

# Coin-type Rechargeable Lithium Battery



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**Panasonic Energy Co., Ltd.**

Please  
access our  
website



## 1. Long life

Achieves long life based on low self discharge rate and superior charge/discharge cycle characteristics

## 2. High quality based on many years of production

High reliability with many years of development and manufacturing experience

## 3. Suitable for many small devices

Available for various small devices such as memory backup, RTC backup, remote keyless entry and watches



# Market sector

- ✓ Coin-type Rechargeable Lithium Batteries are suitable for devices which batteries are not replaceable and difficult to replace due to the device's structure

Watch



Drive recorder




Camera



Rechargeable Lithium Batteries	Coin-type Rechargeable Lithium Batteries	VL Series (Vanadium Rechargeable Lithium Batteries)
		ML Series (Manganese Rechargeable Lithium Batteries)
		CTL Series (Cobalt Titanium Rechargeable Lithium Batteries)
		MT Series (Manganese Titanium Rechargeable Lithium Batteries)

■ Example Lithium  
Battery Model-Number  
Composition  
(Coin Type)

Example: **CR2032**


 Height: 3.2 mm  
 Diameter: 20 mm  
 R: Round  
 Battery Type C: Manganese dioxide lithium battery

Size



# VL series Vanadium Rechargeable Lithium Batteries



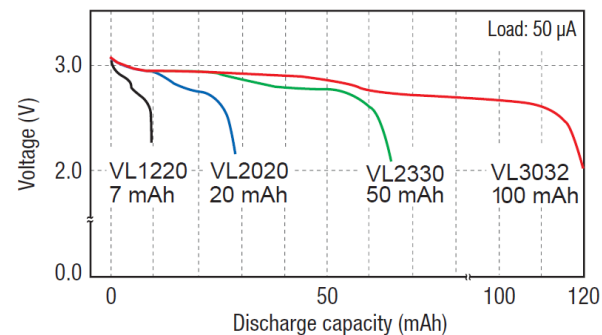
## Features

- Retains high discharge voltage performance

## Applications

Memory backup(printers, composite machine, medical devices, FA equipment), remote keyless entry, fire alarms, etc

## Discharge characteristics



Model No.*1	Nomlnal voltage (V)	Nomlnal capacity (mAh)*2	Continuous drain (mA)	Dimensions (mm)		Mass (g)	Charge voltage (V)	Operating temperature range
				Diameter	Height			
VL1220	3	7.0	0.02	12.5	2.0	0.80	3.25 to 3.55	-20 °C to 60 °C
VL2020		20.0	0.07	20.0	2.0	2.10		
VL2330		50.0	0.10	23.0	3.0	3.50		
VL3032		100.0	0.20	30.0	3.2	6.30		

\*1. Tabbed type batteries only

\*2. Nominal capacity shown above is based on standard drain and cutoff voltage down to 2.5V at 20°C

# ML series Manganese Rechargeable Lithium Batteries



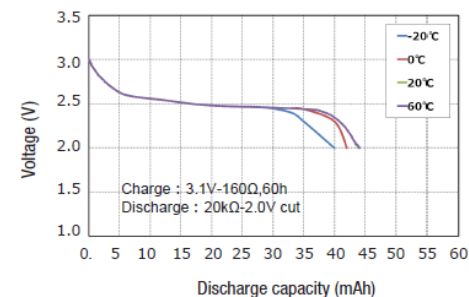
## Features

- Ideal for long-term memory backup with extra-high capacity

## Applications

Memory backup(drive recorder, PCs, communication/radio, medical devices, FA equipment), etc

## ■ Discharge characteristics



Model No.	Nominal voltage (V)	Nominal capacity (mAh)*1	Continuous drain (mA)	Dimensions (mm)		Mass (g)	Charge voltage (V)	Operating temperature range
				Diameter	Height			
ML2020	3	45.0	0.12	20.0	2.0	2.20	2.8 to 3.2	-20 °C to 60 °C

\*1. Nominal capacity shown above is based on standard drain and cutoff voltage down to 2.0V at 20°C

# CTL series Cobalt Titanium Rechargeable Lithium Batteries

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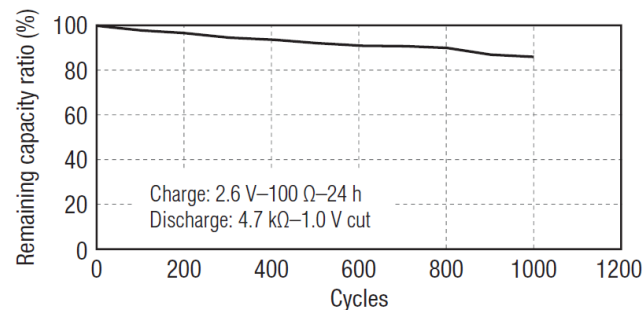
## Features

- Rechargeable batteries with superior charge/discharge cycle
- Compared to MT series, CLT series retains higher voltage (2.3V)
- Long term reliability proven by many solar watch designs

## Applications

Digital watches, sensing devices, etc

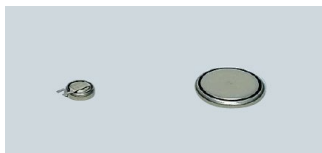
## ■ Charge/Discharge cycle characteristics(e.g. CLT920F)



Model No.	Nominal voltage (V)	Nominal capacity (mAh)*1	Continuous drain (mA)	Dimensions (mm)		Mass (g)	Charge voltage (V)	Operating temperature range
				Diameter	Height			
CTL621F	2.3	3.6	0.02	6.8	2.1	0.25	2.5 to 2.7	-20 °C to 60 °C
CTL920F		7.7	0.05	9.5	2.0	0.45		
CTL1616F		13.0	0.10	16.0	1.6	1.00		

\*1 Nominal capacity shown above is based on standard drain and cutoff voltage down to 1.0 V at 20 °C.

# MT series Manganese Titanium Rechargeable Lithium Batteries Panasonic ENERGY



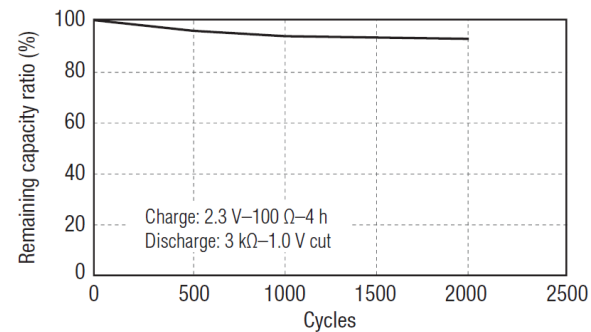
## Features

- 1.5V rechargeable Lithium battery with sustained discharge endurance

## Applications

Watch, etc

## ■ Charge/Discharge cycle characteristics(e.g. MT920)



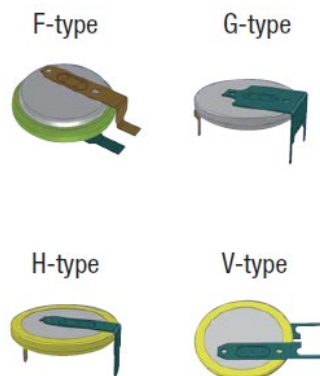
Model No.	Nominal voltage (V)	Nominal capacity (mAh)*1	Continuous drain (mA)	Dimensions (mm)		Mass (g)	Charge voltage (V)	Operating temperature range
				Diameter	Height			
MT516F	1.5	1.8	0.025	5.8	1.6	0.14	1.8 to 2.6	-10 °C to 60 °C
MT621		2.5	0.05	6.8	2.1	0.23		
MT920		5.0		9.5	2.0	0.41		

\*1. Nominal capacity shown above is based on standard drain and cutoff voltage down to 1.0V at 20°C



# About terminal

- ✓ Panasonic offers a variety of tab terminals to meet your requests
- ✓ Please note that it will be a customized solution if you need another tab terminal which is not shown on the web site



Coin-type rechargeable Lithium Batteries Product List:

<https://industry.panasonic.eu/products/energy-building/batteries/battery-cells/secondary-batteries-rechargeable-batteries/lithium-coin-type-rechargeable-batteries>

Please feel free to contact us

Panasonic Energy coin-type rechargeable Lithium Batteries HP

<https://industry.panasonic.eu/products/energy-building/batteries/battery-cells/secondary-batteries-rechargeable-batteries/lithium-coin-type-rechargeable-batteries>