0.08	4.1	700359
CR2450N	24.50	5.00	Ref. 22.3	min 2.50	5.9	700377
CR2477N	24.50	7.70	Ref. 22.4	min 5.30	8.3	700391

*Packaging: Industrial Bulk (IB-Trays)



Electrical characteristics

Model	Nominal capacity (mAh)	Standard discharge current (mA) ¹⁾	Max. continuous discharge current (mA) ²⁾	Operating Temperature (C) ³⁾
CR1025	30	0.05	0.40	-40/+85°
CR1216 MFR	30	0.10	1.00	-30/+70°
CR1220 MFR	40	0.10	1.00	-30/+70°
CR1225	48	0.10	1.00	-40/+85°
CR1616	50	0.10	1.00	-40/+85°
CR1620	68	0.10	1.00	-40/+85°
CR1632	125	0.20	1.50	-40/+85°
CR2016 MFR	90	0.20	3.00	-30/+70°
CR2025 MFR	165	0.30	3.00	-30/+70°
CR2032 MFR	225	0.40	3.00	-30/+70°
CR2320	150	0.20	3.00	-40/+85°
CR2325	190	0.30	3.00	-40/+85°
CR2430 MFR	300	0.50	4.00	-30/+70°
CR2430	285	0.50	4.00	-40/+85°
CR2450N	540	0.80	3.00	-40/+85°
CR2477N	950	1.00	2.50	-40/+85°

1) Standard discharge current: 100% of nominal capacity is obtained by discharging the cells at this current rates.

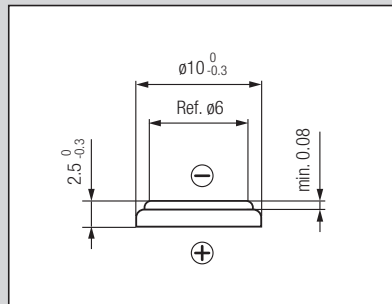
2) The maximum current is determined for a yield of 70% of the nominal capacity with a cut-off voltage of 2.0V, at 23°C. For currents exceeding those given above or pulsed current, please contact Renata.

3) In applications where the battery is exposed to temperatures above 70°C, please contact Renata for consultancy.

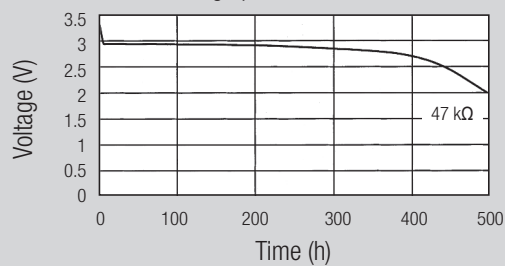
Coin Cells

Standard bare coin cells

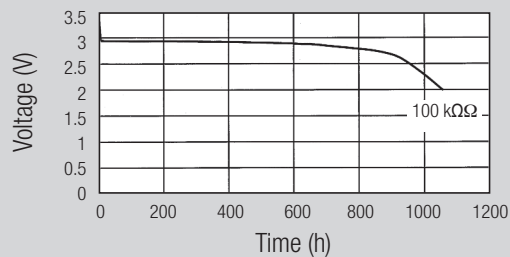
CR1025  Rated capacity: 30 mAh
Average weight: 0.6 g



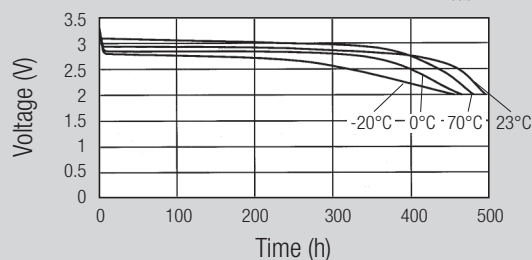
Discharge performance at 23°C



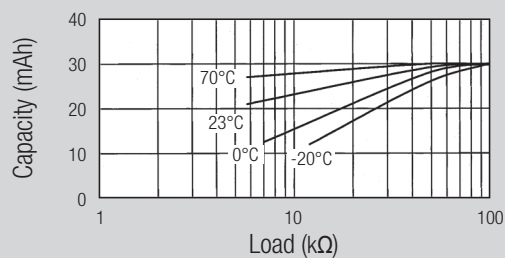
Discharge performance at 23°C



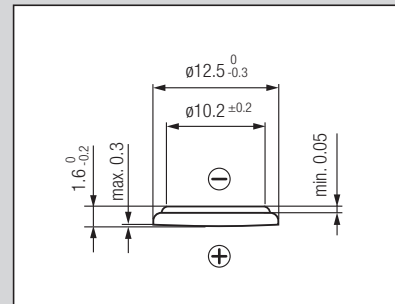
Temperature performance Load 47 kΩ



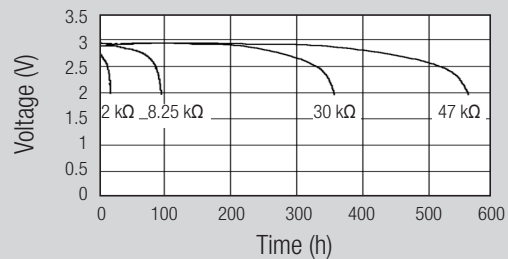
Cell capacity at various loads



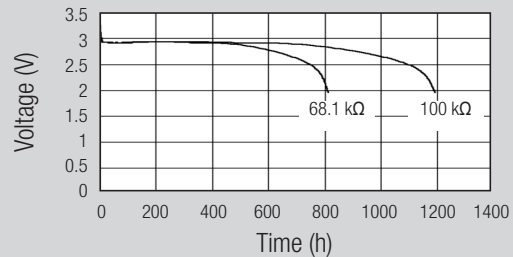
CR1216 MFR  Rated capacity: 30 mAh
Average weight: 0.7 g



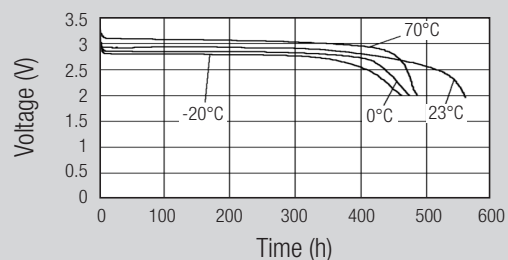
Discharge performance at 23°C



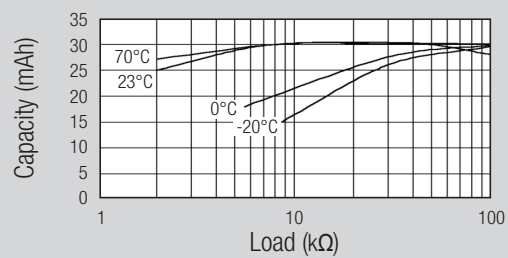
Discharge performance at 23°C

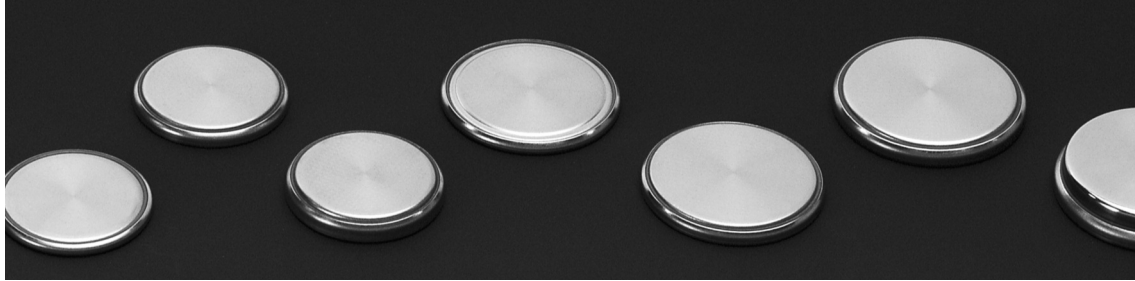


Temperature performance Load 47 kΩ

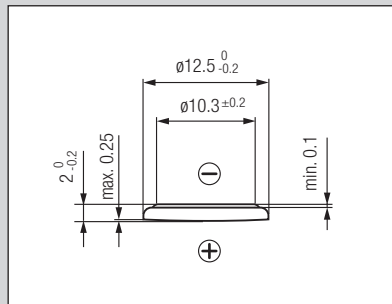


Cell capacity at various loads

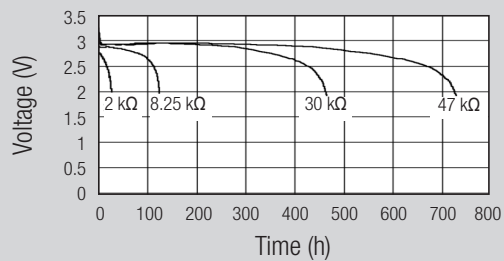




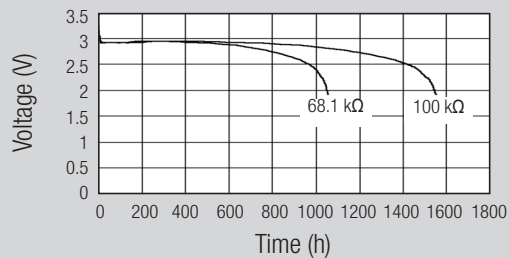
CR1220 MFR  Rated capacity: 40 mAh
Average weight: 0.8 g



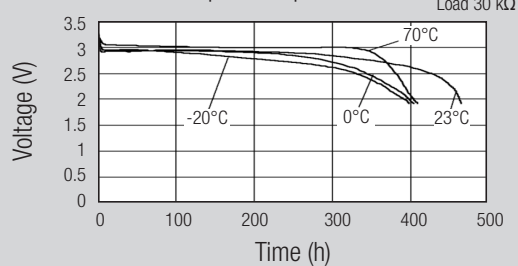
Discharge performance at 23°C



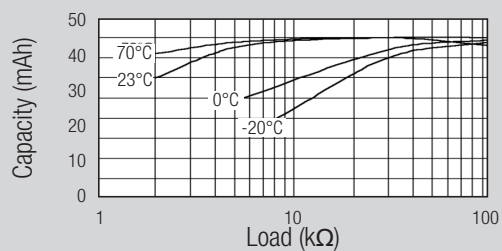
Discharge performance at 23°C



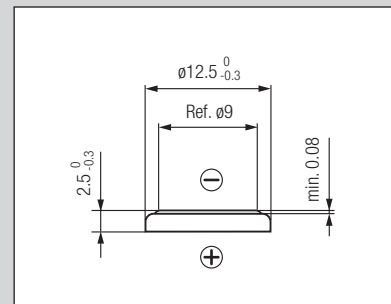
Temperature performance



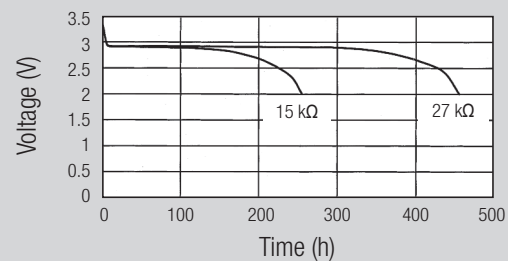
Cell capacity at various loads



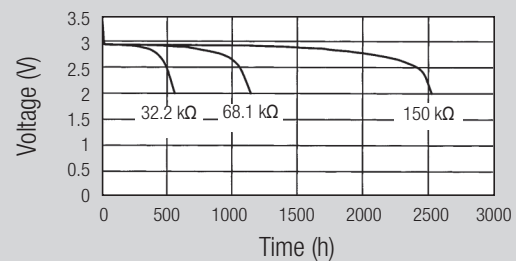
CR1225  Rated capacity: 48 mAh
Average weight: 0.9 g



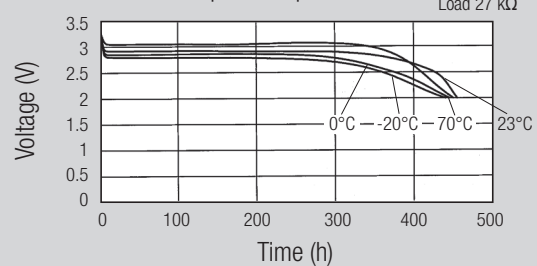
Discharge performance at 23°C



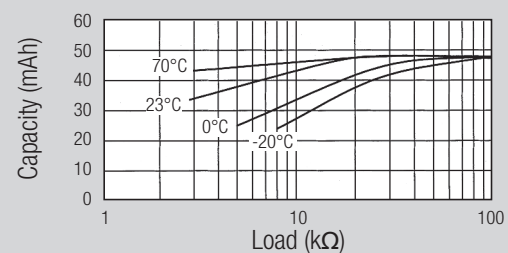
Discharge performance at 23°C



Temperature performance



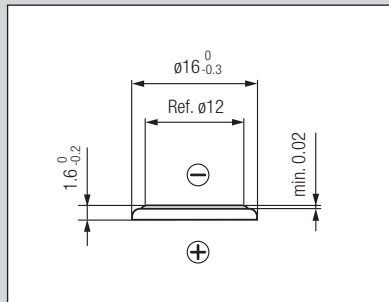
Cell capacity at various loads



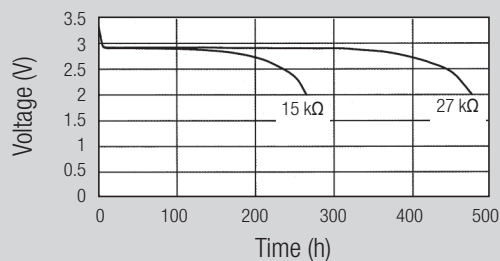
Coin Cells

Standard bare coin cells

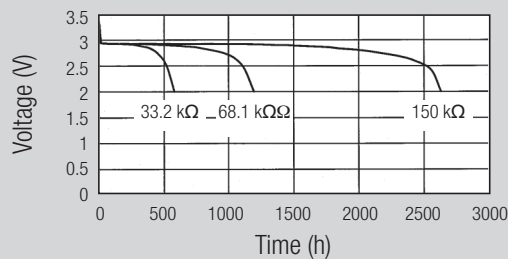
CR1616  Rated capacity: 50 mAh
Average weight: 1.1 g



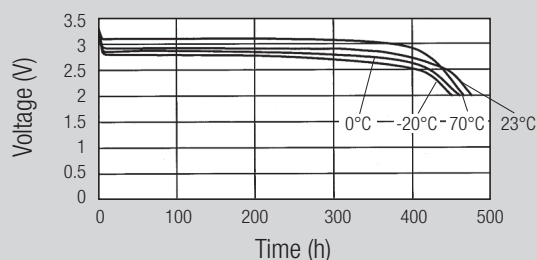
Discharge performance at 23°C



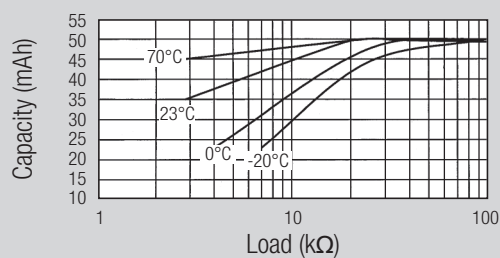
Discharge performance at 23°C



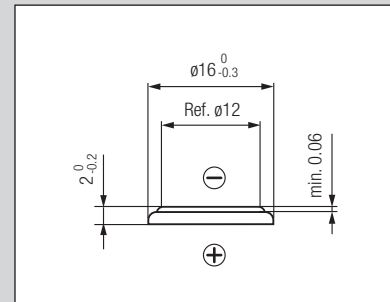
Temperature performance Load 27 kΩ



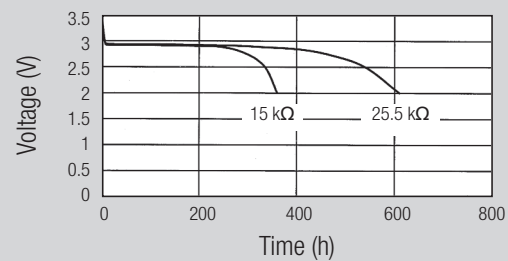
Cell capacity at various loads



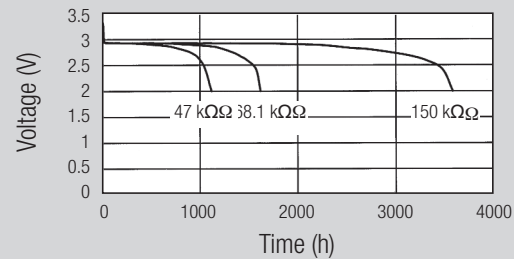
CR1620  Rated capacity: 68 mAh
Average weight: 1.2 g



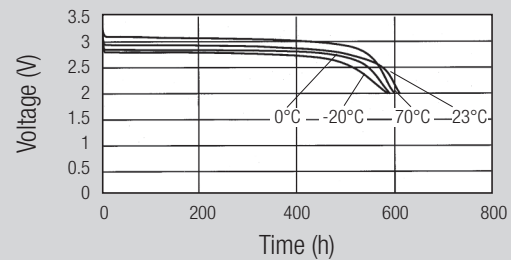
Discharge performance at 23°C



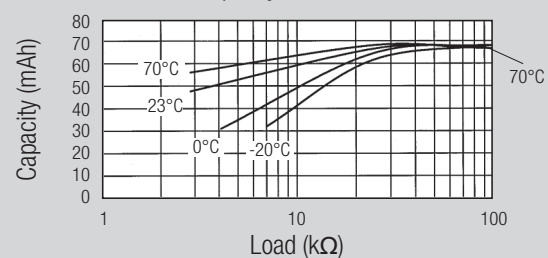
Discharge performance at 23°C

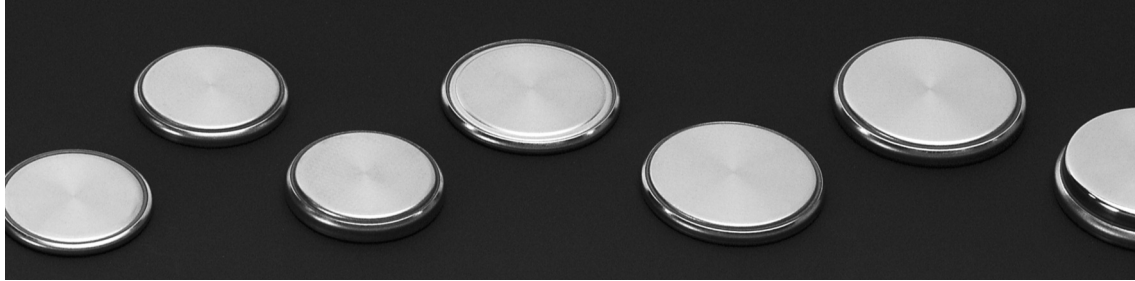


Temperature performance Load 25.5 kΩ

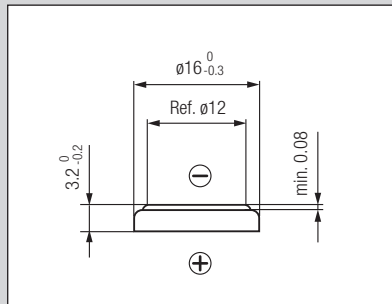


Cell capacity at various loads

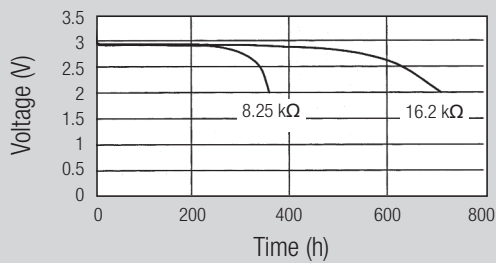




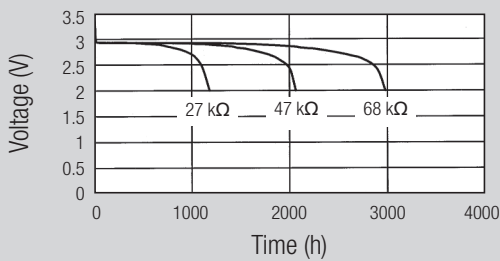
CR1632  Rated capacity: 125 mAh
Average weight: 1.8 g



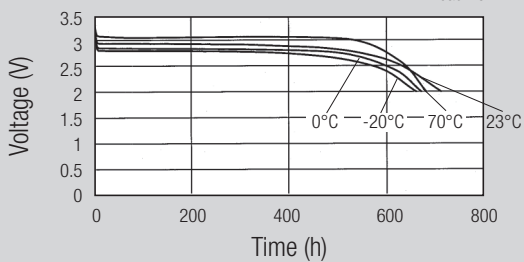
Discharge performance at 23°C



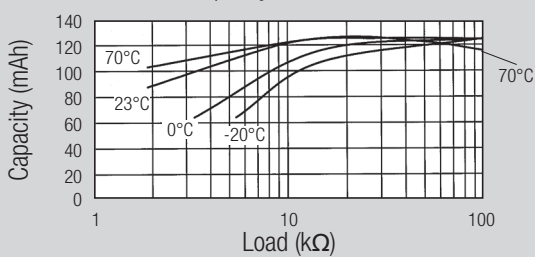
Discharge performance at 23°C



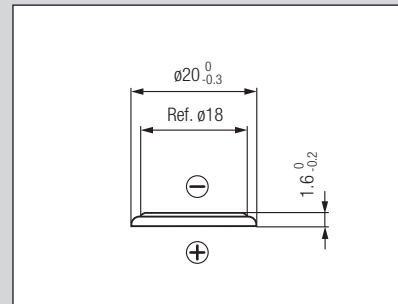
Temperature performance Load 16.2 kΩ



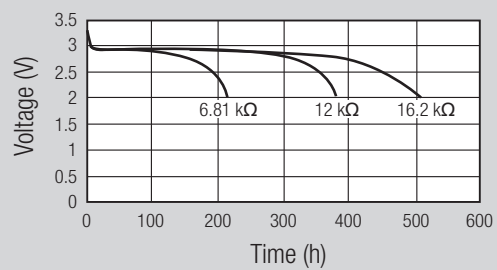
Cell capacity at various loads



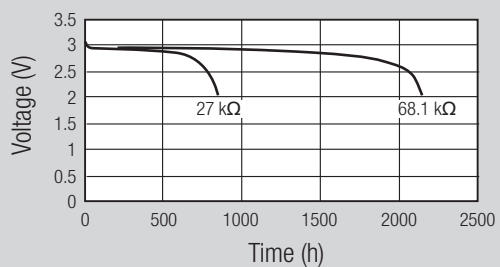
CR2016 MFR  Rated capacity: 90 mAh
Average weight: 1.7 g



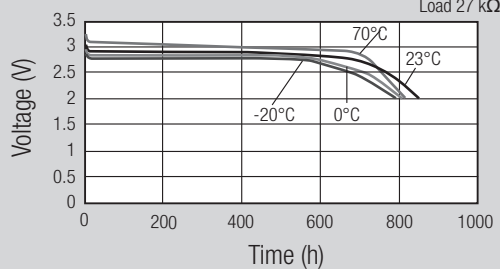
Discharge performance at 23°C



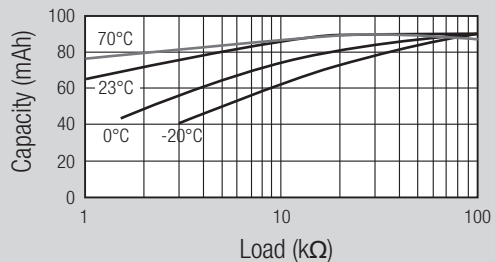
Discharge performance at 23°C



Temperature performance Load 27 kΩ



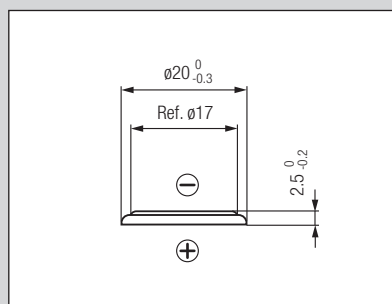
Cell capacity at various loads



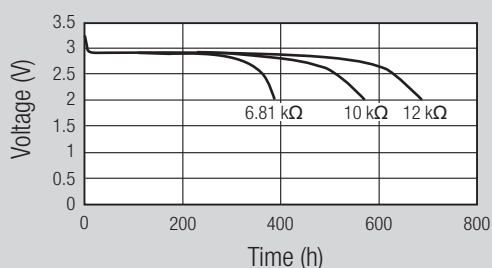
Coin Cells

Standard bare coin cells

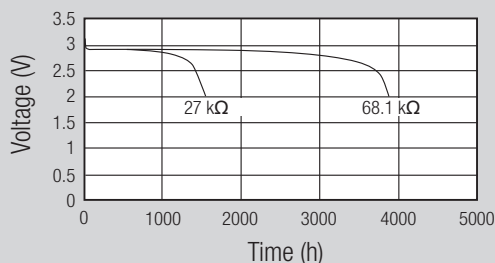
CR2025 MFR  Rated capacity: 165 mAh
Average weight: 2.5 g



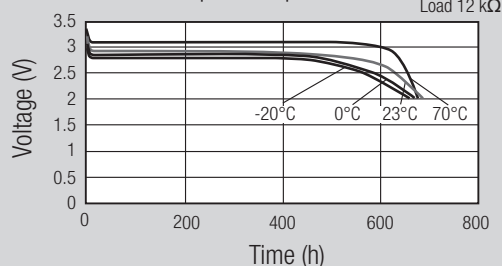
Discharge performance at 23°C



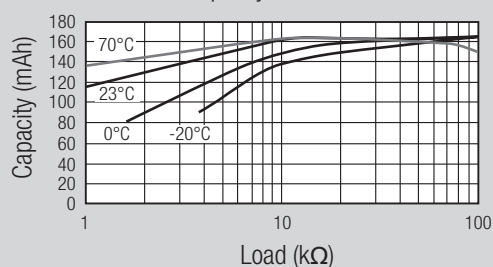
Discharge performance at 23°C



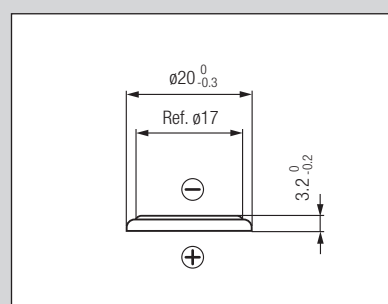
Temperature performance



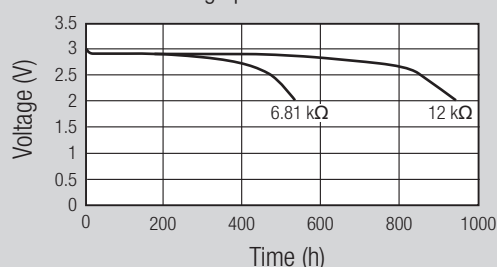
Cell capacity at various loads



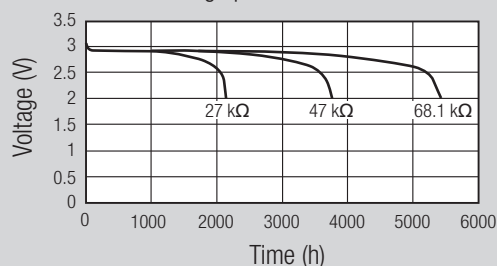
CR2032 MFR  Rated capacity: 225 mAh
Average weight: 2.8 g



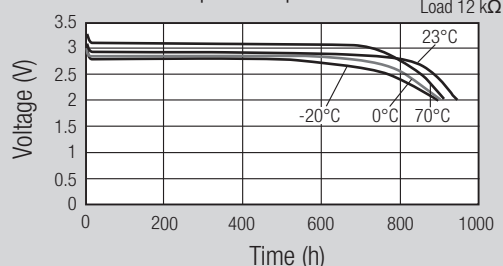
Discharge performance at 23°C



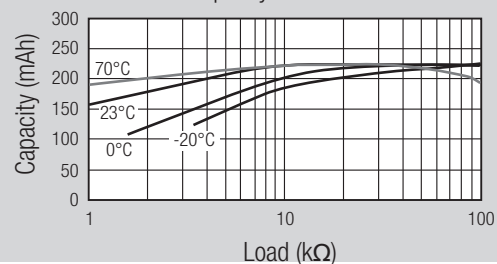
Discharge performance at 23°C

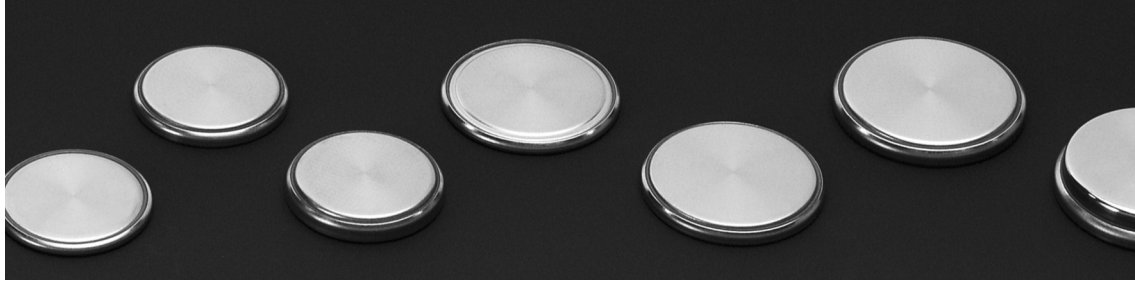


Temperature performance

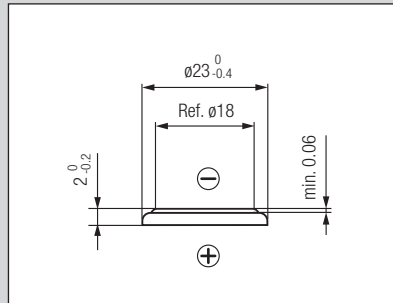


Cell capacity at various loads

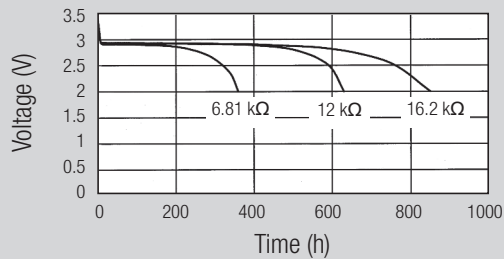




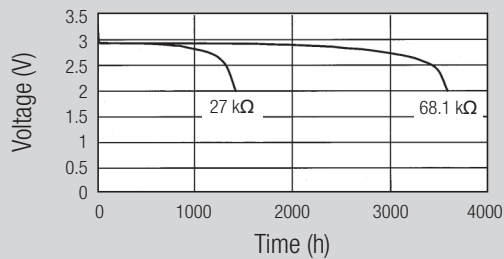
CR2320  Rated capacity: 150 mAh
Average weight: 2.7 g



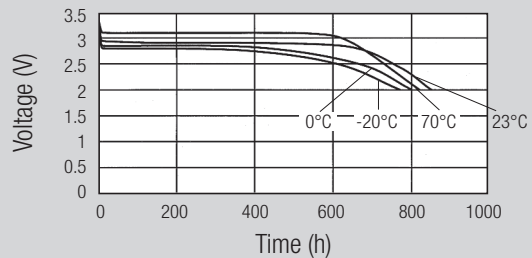
Discharge performance at 23°C



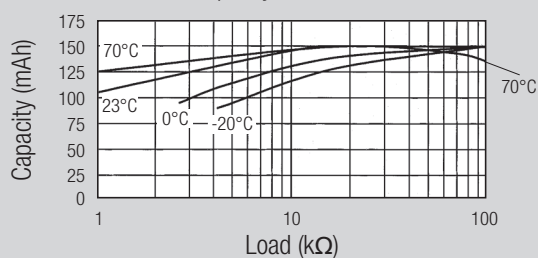
Discharge performance at 23°C



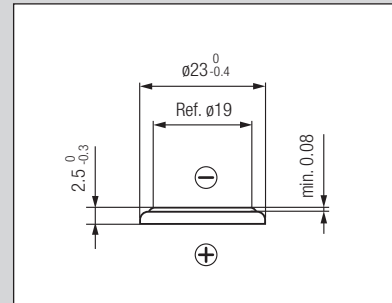
Temperature performance Load 16.2 kΩ



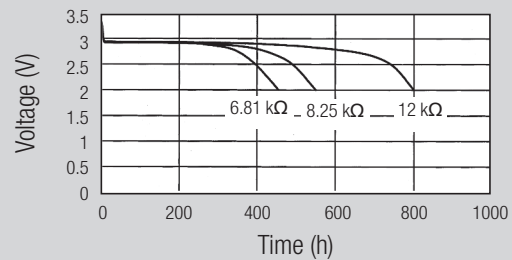
Cell capacity at various loads



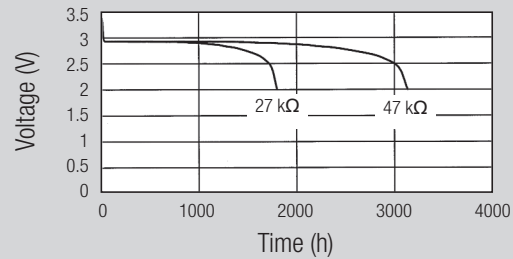
CR2325  Rated capacity: 190 mAh
Average weight: 3.0 g



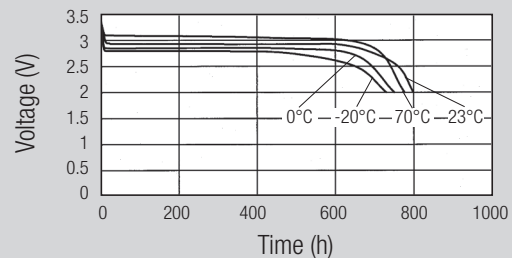
Discharge performance at 23°C



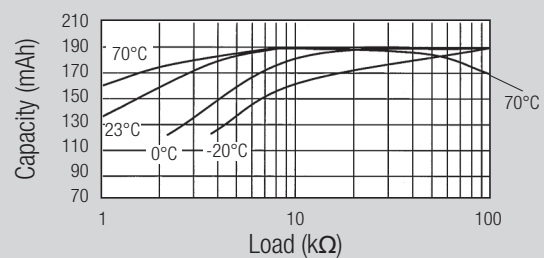
Discharge performance at 23°C



Temperature performance Load 12 kΩ



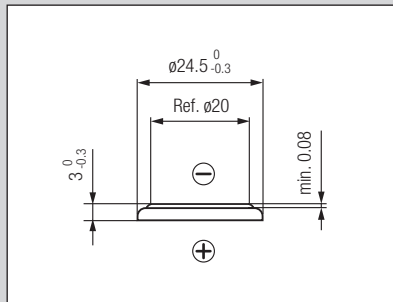
Cell capacity at various loads



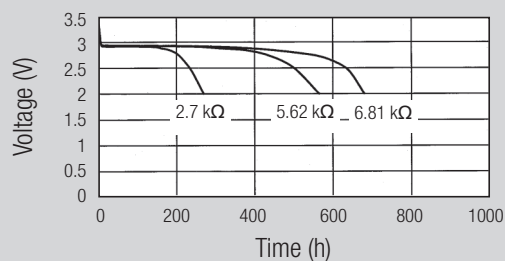
Coin Cells

Standard bare coin cells

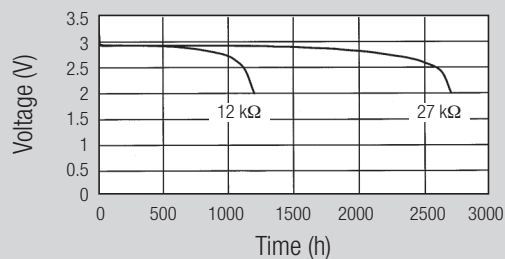
CR2430  Rated capacity: 285 mAh
Average weight: 4.1 g



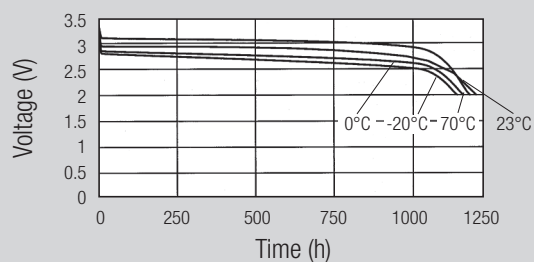
Discharge performance at 23°C



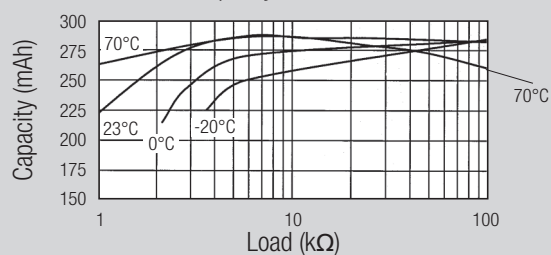
Discharge performance at 23°C



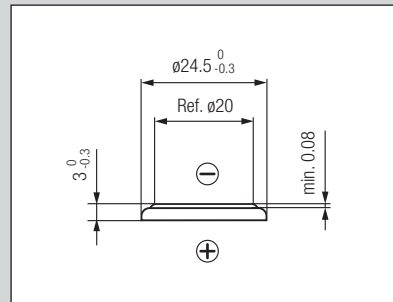
Temperature performance Load 12 kΩ



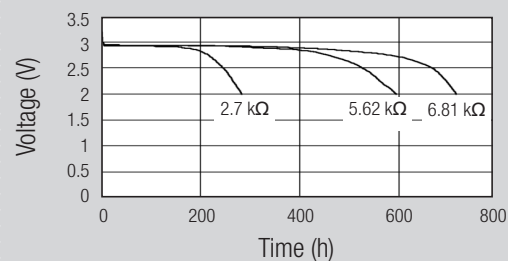
Cell capacity at various loads



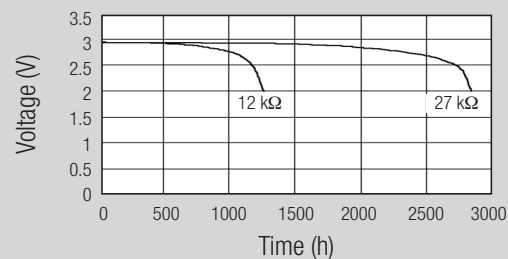
CR2430 MFR  Rated capacity: 300 mAh
Average weight: 4.3 g



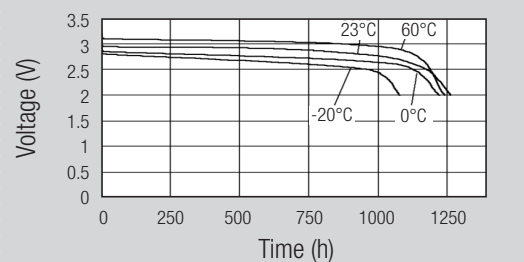
Discharge performance at 23°C



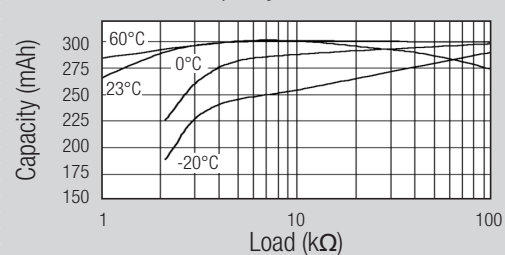
Discharge performance at 23°C

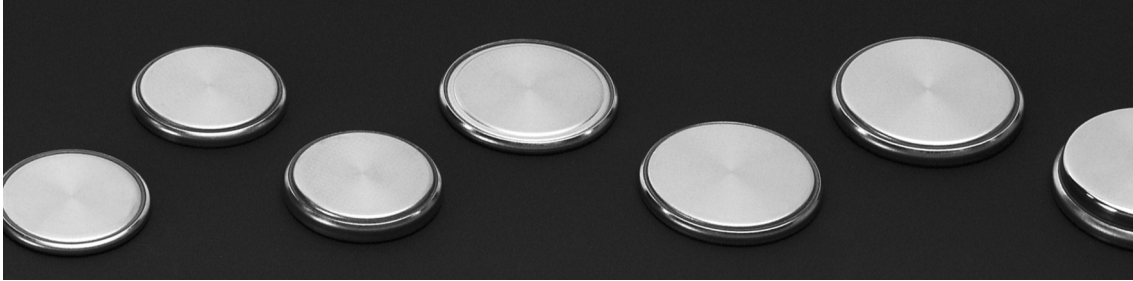


Temperature performance Load 12 kΩ

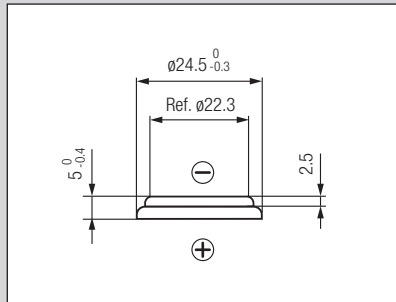


Cell capacity at various loads

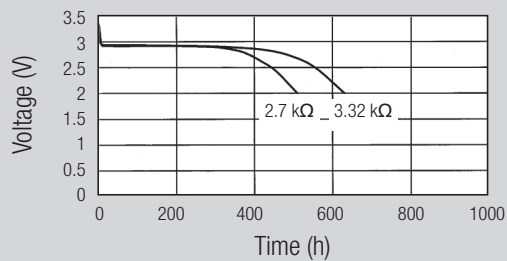




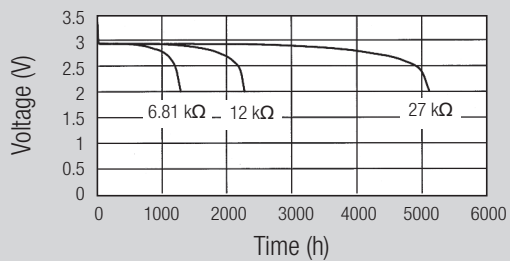
CR2450N  Rated capacity: 540 mAh
Average weight: 5.9 g



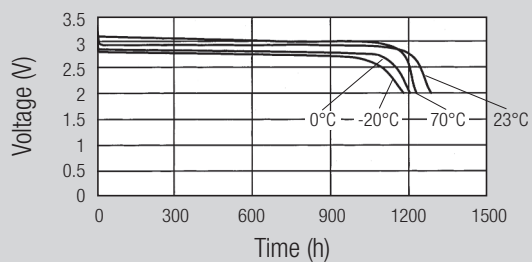
Discharge performance at 23°C



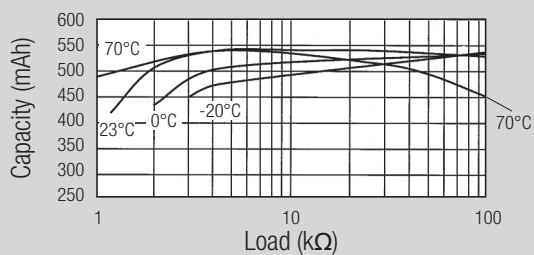
Discharge performance at 23°C



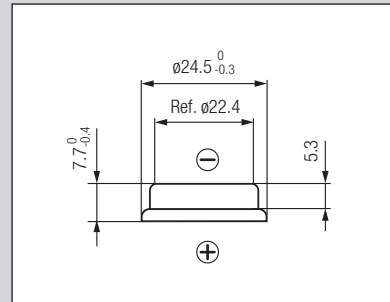
Temperature performance Load 6.81 kΩ



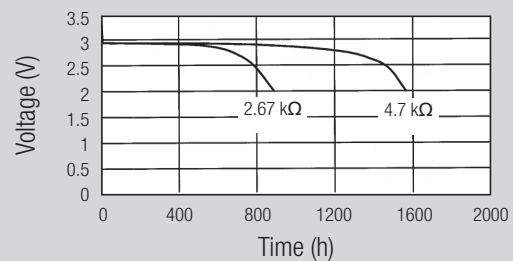
Cell capacity at various loads



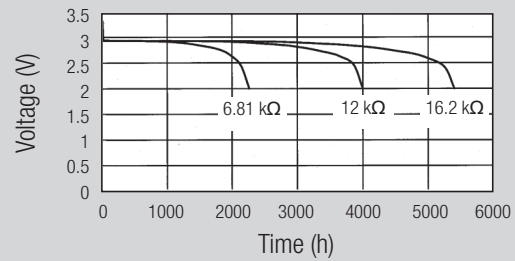
CR2477N  * Rated capacity: 950 mAh
Average weight: 8.2 g



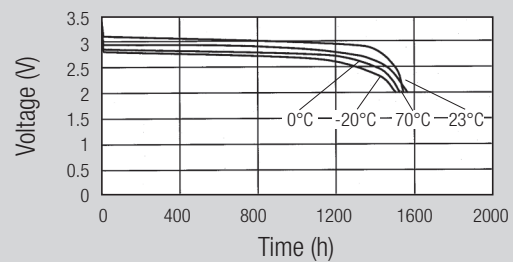
Discharge performance at 23°C



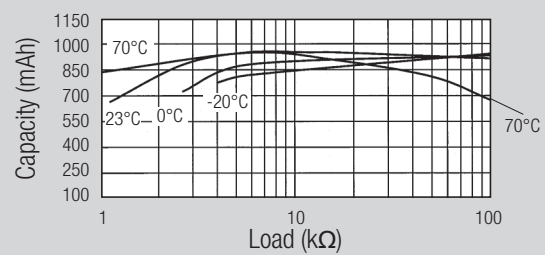
Discharge performance at 23°C



Temperature performance Load 4.7 kΩ



Cell capacity at various loads



* Battery is not user replaceable

Coin Cells

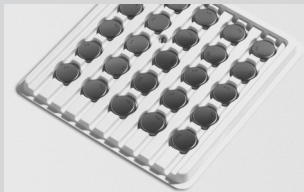
Packaging options



Coin cells can be supplied in different packaging

Industrial Bulk multi-cell plastic trays

Packaging Code: IB¹



Industrial Bulk packaging is the standard packaging for manufacturers.

The number of coin cells per plastic tray depends on the respective model. So does the number of plastic trays per shrink pack.

Singly packaged coin cells in blistered Card Units

Packaging Code: CU²

Card Unit packaging is e.g. used in replacement and retail business. There is one coin cell in a Card Unit, ten Card Units in a small box and ten small boxes in a bigger box.



Five coin cells packaged in blistered Tear Strips

Packaging Code: TS



Tear Strip packaging is e.g. used in retail or DIY stores. There are five coin cells in a Tear Strip, four Tear Strips in a small box and five small boxes in a bigger box.

Blistered multi-cell Bulk Tray

Packaging Code: BT



Bulk Tray packaging is e.g. used by small internet or catalogue distributors. The number of coin cells per Bulk Tray depends on the respective model. So does the number of plastic trays per cardboard box.

¹ Example: The Renata Part Name of CR2032 coin cells in industrial bulk packaging is "CR2032.IB".

² Example: The Renata Part Name of singly packaged CR1616 coin cells in card units is "CR1616.CU".

Coin Cells with Tabs

Two pins horizontal mounting



renata
batteries

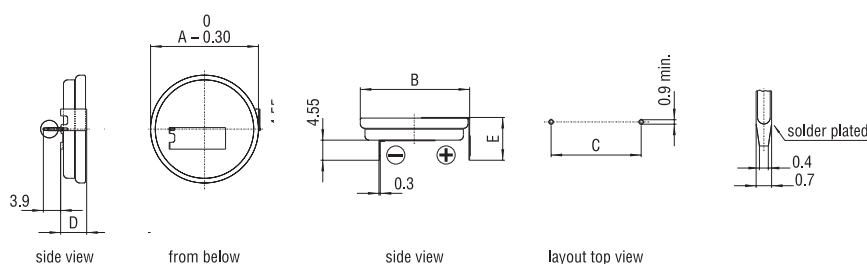
Catalogue of two-pins standard tabbed coin cells
for horizontal mounting on PCBs.

Features

- Excellent solderability thanks to solder-plated areas
- Suitable for wave-soldering

Specifications

- Solder contacts stainless steel AISI 301, thickness 0.15 mm
- Tin-plated solder area lead free (>99.9% Sn) plated throughout, thickness min. 2.5 µm. Solderability according to MIL-STD 883C, method 2003.3



Model	Nominal Capacity (mAh)	Max. Dimensions (mm)					Weight (g)	Part.No.*
		A	B	C	D	E		
CR1216MFR FH	30	12.50	12.70	11.00	2.40	6.30	0.9	702601
CR1220MFR FH	40	12.50	12.70	11.00	2.80	6.70	1.0	702604
CR1225FH-LF	48	12.50	12.70	11.00	3.30	7.20	1.1	701065
CR1616FH-LF	50	16.00	16.20	12.70	2.40	6.30	1.3	701382
CR1620FH-LF	68	16.00	16.20	12.70	2.80	6.70	1.4	701067
CR1632FH-LF	125	16.00	16.20	11.00	3.90	7.80	2.0	701069
CR1632FH1-LF	125	16.00	16.20	15.20	3.90	7.80	2.0	701070
CR2016MFR FH	90	20.00	20.20	15.20	2.40	6.30	1.9	701591
CR2016MFR FH1	90	20.00	20.35	20.40	2.40	6.30	1.9	701593
CR2025MFR FH	165	20.00	20.20	15.20	3.30	7.20	2.7	701595
CR2025MFR FH1	165	20.00	20.20	20.40	3.30	7.20	2.7	701596
CR2032MFR FH	225	20.00	20.20	15.20	3.90	7.80	3.0	701599
CR2032MFR FH0	225	20.00	20.20	10.35	3.90	7.80	3.0	701600
CR2032MFR FH1	225	20.00	20.20	20.40	3.90	7.80	3.0	701601
CR2032MFR FH2	225	20.00	20.20	22.50	3.90	7.80	3.0	701603
CR2325FH-LF	190	23.00	23.20	20.40	3.30	7.20	3.2	701085
CR2430MFR FH	300	24.50	24.70	20.40	3.90	7.80	4.3	702522
CR2430MFR FH1	300	24.50	24.70	15.20	3.90	7.80	4.3	702521
CR2430FH-LF	285	24.50	24.70	20.40	3.90	7.80	4.3	701089
CR2430FH1-LF	285	24.50	24.70	15.20	3.90	7.80	4.3	701090
CR2450NFH-LF	540	24.50	24.70	20.40	5.80	9.70	6.1	701095
CR2477NFH-LF	950	24.50	24.70	20.40	8.50	12.40	8.4	701100

*Packaging: Industrial Bulk (IB-Trays)

Coin Cells with Tabs

Three pins horizontal mounting



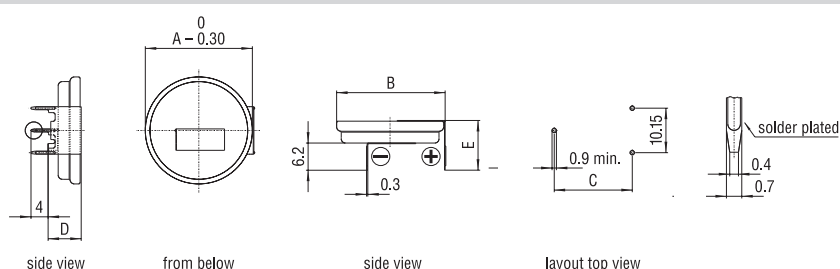
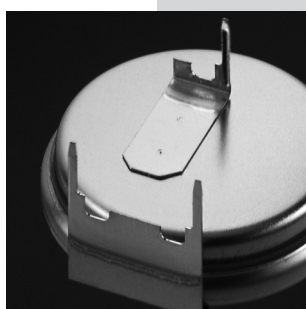
Catalogue of three-pins standard tabbed coin cells for horizontal mounting on PCBs.

Features

- Excellent solderability thanks to solder-plated areas
- Suitable for wave-soldering

Specifications

- Solder contacts stainless steel AISI 301, thickness 0.15 mm
- Tin-plated solder area plated throughout, thickness min. 2.5 μm . Solderability according to MIL-STD 883C, method 2003.3

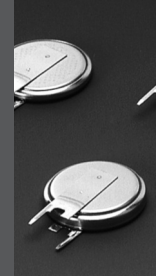


Model	Nominal Capacity (mAh)	Max. Dimensions (mm)					Weight (g)	Part.No.*
		A	B	C	D	E		
CR1632RH-LF	125	16.00	16.35	15.20	5.45	9.45	2.0	701238
CR2016MFR RH	90	20.00	20.20	15.20	3.95	7.95	2.0	701594
CR2025MFR RH	165	20.00	20.20	15.20	4.85	8.85	2.6	701597
CR2032MFR RH	225	20.00	20.20	15.20	5.45	9.45	3.1	701604
CR2032MFR RH1	225	20.00	20.20	17.80	5.45	9.45	3.1	701605
CR2032MFR RH2	225	20.00	20.35	20.40	5.45	9.45	3.0	701724
CR2325RH-LF	190	23.00	23.20	17.80	4.85	8.85	3.3	701087
CR2430MFR RH	300	24.50	24.70	17.80	5.45	9.45	4.4	702525
CR2430MFR RH1	300	24.50	24.70	20.40	5.45	9.45	4.4	702524
CR2430RH-LF	285	24.50	24.70	17.80	5.45	9.45	4.4	701092
CR2430RH1-LF	285	24.50	24.70	20.40	5.45	9.45	4.4	701093
CR2450NRH-LF	540	24.50	24.70	17.80	7.35	11.35	6.2	701097
CR2450NRH1-LF	540	24.50	24.70	20.40	7.35	11.35	6.2	701098
CR2477NRH-LF	950	24.50	24.70	17.80	10.05	14.05	8.5	701103

*Packaging: Industrial Bulk (IB-Trays)

Coin Cells with Tabs

Two pins vertical mounting



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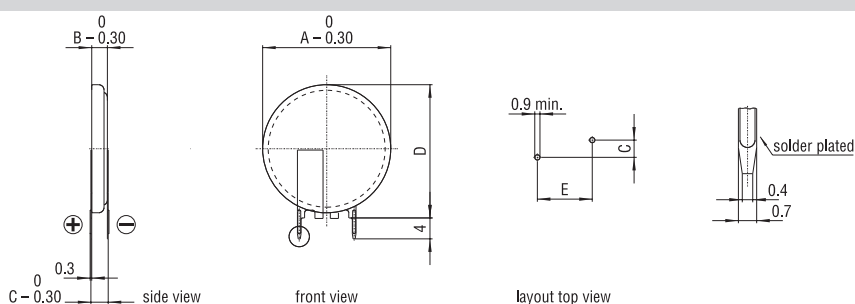
Catalogue of two-pins standard tabbed coin cells for vertical mounting on PCBs.

Features

- Excellent solderability thanks to solder-plated areas
- Suitable for wave-soldering

Specifications

- Solder contacts stainless steel AISI 301, thickness 0.15 mm
- Tin-plated solder area plated throughout, thickness min. 2.5 µm. Solderability according to MIL-STD 883C, method 2003.3



Model	Nominal Capacity (mAh)	Max. Dimensions (mm)					Weight (g)	Part.No. *
		A	B	C	D	E		
CR1025FV-LF	30	10.00	2.50	2.80	11.00	5.08	0.8	701060
CR1025FV1-LF ¹⁾	30	10.00	2.50	2.80	11.00	5.08	0.8	701061
CR1216MFR FV	30	12.50	1.60	1.90	13.60	5.08	0.9	702603
CR1220MFR FV	40	12.50	2.00	2.30	13.50	5.08	1.0	702606
CR1225FV-LF	48	12.50	2.50	2.80	13.50	5.08	1.1	701066
CR1616FV-LF	50	16.00	1.60	1.90	17.00	5.08	1.3	701381
CR1620FV-LF	68	16.00	2.00	2.30	17.00	5.08	1.4	701068
CR1632FV-LF	125	16.00	3.20	3.50	17.00	5.08	2.0	701071
CR2016MFR FV	90	20.00	1.60	1.60	21.10	10.50	2.0	701426
CR2032MFR FV	225	20.00	3.20	3.50	21.00	10.50	3.0	701606
CR2320FV-LF	150	23.00	2.00	2.30	24.00	10.50	2.9	701084
CR2325FV-LF	190	23.00	2.50	2.80	24.00	10.50	3.2	701086
CR2430MFR FV	300	24.50	3.00	3.30	25.50	10.50	4.3	702523
CR2430FV-LV	285	24.50	3.00	3.30	25.50	10.50	4.3	701091
CR2450NFV-LF	540	24.50	5.00	5.80	25.50	10.50	6.1	701096
CR2477NFV-LF	950	24.50	7.70	8.00	25.50	10.50	8.4	701101

*Packaging: Industrial Bulk (IB-Trays)

¹ CR1025FV1-LF has the same dimensions as CR1025FV-LF but reverse polarity.

Coin Cells with Tabs

Three pins vertical mounting



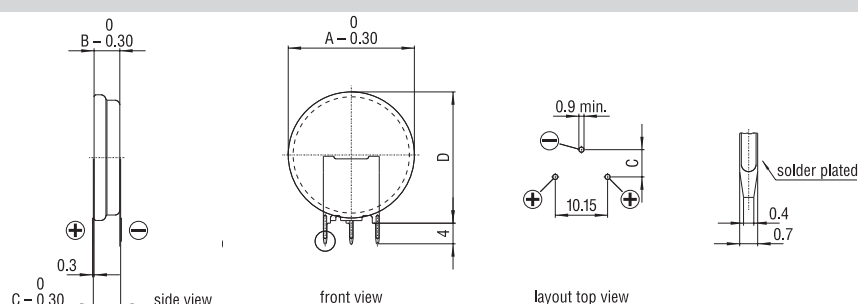
Catalogue of three-pins standard tabbed coin cells for vertical mounting on PCBs.

Features

- Excellent solderability thanks to solder-plated areas
- Suitable for wave-soldering

Specifications

- Solder contacts stainless steel AISI 301, thickness 0.15 mm
- Tin-plated solder area plated throughout, thickness min. 2.5 µm. Solderability according to MIL-STD 883C, method 2003.3



Model	Nominal Capacity (mAh)	Max. Dimensions (mm)				Weight (g)	Part.No.*
		A	B	C	D		
CR2025MFR RV	165	20.00	2.50	2.80	21.00	2.8	701598
CR2032MFR RV	225	20.00	3.20	3.50	21.00	3.1	701607
CR2325RV-LF	190	23.00	2.50	2.80	24.00	3.3	701088
CR2430MFR RV	300	24.50	3.00	3.30	25.50	4.4	702530
CR2430RV-LF	285	24.50	3.00	3.30	25.50	4.4	701094
CR2450NRV-LF	540	24.50	5.00	5.30	25.50	6.2	701099
CR2477NRV-LF	950	24.50	7.70	8.00	25.50	8.5	701104

*Packaging: Industrial Bulk (IB-Trays)

Coin Cells with Tabs

Isotan¹⁾ tabs for through-hole mounting



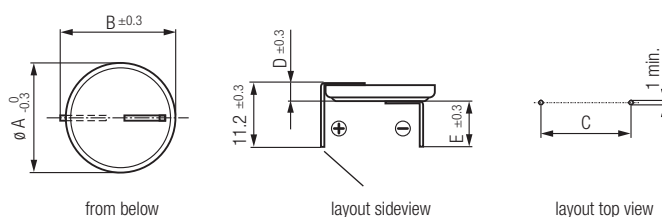
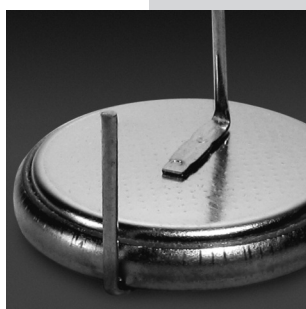
Catalogue of two-pins, Isotan¹⁾-tabbed coin cells for horizontal mounting on PCBs.

Features

- Good solderability
- Suitable for wave-soldering

Specifications

- Tab material: Isotan (54% Cu, 44% Ni, Mn)



Model	Nominal Capacity (mAh)	Dimensions (mm)					Weight (g)	Part.No.*
		A	B	C	D	E		
CR1225AH	48	12.50	13.3	11.0	3.10	7.6	1.1	700772
CR1632AH1	125	16.00	17.0	15.2	3.80	7.6	2.0	700534
CR2025MFR AH	165	20.00	21.0	15.2	3.10	7.6	2.7	701720
CR2032MFR AH	225	20.00	21.0	15.2	3.85	7.6	3.0	701721
CR2032MFR AH0	225	20.00	21.0	10.35	3.85	7.6	3.0	701722
CR2032MFR AH1	225	20.00	21.0	20.4	3.85	7.6	3.0	701723
CR2450NAH	540	24.50	25.3	20.4	5.60	5.6	6.1	700378
CR2477NAH	950	24.50	25.3	20.4	8.30	3	8.3	700393

*Packaging: Industrial Bulk (IB-Trays)

1) Isotan® is a registered trademark of Isabellenhütte Heusler GmbH & Co. KG.

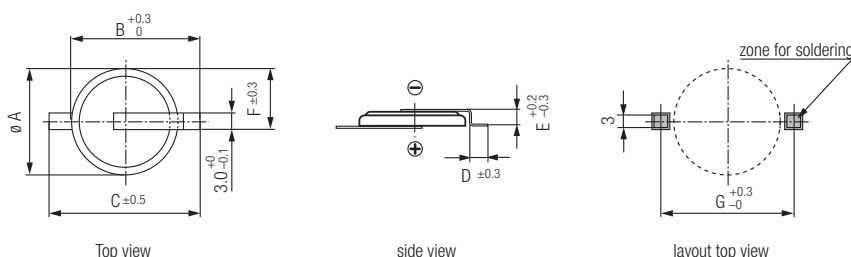
Catalogue of SM-tabbed coin cells for horizontal mounting on PCBs.

Features

- Good solderability, but not suitable for reflow-soldering

Specifications

- Tab material: Isotan (54% Cu, 44% Ni, Mn)



Model	Nominal Capacity (mAh)	Dimensions (mm)							Part.No.*
		A	B	C	D	E	F	G	
CR1025SM	30	$10.0^{+0/-0.3}$	13.0	16.0	2.0	2.8	6.5	14.0	701960
CR1216MFR SM	25	$12.5^{+0/-0.3}$	15.75	19.0	2.0	1.9	7.75	17.0	702602
CR1220MFR SM	38	$12.5^{+0/-0.3}$	15.75	19.0	2.0	2.3	7.75	17.0	702605
CR1225SM	48	$12.5^{+0/-0.3}$	15.75	19.0	2.0	2.8	7.75	17.0	701964
CR1616SM	50	$16.0^{+0/-0.3}$	20.0	24.0	3.0	1.9	9.5	21.0	701965
CR1620SM	68	$16.0^{+0/-0.3}$	20.0	24.0	3.0	2.3	9.5	21.0	701966
CR1632SM	125	$16.0^{+0/-0.3}$	20.0	24.0	3.0	3.5	9.5	21.0	701967
CR2016MFR SM	90	$20.0^{+0/-0.3}$	24.0	28.0	3.0	1.9	11.5	25.0	701969
CR2025MFR SM	165	$20.0^{+0/-0.3}$	24.0	28.0	3.0	2.8	11.5	25.0	701971
CR2032MFR SM	225	$20.0^{+0/-0.3}$	24.0	28.0	3.0	3.5	11.5	25.0	701973
CR2320SM	150	$23.0^{+0/-0.4}$	28.0	33.0	4.0	2.3	13.0	29.0	701974
CR2325SM	190	$23.0^{+0/-0.4}$	28.0	33.0	4.0	2.8	13.0	29.0	701975
CR2430MFR SM	300	$24.5^{+0/-0.3}$	29.5	34.5	4.0	3.3	13.75	30.5	702532
CR2430SM	285	$24.5^{+0/-0.3}$	29.5	34.5	4.0	3.3	13.75	30.5	701976
CR2450SM	540	$24.5^{+0/-0.3}$	29.5	34.5	4.0	5.3	13.75	30.5	701977
CR2477SM	950	$24.5^{+0/-0.3}$	29.5	34.5	4.0	8.0	13.75	30.5	701978

*Packaging: Industrial Bulk (IB-Trays)

1) Isotan® is a registered trademark of Isabellenhütte Heusler GmbH & Co. KG.

2) Customized SM-Tab configuration upon request – see Customized Battery Solutions

Coin Cells with Tabs

Packaging options

All tabbed coin cells are supplied in the following packaging:

Industrial Bulk multi-cell plastic trays

Packaging Code: **IB**

Industrial Bulk packaging is the standard packaging for manufacturers.

The number of tabbed coin cells per plastic tray depends on the respective model. So does the number of plastic trays per shrink pack.



Battery Holders

Surface Mounting Technology (SMT)



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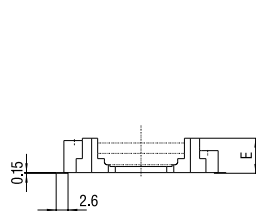
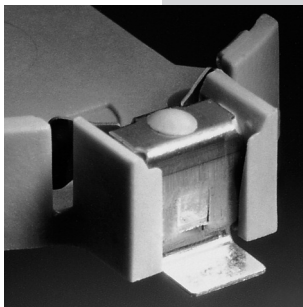
Horizontal mounting

Features

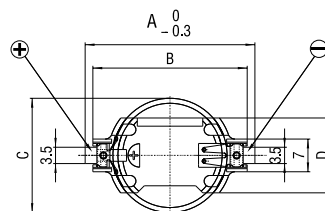
- Easy and fast replacement of the battery
- Designed for automatic pick&place mounting
- Safe retention of coin cell
- Automated battery mounting possible
- Clear separation of connections
- Protection against short-circuits
- Protection against inverse polarity (polarized)
- Protection against leak currents
- Robust design
- Suitable for reflow-soldering

Specifications

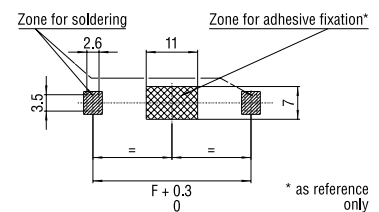
- Holder material: heat-resistant, glass fibre filled LCP
- Flammability rating UL 94 V-0
- Battery contacts: spring stainless steel AISI 301, nickel-plated throughout. Solder area tin-plated throughout, min. thickness 5 µm.
- Contact resistance between contacts and the cell is less than 100 mΩ (measured through AC 1kHz; depending on the case material of the cell).
-  UL recognition, file E218732
- Operating temperature range: -40/+100°C



side view



top view



layout top view

* as reference only

Dimensions

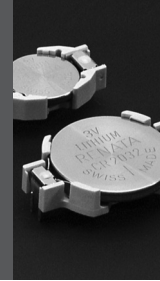
Model	For use with Renata cell	Dimensions (mm)						Weight (g)	Part.No.*
		A	B	C	D	E	F		
SMTU357-LF	357 (SR44W)	23.3	19.9	11.6	12.0	7.55	20.7	0.85	701132
SMTU1220-LF	CR1220	23.7	20.3	12.5	12.7	4.8	21.1	0.80	701114
SMTU1225-LF	CR1225	23.7	20.3	12.5	12.7	4.8	21.1	0.70	701115
SMTU1632-LF	CR1632	27.7	24.3	16.0	14.5	5.4	25.1	0.80	701130
SMTU2032-LF	CR2032	32.0	28.5	20.0	16.1	5.4	29.4	0.95	701116
SMTU2430-LF	CR2430	36.4	33.0	24.5	16.1	4.9	33.8	1.05	701117
SMTU2450N-LF	CR2450N ¹⁾	36.4	33.0	24.5	16.1	7.5	33.8	1.45	701118
SMTU2477N-LF	CR2477N	36.4	33.0	24.5	16.1	10.3	33.8	1.65	701119
SM2X2016-LF	CR2016	32.0	28.5	20.0	16.1	5.4	29.4	0.95	701113

*Packaging: Industrial Bulk (IB-Trays)

1) Not suitable for CR2450HT

Battery Holders

Through-hole mounting



renata
batteries

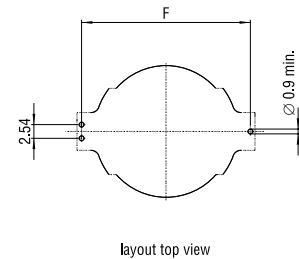
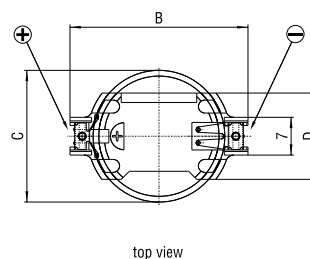
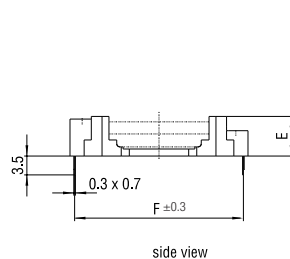
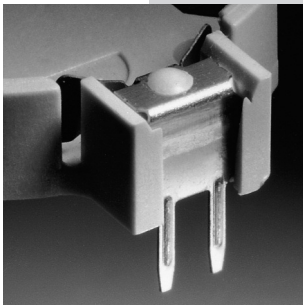
Horizontal mounting

Features

- Easy and fast replacement of the battery
- Designed for automatic pick&place mounting
- Safe retention of coin cell
- Automated battery mounting possible
- Clear separation of connections
- Protection against short-circuits
- Protection against inverse polarity (polarized)
- Protection against leak currents
- Robust design
- Suitable for wave-soldering

Specifications

- Holder material: heat-resistant, glass fibre filled LCP
- Flammability rating UL 94 V-0
- Battery contacts: spring stainless steel AISI 301, nickel-plated throughout. Solder area tin-plated throughout, min. thickness 5 µm.
- Contact resistance between contacts and the cell is less than 100 mΩ (measured through AC 1kHz; depending on the case material of the cell).
-  UL recognition, file E218732
- Operating temperature range: -40/+100°C



Dimensions

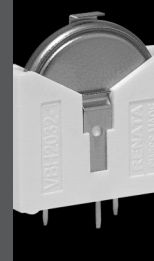
Model	For use with Renata cell	Dimensions (mm)					Weight (g)	Part.No.*
		B	C	D	E	F		
HU357-LF	357 (SR44W)	19.9	11.6	12.0	7.4	18.65	0.84	701133
HU1225-LF	CR1225	20.3	12.5	12.7	4.5	19.1	0.70	701105
HU1632-LF	CR1632	24.3	16.0	14.5	5.2	23.0	0.80	701131
HU2032-LF	CR2032	28.5	20.0	16.1	5.2	27.2	0.95	701106
HU2430-LF	CR2430	33.0	24.5	16.1	4.7	31.7	1.05	701107
HU2450N-LF	CR2450N ¹⁾	33.0	24.5	16.1	7.3	31.75	1.45	701108
HU2477N-LF	CR2477N	33.0	24.5	16.1	10.1	31.8	1.65	701109

*Packaging: Industrial Bulk (IB-Trays)

1) Not suitable for CR2450HT

Battery Holders

Through-hole mounting



renata
batteries

Vertical mounting

VBH2032-1 - Vertical battery holder for Renata coin cell CR2032 / CR2032MFR

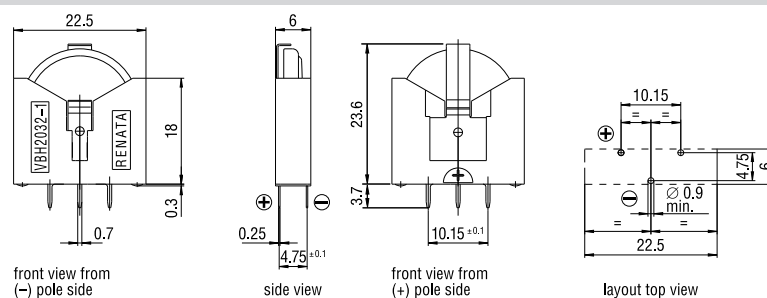
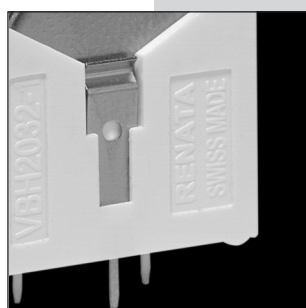
Features

- Small PCB footprint
- Easy and fast replacement of the battery
- Safe retention of coin cell
- Protection against short-circuits
- Protection against inverse polarity (polarized)
- Protection against leak currents
- Robust design
- Suitable for wave-soldering

Specifications

- Holder material: polyamide
- Flammability rating UL 94 V-0
- Battery contacts: spring stainless steel AISI 301, nickel-plated throughout.
-  UL recognition, file E218732
- Operating temperature range: -40/+85°C

Dimensions (mm)



Model	For use with Renata cell	Weight (g)	Part. No.*
VBH2032-1	CR2032	1.6	700579

*Packaging: Industrial Bulk (IB-Trays)

Battery Holders

Through-hole mounting with positioning pins



Battery holders for CR2450N or CR2477N
Vertical and horizontal versions

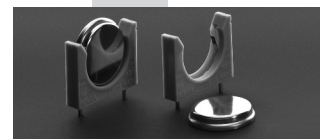
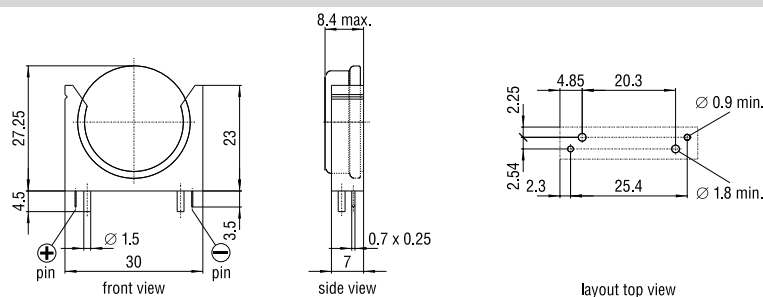
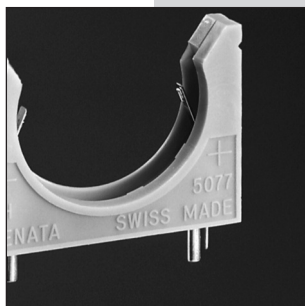
Features

- Easy and fast replacement of the battery
- Snap-on fixing for coin cells
- Safe retention of coin cell
- Automated battery mounting possible
- Clear separation of connections
- Protection against short-circuits
- Protection against inverse polarity
- Protection against leak currents
- Robust design
- Easy and safe PCB mounting due to additional positioning pins
- Suitable for wave-soldering

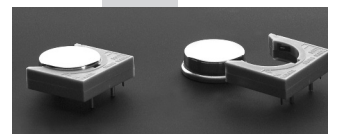
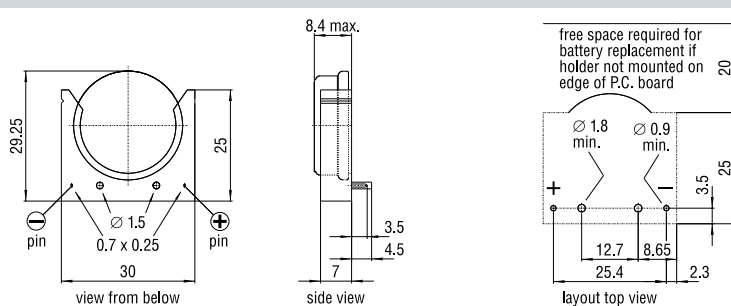
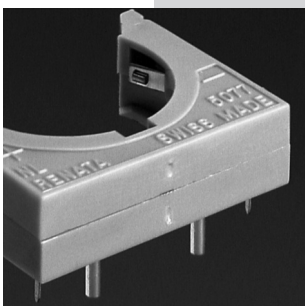
Specifications

- Holder material: polyamide
- Flammability rating UL 94 V-2
- Battery contacts: Nickel 99.6 DIN 17740
- Contact resistance between contacts and the cell is less than 100 m Ω (measured through AC 1kHz).
- Solder and positioning pins tin plated through-out, min. thickness 5 μ m.
-  UL recognition, file E218732
- Operating temperature range: -40/+85°C

NH5077-LF Vertical version



NL5077-LF Horizontal version



Model	For use with Renata cell	Weight (g)	Part.No.*
NH5077-LF	CR2450N ¹⁾ , CR2477N	2.4	701111
NL5077-LF	CR2450N ¹⁾ , CR2477N	2.9	701112

*Packaging: Industrial Bulk (IB-Trays)

1) Not suitable for CR2450HT

Battery Holders

Packaging options

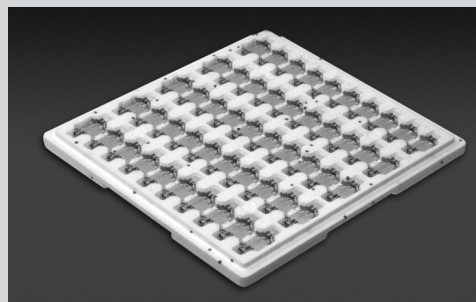
Battery holders can be supplied in different packaging

Industrial Bulk multi-cell trays

Packaging Code: **IB**

Industrial Bulk packaging is the standard packaging for manufacturers.

The number of battery holders per tray depends on the respective model. So does the number of trays per shrink pack.



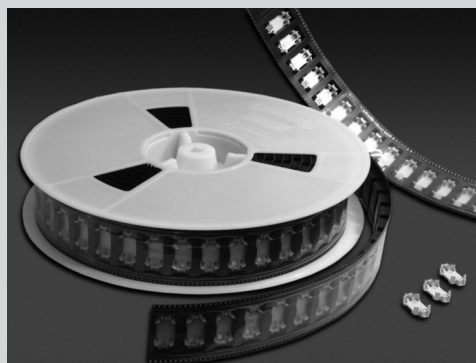
Tape&Reel packaging

Packaging Code: **TR**

For SMT-battery holders there is a Tape&Reel packaging solution available.

Tape&Reel packaging is ideal for high-speed, automated manufacturing lines.

The number of battery holders per reel depends on the respective model.



Quantity per reel:

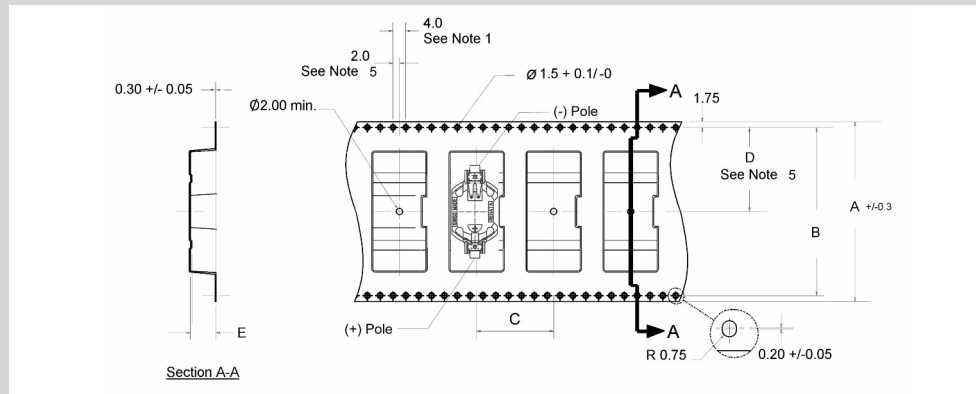
Model	Quantity per Reel	Part.No.*
SMTU1225-LF TR	750 pieces	701230
SMTU1632-LF TR	520 pieces	701231
SMTU2032-LF TR	485 pieces	701232
SMTU2430-LF TR	490 pieces	701233
SMTU2450N-LF TR	350 pieces	701234
SMTU2477N-LF TR	250 pieces	701235
SM2X2016-LF TR	485 pieces	701236

*Packaging: Tape&Reel (TR)

Battery Holders

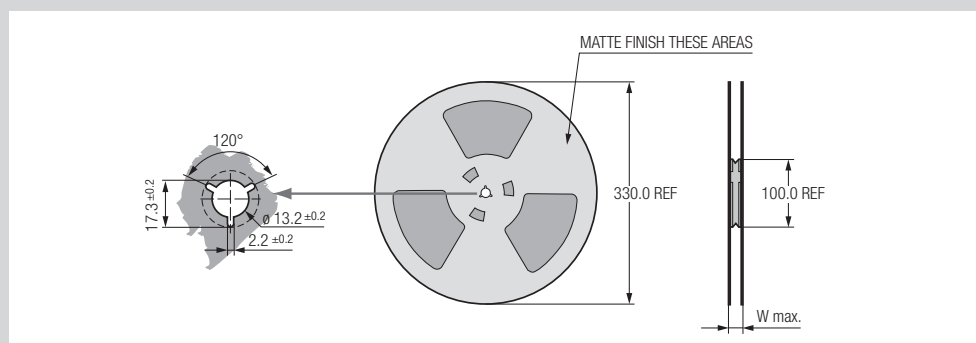
Packaging options

Dimensions of antistatic carrier tapes:



Model	Dimensions (mm)				
	A	B	C	D	E
SMTU1225-LF	44.0	40.4	16.0	20.2	5.7
SMTU1632-LF	44.0	40.4	20.0	20.2	6.1
SMTU2032-LF	44.0	40.4	24.0	20.2	6.0
SMTU2430-LF	56.0	52.4	24.0	26.2	5.7
SMTU2450N-LF	56.0	52.4	24.0	26.2	8.2
SMTU2477N-LF	56.0	52.4	24.0	26.2	10.8
SM2x2016-LF	44.0	40.4	24.0	20.2	6.0

Dimensions of antistatic packaging reels



Model	Dimensions (mm)	
	W max.	
SMTU1225-LF	50 ±1.0	
SMTU1632-LF	50 ±1.0	
SMTU2032-LF	50 ±1.0	
SMTU2430-LF	50 ±1.0	
SMTU2450N-LF	62 ±1.0	
SMTU2477N-LF	62 ±1.0	
SM2x2016-LF	50 ±1.0	

All packaging materials comply with relevant EIA, EIAJ and IEC specifications.

1. 10 sprocket hole pitch cumulative tolerance +/- .02
2. Camber not to exceed 1mm in 100 mm
3. Material: Black Conductive Advantek Polystyrene
4. E measured from a plane on the inside bottom of the pocket to the top surface of the carrier
5. Pocket position relative to sprocket hole measured as true position of pocket, not pocket hole

Encapsulated Batteries (Power Modules)

Overview



Why use encapsulated batteries (Power Modules)?

RENATA Power Modules were specially designed for applications with long life expectations in a difficult environment, e.g. outdoors or under dusty or high humidity conditions. The cell is hermetically sealed in a plastic case which protects the sealing system of the cell itself against negative external influences. In addition, it reduces the evaporation of electrolyte from the battery as well as the diffusion of humidity from the environment into the cell through the polymeric plastic gasket. An ideal solution for use in off-shore property or tropical areas.

RENATA Power Modules are available as solder or plug-in versions, with or without incorporated decoupling diodes.

Features

- Hermetically sealed
- Max. protection against harsh environmental conditions (hot, humid or dusty areas)
- Low self-discharge
- Operating and storage temperature: $-40^{\circ}/+85^{\circ}\text{C}^{1)}$
- Suitable for wave soldering
- Free of heavy metals
- Gold-plated plug-in pins for best contact reliability

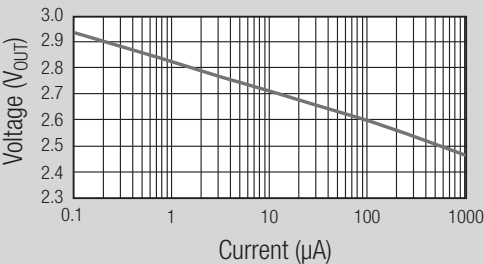
Specifications

- Power Module case: Polyamide
- Soldering contacts: Isotan²⁾ (55% CU, 44% Ni, Mn)

Model Matrix		With Decoupling Diodes	Without Decoupling Diodes
Horizontal mounting	For soldering	1000-1, (page 34)	175-0; 1000-0, (page 35)
	For plug-in	1000-1B, (page 36)	175-0B; 1000-0B, (page 37)
Vertical mounting	For soldering	175-2, (page 33)	338A, (page 34)

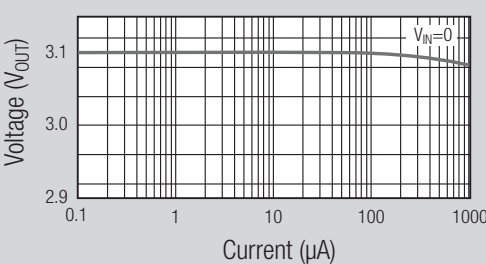
with decoupling diodes

Output Voltage vs. Output Current



without decoupling diodes

Output Voltage vs. Output Current



1) In applications where the Power Module is exposed to temperatures above 70°C, please contact Renata for consultancy.

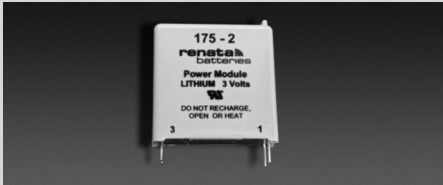
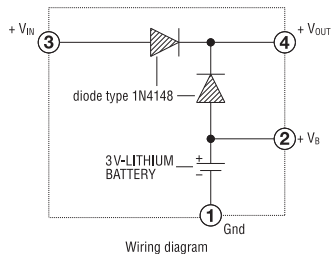
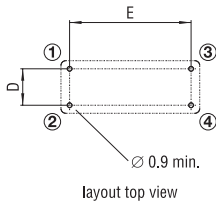
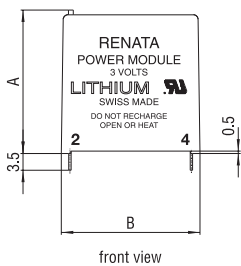
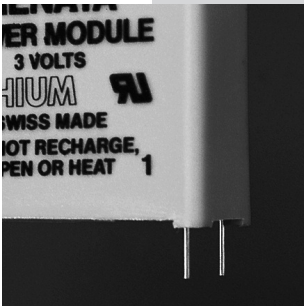
2) Isotan® is a registered trademark of Isabellenhütte Heusler GmbH & Co. KG.

Encapsulated Batteries (Power Modules)

For soldering



Versions for vertical mounting, with decoupling diodes



Model	Dimensions (mm)					Weight (g)	Nominal Voltage (V)	Nominal Capacity (mAh)	Standard Current (mA)	Max. cont. Current (mA)	Part.No.*
	A	B	C	D	E						
175-2	25	24	8.5	5.08	20.32	6.5	3	235	0.4	3.0	700044

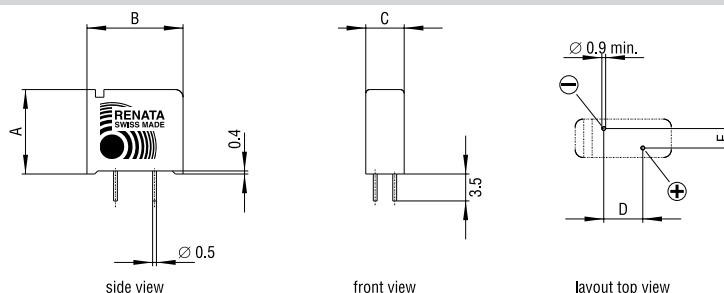
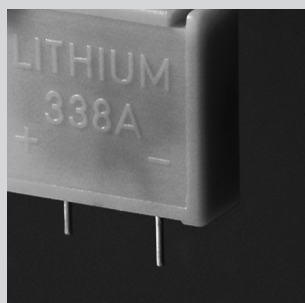
*Packaging: Industrial Bulk (IB-Trays)

Encapsulated Batteries (Power Modules)

For soldering



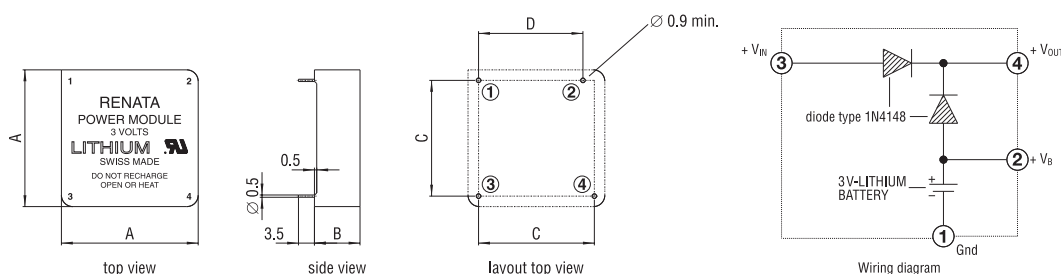
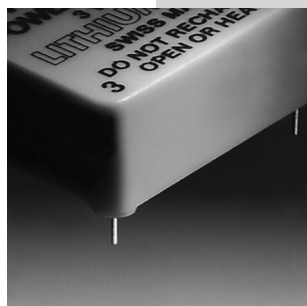
Versions for vertical mounting, without decoupling diodes.



Model	Nominal Voltage (V)	Capacity (mAh)	Chemistry	Dimensions (mm)					Weight (g)	Part.No.*
				A	B	C	D	E		
338A	3	48	MnO ₂ /Li	13.5	15.0	5.0	7.6	2.54	1.69	700101

*Packaging: Industrial Bulk (IB-Trays)

Versions for horizontal mounting, with decoupling diodes.



Model	Dimensions (mm)				Weight (g)	Nominal Voltage (V)	Nominal Capacity (mAh)	Standard Current (mA)	Max. cont. Current (mA)	Part.No.*
	A	B	C	D						
1000-1	30	10	25.4	22.9	15	3	950	1.0	2.5	700035

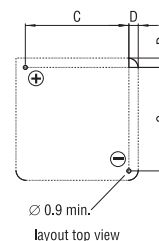
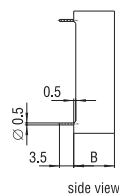
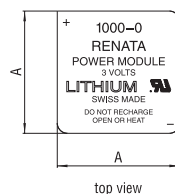
*Packaging: Industrial Bulk (IB-Trays)

Encapsulated Batteries (Power Modules)

For soldering



Versions for horizontal mounting, without decoupling diodes. 



Model	Dimensions (mm)				Weight (g)	Nominal Voltage (V)	Nominal Capacity (mAh)	Standard Current (mA)	Max. cont. Current (mA)	Part.No.*
	A	B	C	D						
175-0	22	8	17.8	2.1	6.5	3	235	0.4	3.0	700040
1000-0	30	10	25.4	2.3	15	3	950	1.0	2.5	700031

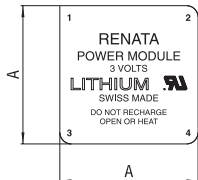
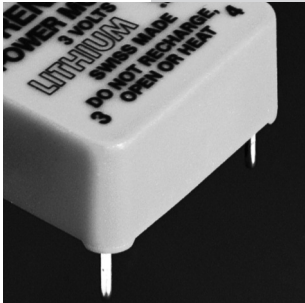
*Packaging: Industrial Bulk (IB-Trays)

Encapsulated Batteries (Power Modules)

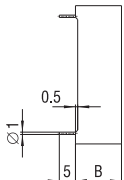
For plug-in



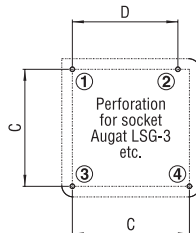
Versions for horizontal mounting, with decoupling diodes. 



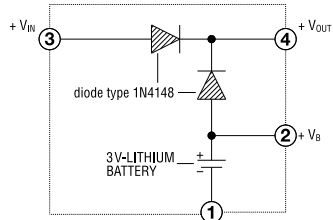
top view



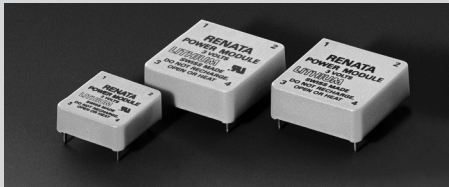
side view



layout top view



Wiring diagram



Model	Dimensions (mm)				Weight (g)	Nominal Voltage (V)	Nominal Capacity (mAh)	Standard Current (mA)	Max. cont. Current (mA)	Part.No.*
	A	B	C	D						
1000-1B	30	10	25.4	22.9	15	3	950	1.0	2.5	700036

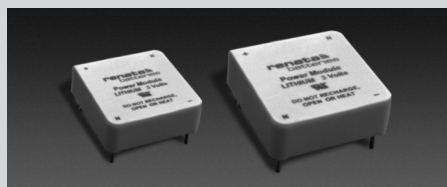
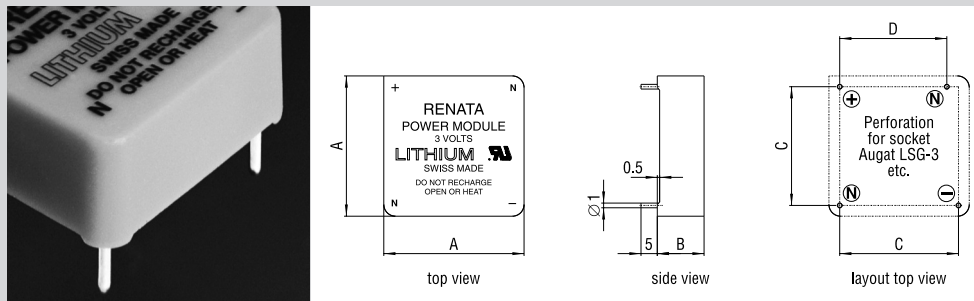
*Packaging: Industrial Bulk (IB-Trays)

Encapsulated Batteries (Power Modules)

For plug-in

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batteries

Versions for horizontal mounting, without decoupling diodes. 



Model	Dimensions (mm)				Weight (g)	Nominal Voltage (V)	Nominal Capacity (mAh)	Standard Current (mA)	Max. cont. Current (mA)	Part.No.*
	A	B	C	D						
175-0B	22	8	17.8	15.3	6.5	3	235	0.4	3.0	700041
1000-0B	30	10	25.4	22.9	15	3	950	1.0	2.5	700033

*Packaging: Industrial Bulk (IB-Trays)

Encapsulated Batteries (Power Modules)

Packaging options



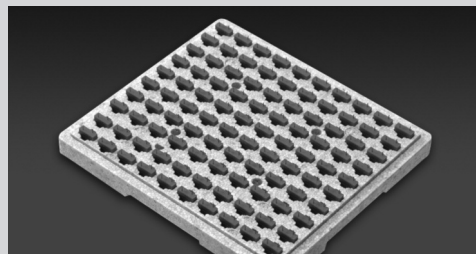
All encapsulated batteries (Power Modules) are supplied in the following packaging

Industrial Bulk multi-cell trays

Packaging Code: IB

Industrial Bulk packaging is the standard packaging for manufacturers.

The number of encapsulated batteries per tray depends on the respective model. So does the number of trays per shrink pack.



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Renata:](#)

[1000-1](#) [1000-0](#) [175-0](#) [1000-1B](#) [175-0B](#)