

# Our full range of products.



## We are in charge of batteries

We provide power to millions of different devices all over the world with the highest-quality batteries.

A COMPANY OF THE **SWATCH GROUP**

**renata** batteries

Alcom

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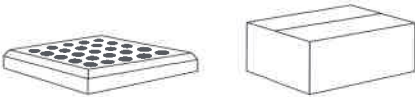
# 3V Lithium coin cells



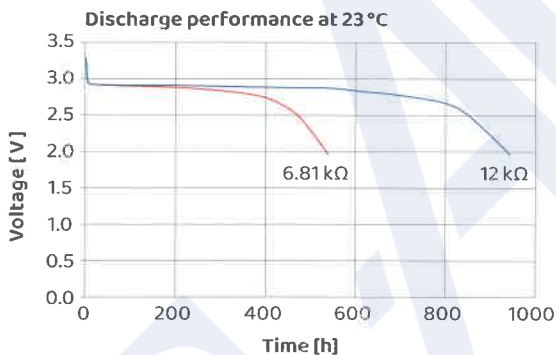
## Features

- Low self discharge
- Shelf life up to 10 years at 23 °C
- More than 1000 variations of tabbed cells available
- Custom tabbed models and assemblies possible
- Industrial bulk available
- UL certified: File MH 14002

## Industrial bulk



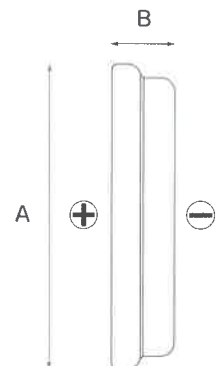
## Typical discharge curve



## Standard specifications

Chemical system	Li/MnO <sub>2</sub>
Nominal voltage	3 V
Capacity range	25-950 mAh

	Nominal voltage	Capacity mAh	Operating temp. in °C	Self discharge at 23 °C per year	Average weight in g	Diameter in mm	Height in mm
CR1025	3.00	30	-40 / +85	<1%	0.60	10.00	2.50
CR1216 MFR	3.00	25	-30 / +85	<1%	0.70	12.50	1.60
CR1220 MFR	3.00	35	-30 / +85	<1%	0.80	12.50	2.00
CR1225	3.00	48	-40 / +85	<1%	0.90	12.50	2.50
CR1616	3.00	50	-40 / +85	<1%	1.10	16.00	1.60
CR1620	3.00	68	-40 / +85	<1%	1.20	16.00	2.00
CR1632	3.00	137	-40 / +85	<1%	1.80	16.00	3.20
CR2016 MFR	3.00	90	-30 / +85	<1%	1.70	20.00	1.60
CR2016.MFR-E	3.00	104	-30 / +70	<1,5%	1.70	20.00	1.60
CR2025 MFR	3.00	165	-30 / +85	<1%	2.50	20.00	2.50
CR2025.MFR-E	3.00	180	-30 / +70	<1,5%	2.50	20.00	2.50
CR2032 MFR	3.00	225	-30 / +85	<1%	2.80	20.00	3.20
CR2032.MFR-E	3.00	260	-30 / +70	<1,5%	2.80	20.00	3.20
CR2320	3.00	150	-40 / +85	<1%	2.70	23.00	2.00
CR2325	3.00	190	-40 / +85	<1%	3.00	23.00	2.50
CR2430	3.00	285	-40 / +85	<1%	4.10	24.50	3.00
CR2450N	3.00	540	-40 / +85	<1%	5.90	24.50	5.00
CR2450N-MFR	3.00	580	-40 / +85	<1%	5.90	24.50	5.00
CR2477N	3.00	950	-40 / +85	<1%	8.30	24.50	7.70



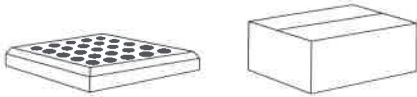
# 3V Thin-film primary cell



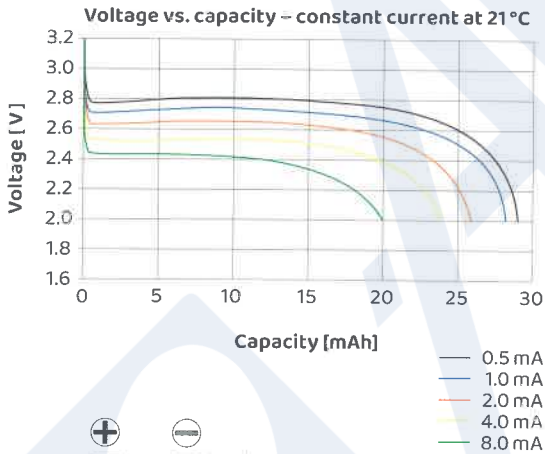
## Features

- Extremely low profile
- High bendability (> 1000 cycles / Ø 50mm)
- Low self discharge at 5 % per year
- Shelf life up to 10 years at 23 °C
- Customization possible
- Connector tabs are stainless steel or optionally tin coated nickel

## Industrial bulk



## Typical discharge curve



Thickness (t)  
0.42 mm (±0.03 mm)

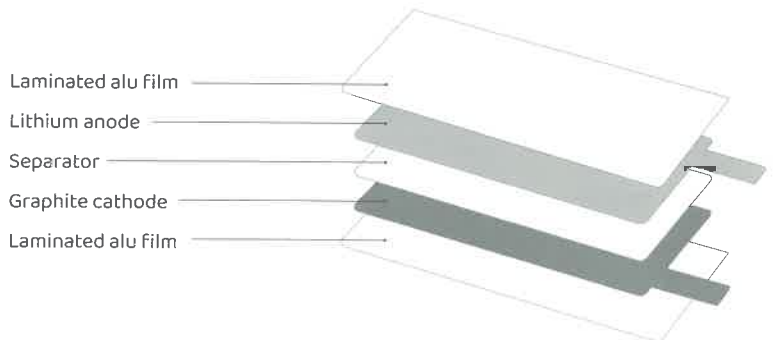
Length (l)  
50.1 mm (±0.2 mm)

Width (w)  
23.1 mm (±0.2 mm)

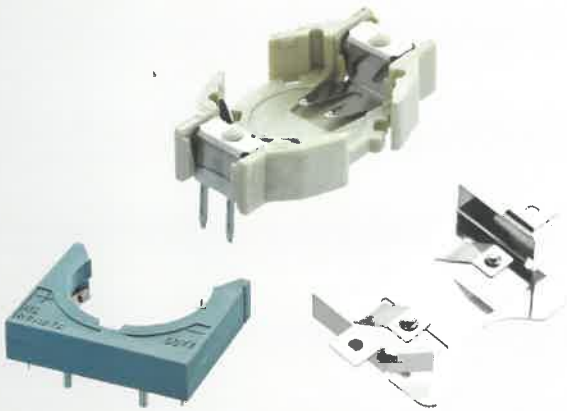
## Standard specifications

Cell model	CP042350
Chemical system	Li / MnO <sub>2</sub>
Nominal voltage	3V
Cut-off voltage	2V
Rated capacity	28 mAh
Internal resistance (at 50% SOC and 23°C)	< 30 Ω
Average weight	0.86 g
Maximum discharge current	0.625 mA
Maximum non continuous discharge*	12.4 mA
Operating and storage temperature range	-40 °C / +60 °C

\*Pulses up to 40 mA depending on duration and frequency



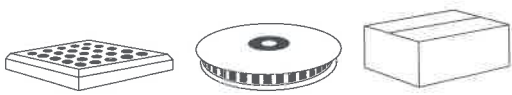
# Battery holders



## Features

- Low profile for compact PCBs
- Lightweight material with robust design
- Dual spring contacts for low resistance (SMTM & SMTU, HU)
- Designed for automatic „pick & place“ mounting
- Save retention of coin cell
- Protection against short circuits, inverse polarity and leak currents
- Suitable models for reflow/wave or high temperature soldering
- Easy and fast replacement of battery

## Industrial bulk and tape & reel



## Standard specifications

Holder material	Heat resistant, glass fiber filled LCP, polyamide or nickel plated phosphor bronze
Flammability rating	UL 94 V-0 (Except SMTM)
Battery contacts	Spring stainless steel AISI 301, nickel plated throughout, Solder areas tin-plated, other options available
Contact resistance between contacts and the cell	Less than 100 mΩ (measured through AC 1 kHz)

## Find details about our battery holders on our website



- Surface Mounting Technology (SMTU)
- Surface Mounting Metal (SMTM) – low profile
- Through-hole mounting (HU) – horizontal
- Through-hole mounting (VBH) – vertical
- Through-hole mounting with positioning pins (NH/NL)

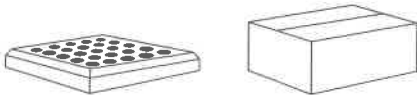
# 1.55V Silver oxide coin cells



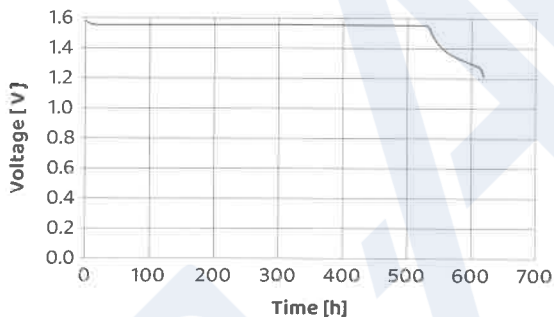
## Features

- Extremely small dimensions possible
- Custom tabbed models possible
- > 40 different standard models
- High pulse versions available with > 10 mA pulse capability
- Shelf life up to 3 years at 23 °C
- Low and high drain as well as high pulse versions available

## Industrial bulk



## Typical discharge curve



## Standard specifications

Chemical system	Ag <sub>2</sub> O	
Nominal voltage	1.55 V	
Capacity range	6–190 mAh	
Typical standard discharge current range	20–300 µA	
Average weight range	0.13–2.3 g	
Temperature range	Low drain: -10°C / +60°C	High drain: -20°C / +60°C
Self discharge at 23 °C	Low drain: < 5 % / year	High drain: < 10 % / year

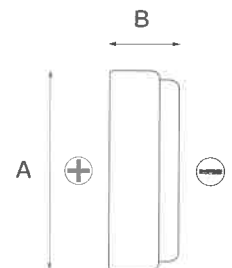
## Low drain

Cell model	Dimensions A (mm)	B (mm)	Nom. capacity (mAh)
337	4.8	1.6	8
335	5.8	1.2	6
317	5.8	1.6	10.5
379	5.8	2.1	16
319	5.8	2.7	21
339	6.8	1.4	11
321	6.8	1.6	14.5
364	6.8	2.1	20
377	6.8	2.6	28
346	7.9	1.2	9.5
341	7.9	1.4	15
315	7.9	1.6	23
362	7.9	2.1	24
397	7.9	2.6	32

## High drain

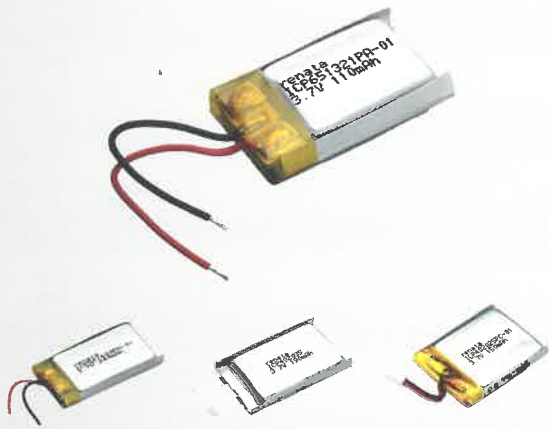
Cell model	Dimensions A (mm)	B (mm)	Nom. capacity (mAh)
329	7.9	3.1	37
384	7.9	3.6	45
309	7.9	5.4	80
373	9.5	1.6	29
371	9.5	2.0	40
395	9.5	2.7	55
394	9.5	3.6	84
366	11.6	1.6	47
381	11.6	2.1	50
390	11.6	3.1	60
344	11.6	3.6	105
301	11.6	4.2	130
303	11.6	5.4	175

Cell model	Dimensions A (mm)	B (mm)	Nom. capacity (mAh)
376	6.8	2.6	27
361	7.9	2.1	24
396	7.9	2.6	32
392	7.9	3.6	45
393	7.9	5.4	80
370	9.5	2.1	40
399	9.5	2.7	55
380	9.5	3.6	82
365	11.6	1.6	47
391	11.6	2.1	50
389	11.6	3.1	80
350	11.6	3.6	105
386	11.6	4.2	130
357	11.6	5.4	190





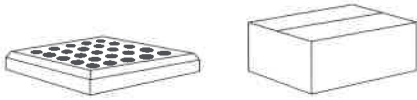
# 3.7V Lithium polymer batteries



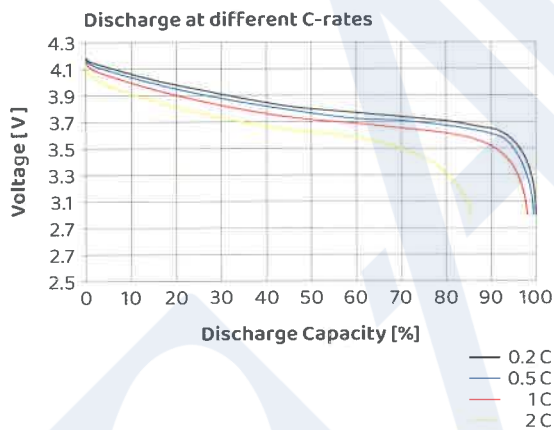
## Features

- Best in class quality
- High energy density with a low profile
- Cobalt-oxide electrode technology
- Customization possible
- UL certified: file MH 14002
- Long cycle life with good capacity retention
- Technical expertise and guidance
- Including battery protection circuit
- Many models IEC62133 certified (some also BIS and KR approved)

## Industrial bulk



## Typical discharge curve



## Standard specifications

Nominal voltage	3.7–3.8 V
Capacity range	33–2800 mAh (0.2 C Cut off 3.0 V at 20 °C)
Storage temperature	–20 °C / +45 °C (0 °C / +30 °C for storage > 3 months)

## Charging characteristics

Voltage	4.2–4.35 V
Current normal	0.5 C (Constant current)
Max. charging current	1.0 C (Constant current)
Temperature at charging	0 °C / +45 °C

## Discharge characteristics

Max. discharge current	2.0 C (Non-cont. current) 1.0 (Cont. current)
Temperature at discharging	–20 °C / +60 °C
Cycle life at room temperature	500 cycles with > 80 % of min. capacity

Find details about our LiPo-batteries on our website



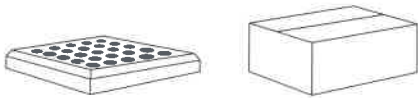
# Rechargeable Lithium coin cells



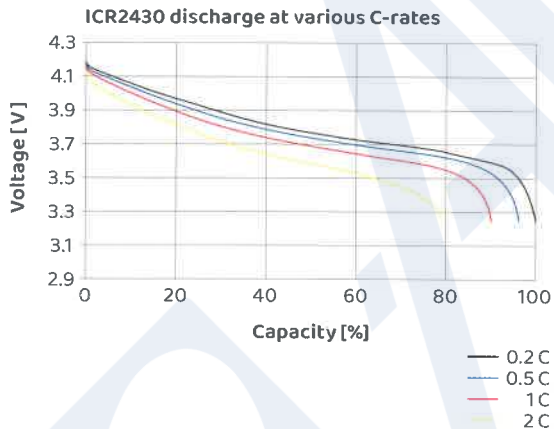
## Features

- Stacked electrodes for high capacity
- High energy density
- Ni / Au casings for low contact resistance
- Mechanically robust design

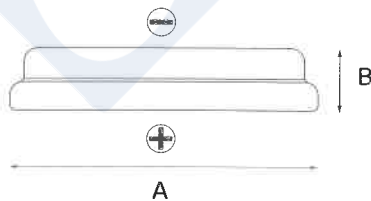
## Industrial bulk



## Typical discharge curve



Charge: 0.5 C CC, 4.2 V CV, 0.02 C cut-off, 20 °C  
Discharge: at various C-rates CC, 3.0 V cut-off, 20 °C



## Standard specifications

Nominal voltage	3.7V
Chemical system	LiCoO <sub>2</sub>
Nominal capacity range	100 mAh
Storage temperature	-20 °C / +45 °C (0 °C / +30 °C for storage > 3 months)
Voltage	4.2 V (±0.05 V)
Current normal	0.5 C (Constant current)
Max. charging current	1.0 C (Constant current)
Temperature at charging	0 °C / +45 °C
Max. discharge current	2.0 C (Non-Cont. current) 1.0 (Cont. current)
Temperature at discharging	-20 °C / +60 °C
Cycle life at room temperature	> 80 % of min. capacity after 500 cycles

Cell model	Dimensions (mm)		Nom. capacity (mAh)
	A	B	
ICR 2430	24.5	3.0	100

# Our full range of micro batteries.

Renata offers a wide range of primary and secondary micro batteries with high performance and reliability, taking advantage of 40+ years technology development and manufacturing expertise.

Industrial companies operate in many different business fields, such as Medical, Metering, POS and IoT, just to name a few of them. What do these companies all have in common? They all strive for their products to have the maximum reliability and the greatest-possible performance. Two big trends are involved with this: Miniaturization and Connectivity. Developers are facing new challenges with both of these trends. Applications are getting smaller and must be linked together. Often a wireless communication, such as WiFi, BLE, SigFox, NB-IoT and LoRa, is needed. These industrial products are requiring a tailored micro-battery solution to power the product.

## Swiss precision and expertise

In addition to a broad portfolio of standard batteries, we also develop individualized products with quality Swiss precision and our years of experience, precisely matching to your requirements.

## Our strengths

- High quality
- Excellence in service & manufacturing
- Flexible customized solutions



### Medical

- Capsule endoscopy
- Insulin pumps
- CGM (Continuous Glucose Monitoring)
- Drug delivery systems
- Thermometers
- Wearable sensors



### Industry

- Smart meters
- Remote controls
- POS systems
- Security systems
- Tracking devices



### Consumer Goods

- KeyFob
- Glucose meters
- Watches
- Calculators
- Consumer electronics

**renata**  
batteries

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