



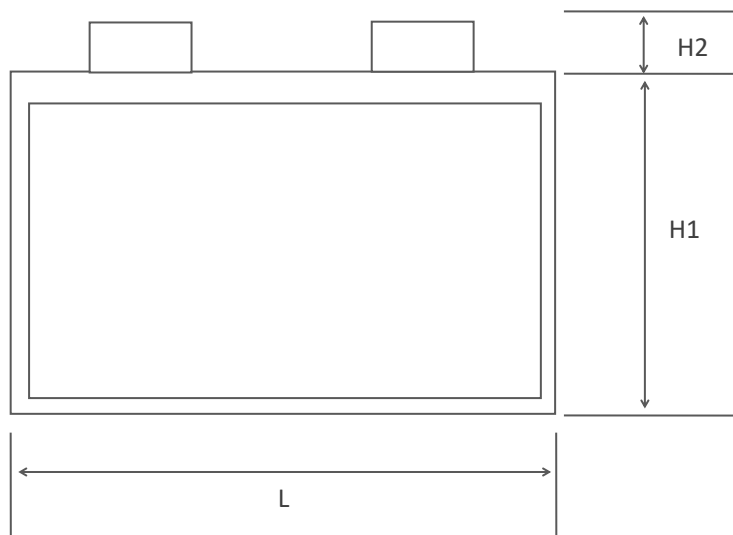
## Product Brochure

# 20Ah Lithium Titanate Battery Cell

## INTRODUCTION

ELB's high-performance Lithium Titanate (LTO) battery technology delivers high power and energy density combined with excellent safety performance and extensive life cycling in a lighter weight, more compact package. Our cells have low capacity loss and impedance growth over time as well as high usable energy over a wide state of charge (SOC) range, allowing our systems to meet end-of-life power and energy requirements with minimal pack oversizing.

## SCHEME OF THE CELL STRUCTURE



L	$207 \pm 1.0$
H1	$127 \pm 1.0$
H2	$20 \pm 1.0$
W(Thickness)	$9.5 \pm 0.2$

(Units: mm)

## MAIN FEATURES

- Advance Lithium Titanate Technology
- 20000tims cycle life@100%DOD.
- Super low temperature performance(Work at  $-40^{\circ}\text{C}$ )
- Allows super fast 10-30C charge and high current discharge. (5-15minutes full-charge time)
- Super safe lithium titanate (LTO) chemistry have no risk of explosion orcombustion due to high impact, over-charging or short circuit situation.
- Allows high efficiency charge and discharge cycles.
- Faster charging and lower self-discharge.

# TECHNICAL DATA

ELECTRICAL SPECIFICATION	
Nominal Voltage	2.3V
Nominal Capacity	20AH
Stored Energy	46Wh
Resistance(AC 1kHz LCR)	0.5 mΩ
Maximum Continous Charge Current	200A(10C)
Maximum Continous Discharge Current	200A(10C)
Maximum Pulse Charge/Discharge Current (10s)	300A(15C)
Charge Cut-off Voltage	2.9 V
Discharge Cut-off Voltage	1.5V
Cycle life(25°C)	>20000 times@100%DOD

MECHANICAL SPECIFICATIONS	
Dimensions (mm)	L207×H147×W9.5
Weight	500g
Terminal Type	Nickel sheet

TEMPERATURE SPECIFICATIONS	
Discharge Temperature	-40 to 65 °C
Charge Temperature	-40 to 65 °C
Storage Temperature	-5 to 35 °C

# APPLICATION

## **COMMERCIAL SOLUTIONS**

Advanced lead acid replacement batteries for:

- + Datacenter UPS
- + Telecom backup
- + IT backup
- + Autonomously guided vehicles (AGVs)
- + Industrial robotics and material handling equipment
- + Medical devices

## **GOVERNMENT SOLUTIONS**

- + Military vehicles
- + Military power grids
- + Soldier power
- + Directed energy

## **GRID SOLUTIONS**

- + Frequency regulation
- + Renewables integration
- + Reserve capacity
- + Transmission and distribution

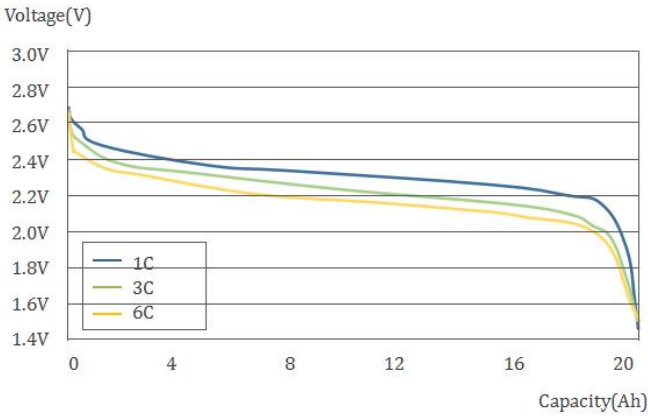
## **TRANSPORTATION SOLUTIONS**

Hybrid, plug-in hybrid and electric vehicle battery systems for:

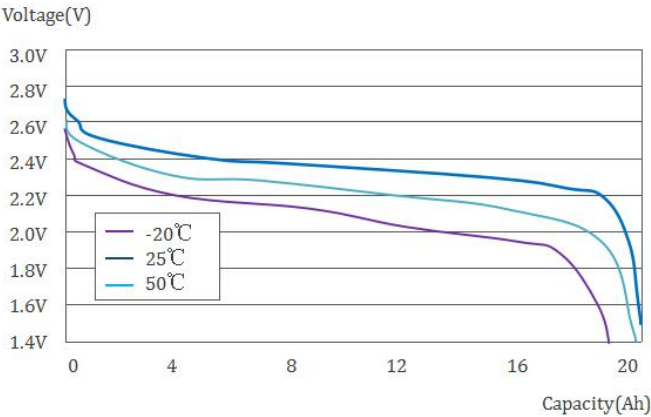
- + Commercial vehicles
- + Off-highway vehicles
- + Passenger vehicles

# PERFORMANCE CHARACTERISTICS

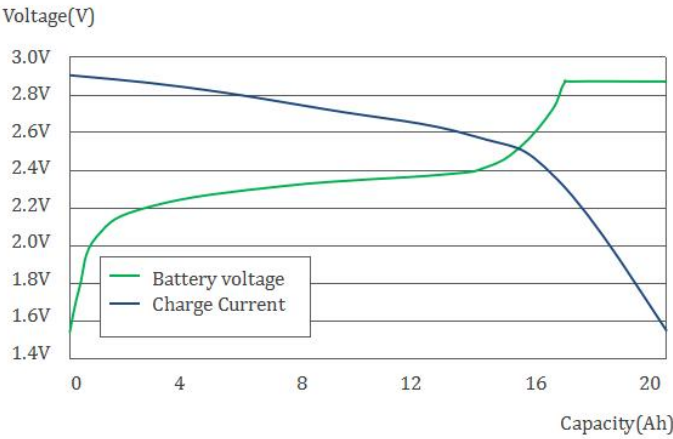
Constant Power Discharge Characteristics at 25° C



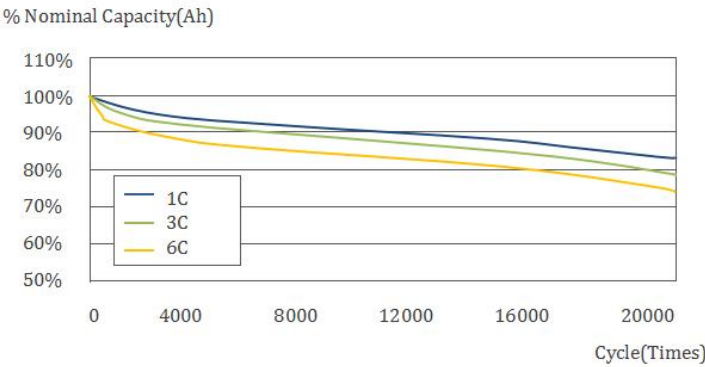
Constant Power Discharge Characteristics at 1C



Charging characteristic (1C @ 25° C)



Cycle Life Curves, 100% DOD, Various Discharge Rates



**ELB**

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