



## Specifications

For battery modulare or pack customizations, please contact → [lib.support@kaneka.co.jp](mailto:lib.support@kaneka.co.jp)

### Standard Products

	KANEKA Lithium-ion Battery Pack	KANEKA Lithium-ion Rechargeable Battery Cell
Type	 <p>Input/output connector: bolt type (M8)</p> <p>25Ah Model</p>	 <p>• Anode: Lithium Titanium Oxide (LTO) • EV grade laminate pouch type</p>
Rated Capacity	25Ah	25Ah
Nominal Voltage	14.88V	2.48V
Dimension	W105mm×L420mm×H250mm*1 (*1:protrusion excluded)	W178mm×L253mm*2×H13.5mm (*2:tab excluded)
Weight	approx. 10.5kg	approx. 890g
Battery Management Unit (BMU)	Equipped as standard	N/A
Protection	Over-Charge, Over-Discharge, Over-Current, Over-Temperature protection	
Recommended Usage Temperature	Temperature range varies depending on final pack assembly, installed environment and circuit connections etc. Please inquire us for details.	-20 to 50°C

## Certifications

\* For individual market requirements, please inquire us.

UN38.3(Cell/Pack), IEC 62133-2 (Cell/Pack), IEC 62619 (Cell), IEC 61000-6-2 (Pack), IEC 61000-6-4 (Pack)

- \* Application such as emergency power supply that may involve public and infrastructure safety requires dedicated controlling management. Use of KANEKA Lithium-ion Battery in medical devices and/or applications directly involving human life is prohibited. Please contact us for disclaimer.
- \* Technical information (data) contained in this catalog are typical measured values under specific conditions at our company, and not the value for guaranteeing.
- \* Specifications and appearance listed in the this catalog are subject to change without prior notice.
- \* Product information in this catalog is as of 2022/06

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# kaneka

The Dreamology Company  
—Make your dreams come true—

## KANEKA Lithium-ion Battery Prototype

### Lithium Titanium Oxide (LTO) integration in anode

KANEKA Lithium-ion Battery can be used in variety of applications including Uninterruptible Power Supply (UPS), Autonomous Mobile Robot (AMR), Automated Guided Vehicle (AGV), Forklift, Industrial Heavy Machineries and Energy Storage System (ESS) etc.



Battery Pack



Battery Cell

## Application Examples



### City Bus or Community Bus

Fast charging enables rapid operations with safety



### Industrial Machineries

Cost efficiency achievable with its long cycle life and almost maintenance-free characteristics



### UPS or Independent Power Supply

Fast charge/discharge is possible and operational in high to low temperature with minimum battery deterioration

# KANEKA Lithium-ion Rechargeable Battery Cell

Prototype

Lithium Titanium Oxide (LTO) integration in anode

KANEKA Lithium-ion Rechargeable Battery Cell has high performance in long cycle life, rapid charging/discharging and low-temperature operational at -20°C. Risk of fire hazard is reduced at internal short circuits caused by external force.

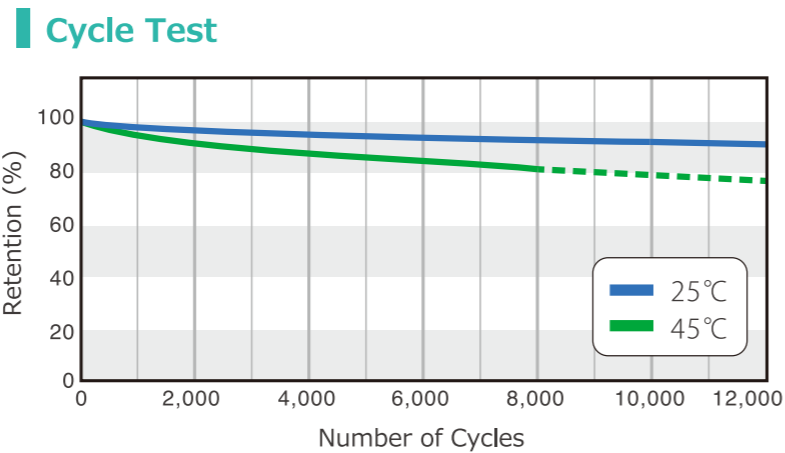


## Long Cycle Life

Cycle life remains long and fully operational even under DOD=100% usage  
Capacity retention at 80% with over 20,000 cycles\* at 25°C

\* estimated by extrapolation

- Battery replacements can be reduced
- Saving cost by lowering required numbers of battery packs with its low deterioration rate



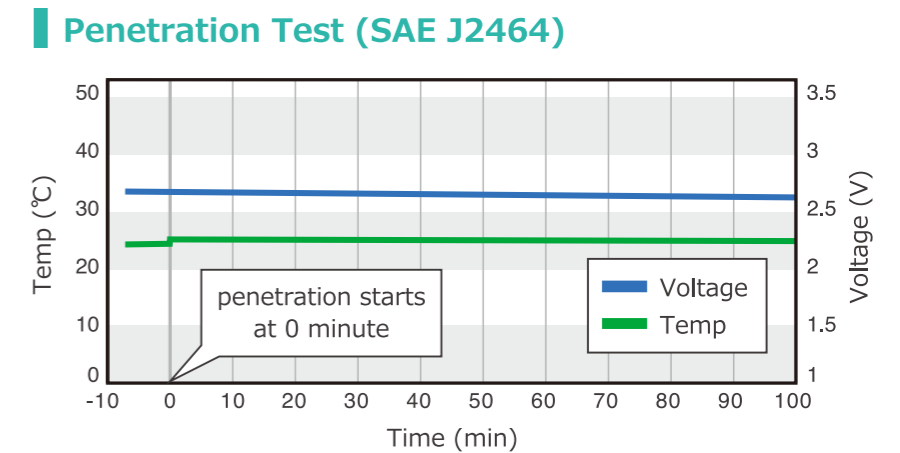
SOC: 0% to 100% Charge: CV-CC 0.5C Discharge: CC 1.0V



## Safety

Nail penetration test (short-circuit simulation): No smokes, sparks, fire or explosion

- Temperature only rises 3°C during the whole penetration process
- Risk of fire hazard is reduced at internal short circuits caused by external force



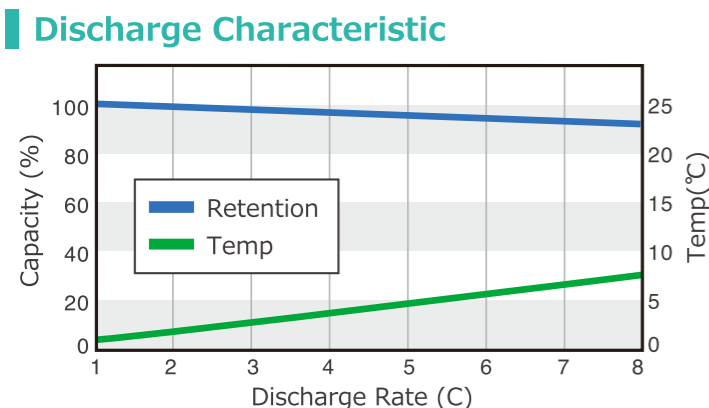
State of charge: SOC=100% (fully charged)  
Nail diameter: 3mm Speed: 80mm/sec Material: Steel Depth: Penetrated



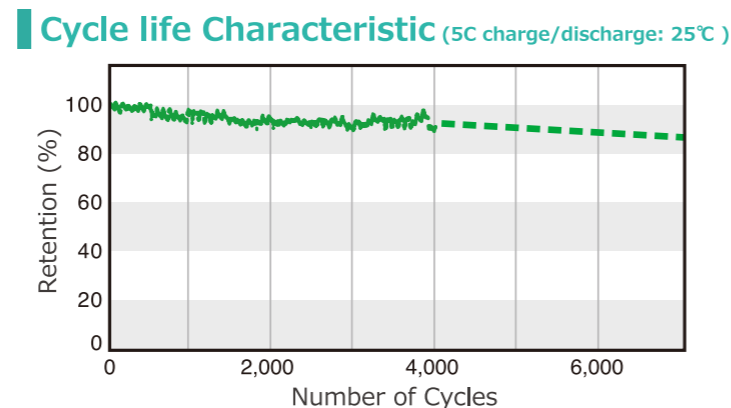
## Fast Charge and Discharge (High Input/Output)

Capacity retention rate at 90% with 8C fast discharge rate

- Fully charged in the shortest amount of time
- High output rate = less battery needed



SOC: 0% to 100% \* 1C discharge relative value =100



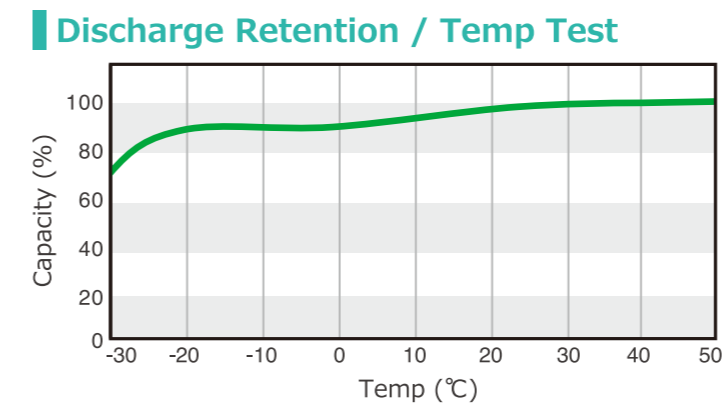
SOC: 0% to 100% Charge: CC 5C Discharge: CC 5V



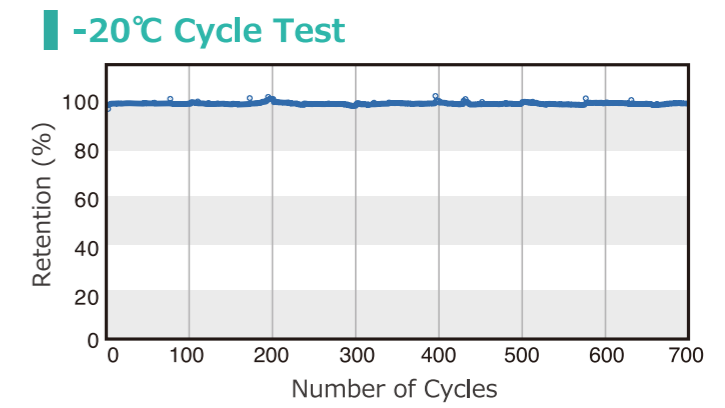
## Low to High Temperature Performance

Stablized charge and discharge is possible in low to high temperature environment

- Operational in low to high temperature environment



SOC: 0% to 100% \* 25°C discharge relative value =100



SOC: 0% to 100% Charge+ CV-CC 0.2C Discharge: CC 0.2V