

Micro battery

Murata offers a wide range of primary micro batteries with high performance and reliability, taking

advantage of 40+ years technology development and manufacturing expertise.



Coin manganese dioxide lithium batteries (CR batteries)

- Wide range of CR batteries including heat-resistant type and high drain type
- High voltage, high energy density and excellent self-discharge performance
- Acquisition of ISO/TS16949 certification

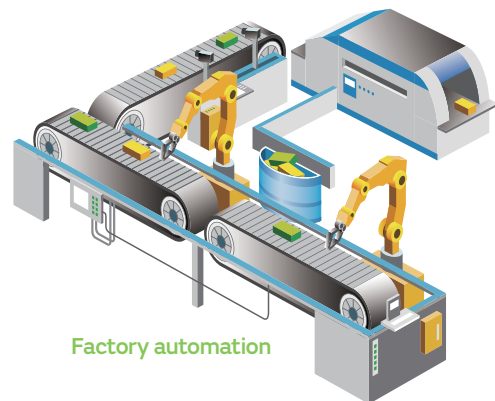
| Battery types | CR (Standard) | CR (Extended temperature) | CR (Heat-resistance) | CR (High drain) |
|----------------------|-----------------|---------------------------|----------------------|-----------------|
| Nominal voltage | 3.0 (V) | 3.0 (V) | 3.0 (V) | 3.0 (V) |
| Operating temp. | -30 to +70 (°C) | -40 to +85 (°C) | -40 to +125 (°C) | -30 to +70 (°C) |
| Nominal capacity | 30-610 (mAh) | 220-2000 (mAh) | 210-1000 (mAh) | 200-500 (mAh) |
| Diameter | 12.5-24.5 (mm) | 20.0-36.5 (mm) | 20.0-24.5 (mm) | 20.0-24.5 (mm) |
| Thickness | 1.6-5.0 (mm) | 3.2-7.7 (mm) | 3.2-7.7 (mm) | 3.2-5.0 (mm) |
| Weight | 0.67-7.0 (g) | 3.0-20 (g) | 3.1-11 (g) | 3.0-6.4 (g) |
| Max plus discharge*1 | 30mA | 30mA*2 | 30mA | 50mA |

*1 50% depth of discharge battery's maximum pulse discharge current over 2V for 3s (23°C)

*2 CR3677X max plus discharge is 80mA

Applications

- Tire pressure monitoring system
- Factory automation
- Smart meters
- Tracking devices
- Sensors

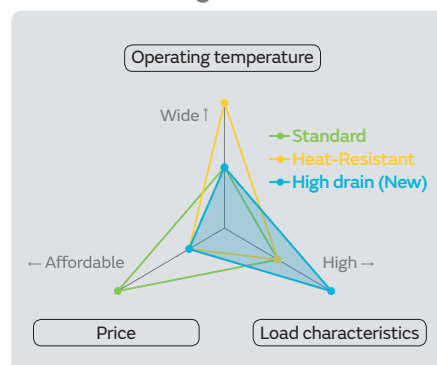


New products

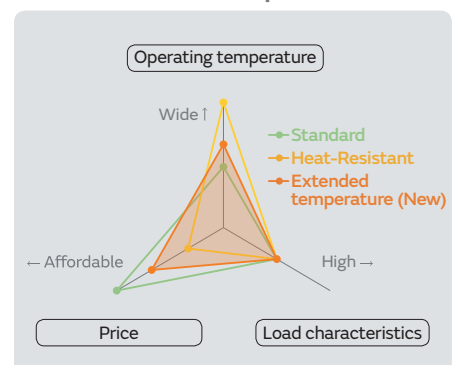
In response to the expansion of IoT applications and increasing demand for small, reliable power sources, Murata developed two types of coin manganese dioxide lithium batteries; High drain type and Extended temperature type.

Coin manganese dioxide lithium batteries selection guide

High drain

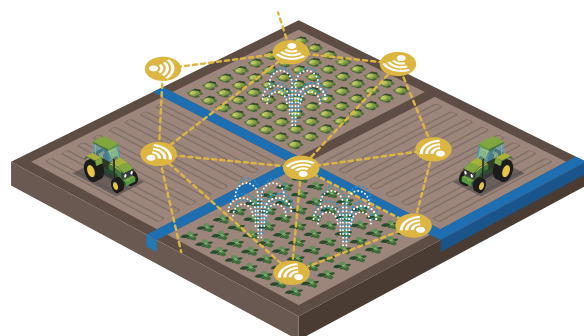


Extended temperature



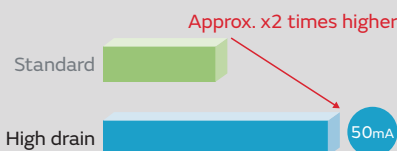
High drain

Excellent high-current discharge performance to support LPWA data transmission



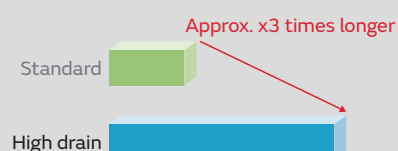
Tracking devices

Max. pulse discharge current



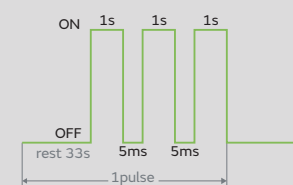
*50% depth of discharge battery's maximum pulse discharge current over 2V for 3s (23°C)

Discharge time (45mA pulse discharge)



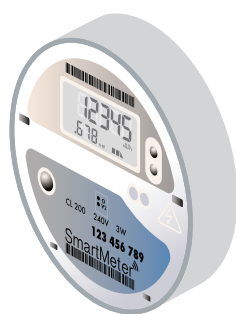
*Pulse discharge condition: 45mA x 3s, 33s off, 2V cut off (23°C)

Pulse discharge condition: LPWA



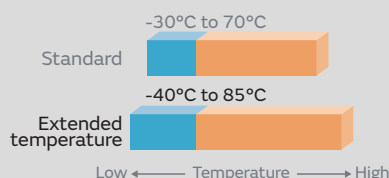
Extended temperature

Recommend for automotive and outdoor devices

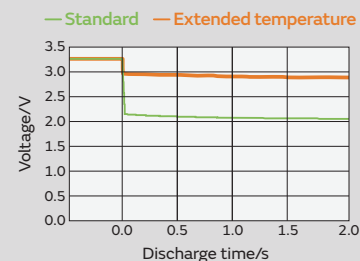


Smart meters

Operating temperature



Voltage comparison after 85°C storage



Silver oxide batteries (SR batteries)

Murata is the world's number one supplier of SR batteries, and was the first to manufacture mercury-free silver oxide batteries, providing excellent stable discharge characteristics.

| Battery types | SR (Standard, High drain) | LR (Standard, High drain) |
|------------------|------------------------------|------------------------------|
| Nominal voltage | 1.55 (V) | 1.5 (V) |
| Nominal capacity | 20-150 (mAh) | 45-150 (mAh) |
| Diameter | 6.8-11.6 (mm) | 7.9-11.6 (mm) |
| Thickness | 2.1-5.4 (mm) | 3.0-5.4 (mm) |
| Weight | 0.32-2.2 (g) | 0.6-2.0 (g) |
| Operating temp. | -10 to +60 (°C) | -10 to +60 (°C) |

Alkaline manganese batteries (LR batteries)

- High safety with unique technologies to prevent leakage and swelling
- Excellent high-drain pulse discharge characteristics

Applications

- Insulin pumps
- CGM (Continuous glucose monitoring)
- Capsule endoscopy

