TITANIUM RECHARGEABLE LITHIUM BATTERIES (MT SERIES) – COIN TYPE RECHARGEABLE LITHIUM BATTERIES

These coin type Manganese Titanium Rechargeable Lithium coin batteries use a Lithium-Manganese complex oxide for the positive pole and a special Lithium-Titanium complex oxide for the negative pole. They provide a capacity which is more than 10 times that of capacitors of the same size.

FEATURES

- Rechargeable Lithium technology
- Superior long-term reliability
- Years of experience in production
- 500 charge-discharge cycles up to 1V or discharge limit voltage (at 100% depth of discharge)

APPLICATIONS

- Main power supplies in compact products such as rechargeable watches
- Memory back-up power supply for pagers, timers, etc.

Model number	Electrical characteristics at 20°C		Dimensions with tube (mm)		Approx. weight (g)	IEC
	Nominal voltage (V)	Nominal*1 capacity (mAh)	Diameter	Total height		
MT-516	1.5	1.8	5.8	1.6	0.2	–
MT-621	1.5	2.5	6.8	2.1	0.3	–
MT-920	1.5	5.0	9.5	2.0	0.5	–

The data in this document are for descriptive purposes only and are not intended to make or imply any guarantee or warranty.

*1 Based on standard drain and cut off voltage down to 2.0V at 20°C.

CHARGING

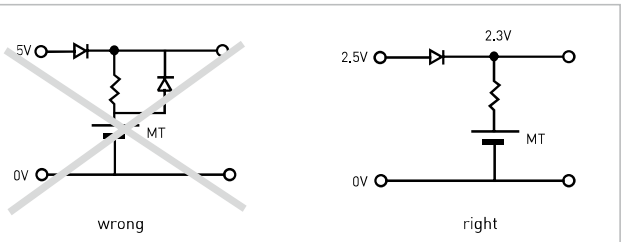
Charging circuits

Charging/discharging cycle	Approx. 500 times at 100% discharge depth to nominal capacity
Charging system*1	Constant-voltage charging. (Please strictly adhere to the specified charge voltage)
Operating temperature	-10°C to +60°C

The charging circuit is crucial in terms of ensuring that full justice will be done to the battery characteristics. Consider it carefully as the wrong charging circuit can cause trouble.

Precautions regarding the charge voltage setting

Under no circumstances should constant current charging, which is used for Nickel-Cadmium batteries, be used. Ignoring this precaution will cause the battery voltage to rise to about 5V, resulting in a deterioration of performance.



Charge voltage range

If a fixed-charging method is applied, please adhere to the specified charging voltage. Guaranteed voltage is 1.8V to 2.6V at the temperature of -10°C to +60°C.

- If the charging voltage exceeds the specifications, the internal resistance of the battery will rise and may cause battery deterioration. Also, with a charge voltage around 3V, corrosion of the ⊕ terminal (case) may occur, causing leakage.
- It is not possible for the battery capacity to recover completely when the charging voltage is below the specification.

Recommended charging circuits - basic conditions

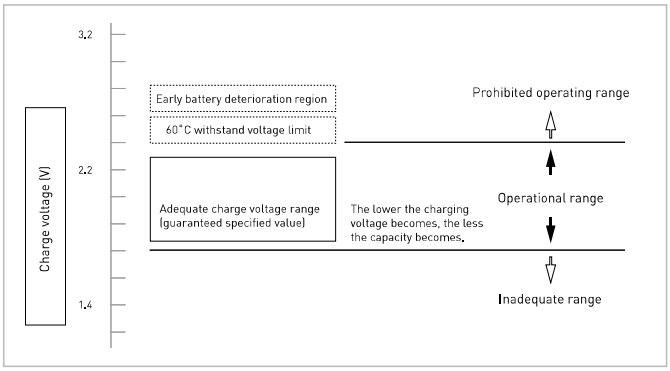
Fixed-voltage charge

Charge voltage:	1.8 to 2.6V (Standard voltage: 2.2V)
Charge current:	For a battery voltage of 2.3V
MT-516	Approx. 0.36mA or below
MT-621	Approx. 0.5mA or below
MT-920	Approx. 1.0mA or below

Mixed usage of batteries

Do not use these batteries and Lithium primary batteries or other rechargeable batteries together, and do not use new batteries and old batteries together even if they are of the same type.

Influence of the charge voltage on MT batteries

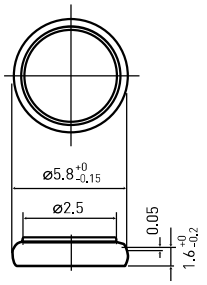


If the charge voltage goes beyond its adequate range, battery performance may deteriorate early. Be sure to observe the guaranteed charge voltage.

*1 Consult with Panasonic concerning constant-current charging systems.

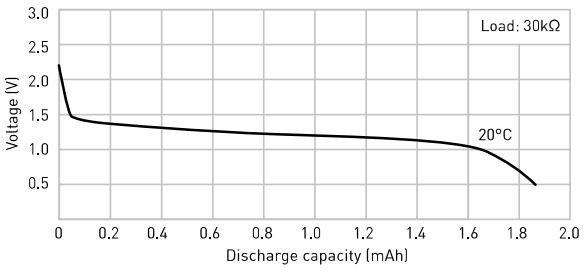
MT-516

DIMENSIONS (MM)

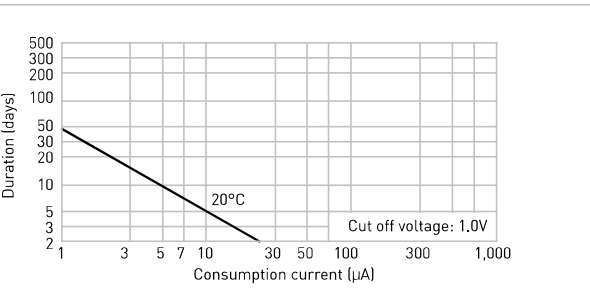


Model number	MT-516
Nominal voltage (V)	1.5
Nominal capacity (mAh)	1.8
Diameter (mm)	5.8
Total height (mm)	1.6
Discharging temperature range (°C)	-10 to +60
Weight (g)	0.2

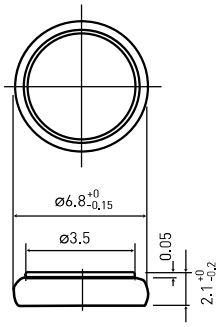
DISCHARGE CHARACTERISTICS



CONSUMPTION CURRENT VS. DURATION TIME

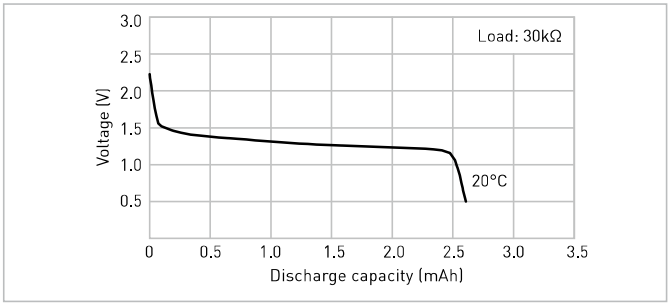


MT-621

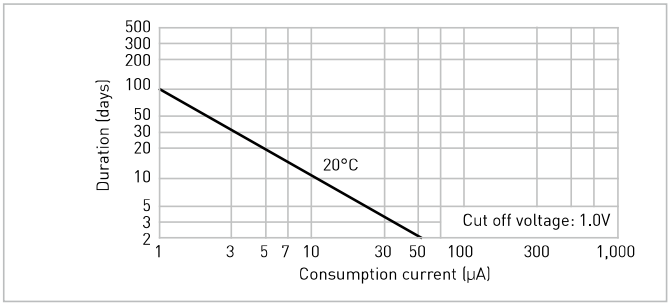


Model number	MT-621
Nominal voltage (V)	1.5
Nominal capacity (mAh)	2.5
Diameter (mm)	6.8
Total height (mm)	2.1
Discharging temperature range (°C)	-10 to +60
Weight (g)	0.3

DISCHARGE CHARACTERISTICS

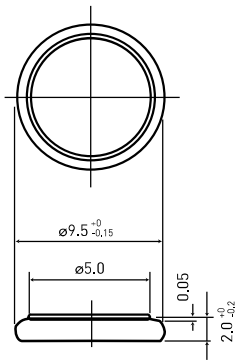


CONSUMPTION CURRENT VS. DURATION TIME



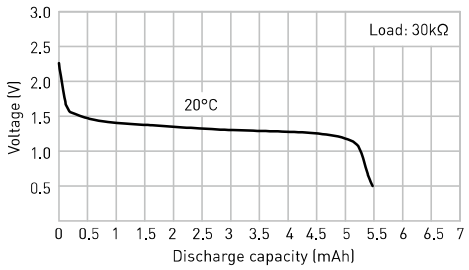
MT-920

DIMENSIONS (MM)

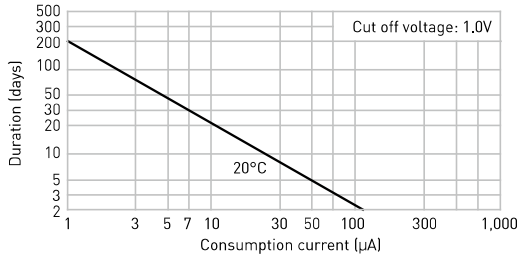


Model number	MT-920
Nominal voltage (V)	1.5
Nominal capacity (mAh)	5.0
Diameter (mm)	9.5
Total height (mm)	2.0
Discharging temperature range (°C)	-10 to +60
Weight (g)	0.5

DISCHARGE CHARACTERISTICS



CONSUMPTION CURRENT VS. DURATION TIME



DISCHARGE TEMPERATURE CHARACTERISTICS