

AER18650 Lithium Ion Energy Cell

Lithium Iron Phosphate Technology



Lithium Werks' AER18650 energy cells are best for Power.Safety.Life.™ applications. They deliver high power and energy due to their use of lithium iron phosphate battery technology (LiFePO_4 or LFP). The cells are inherently safe over a wide range of temperatures and conditions. Whether the application requires outstanding cycle life or stable float reliability, the Lithium Werks' AER18650 cells are suitable for a wide variety of industrial, medical, military, portable devices, energy storage, and consumer electronics applications.

Lithium Werks' Lithium Iron Phosphate battery technology offers thermal-stable chemistry, faster charging, consistent output, low capacity loss over time, and superior total cost of ownership (TCO). It provides the foundation for safe systems while meeting the most demanding customer requirements. Multiple layers of protection are employed at the chemistry, cell, and system level to achieve an energy storage solution with superior safety and abuse tolerance compared to metal oxide lithium-ion chemistries.

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batteries using LFP cathode materials reduce to a minimum the likelihood of a fire event because they are technically safer

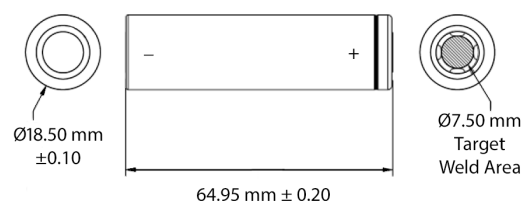
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*Roskill, June 2020**

Applications

- Industrial
- Medical
- Portable devices
- Emergency lighting
- Energy storage
- Military equipment
- Consumer electronics

Dimensions



* The resurgence of LFP cathodes, Roskill White Paper (June 2020)

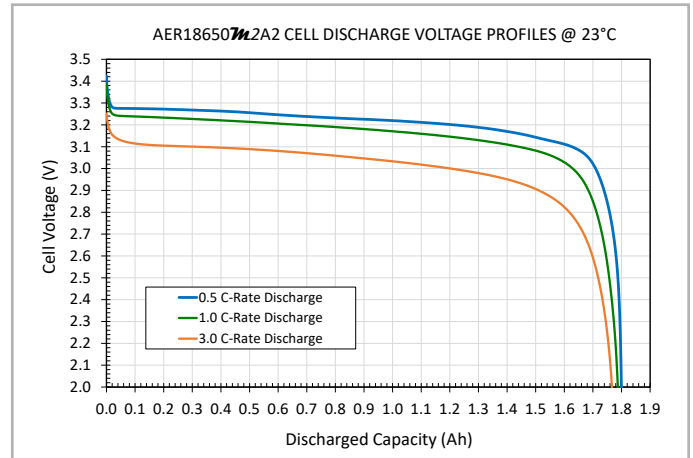
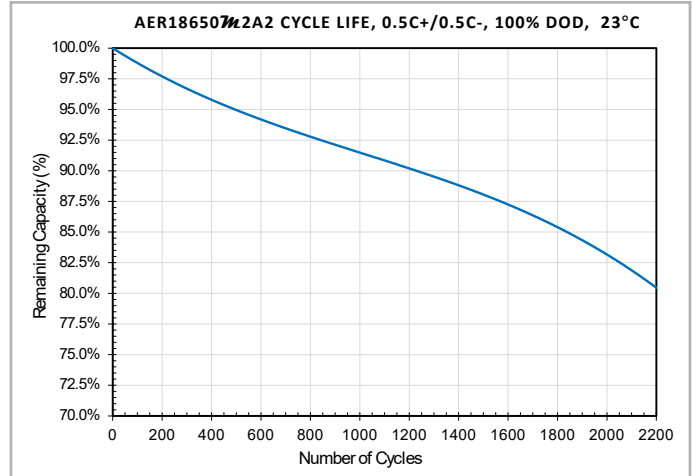
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Specs at 23°C (unless stated)

| Nominal Ratings | |
|------------------------------------|--------------------------------|
| Voltage | 3.2 V |
| Capacity @ C/5 Typical (Min) | 1.8 Ah (1.7) |
| Energy | 5.76 Wh |
| Specific Energy | 133 Wh/kg |
| Energy Density | 330 Wh/L |
| Impedance (1kHz ACIR) | < 20 mΩ |
| Cycle Life at 0.5C/0.5C, 100% DOD | > 2000 cycles |
| Discharging | |
| Max Continuous Discharge Current | 5.4 A (3C) |
| Max Pulse Discharge Current, 10s | 18 A (10C) |
| Minimum Voltage | 2.0 V |
| Temperature | -20 °C to 60 °C |
| Charging | |
| Recommended Charge Voltage | 3.6 V |
| Recommended Charge Current | ≤ 0.9 A (C/2) |
| Max Continuous Current, >10 °C | 2.7 A (1.5C) |
| Terminate Charge @ 3.6 V | < 36 mA |
| Float Voltage | 3.5 V |
| Temperature | 0 °C to 60 °C |
| Storage | |
| Temperature | -30 °C to 70 °C |
| Mechanical | |
| Diameter | Ø18.5 +/- 0.1 mm |
| Length | 64.95 +/- 0.2 mm |
| Mass | 43.4 g +/- 1.0 g |
| Certifications | |
| Transportation shipped @ ≤ 30% SOC | UN 3480 UN 38.3 |
| Safety | UL 1642 IEC 62133 (pending) |
| Part Number 320749-001 | |

Cell Data



Abuse

| | |
|-------------------|---------------|
| Nail penetration | Pass - EUCAR4 |
| Over-Discharge | Pass - EUCAR3 |
| Thermal Stability | Pass - EUCAR4 |
| External Short | Pass - EUCAR3 |
| Crush | Pass - EUCAR3 |
| Overcharge | Pass - EUCAR2 |

AER18650 Energy Cell Data Sheet
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