

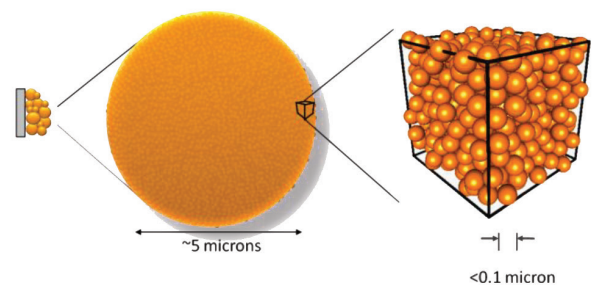
## 18650 Lithium Ion Power Cell

Nanophosphate® Technology



Lithium Werks' 18650 cells are capable of delivering very high power due to its use of patented Nanophosphate® battery technology. Based on lithium iron phosphate chemistry ( $\text{LiFePO}_4$ ), 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' 18650 cells are suitable for a wide variety of power, pulse, or stand-by applications.

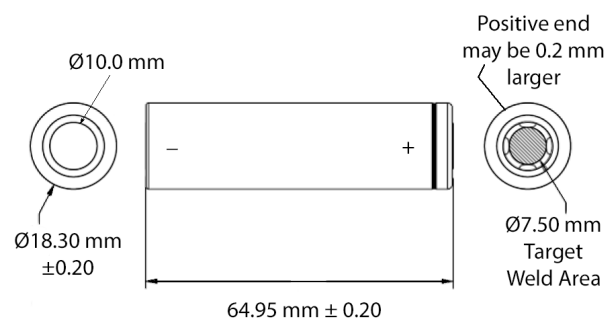
**Nanophosphate® battery technology** offers stable chemistry, faster charging, consistent output, excellent cycle life and superior cost performance. It provides the foundation for safe systems while meeting the most demanding customer requirements. Multiple layers of protection are employed at the chemistry, cell and system level to achieve an energy storage solution with superior safety and abuse tolerance compared to metal oxide lithium-ion chemistries.



### Applications

- Energy storage
- Uninterruptible Power Supplies
- Communication technologies
- Aerospace
- Electrified mobility devices
- Industrial equipment
- Medical devices
- Toys

### Dimensions



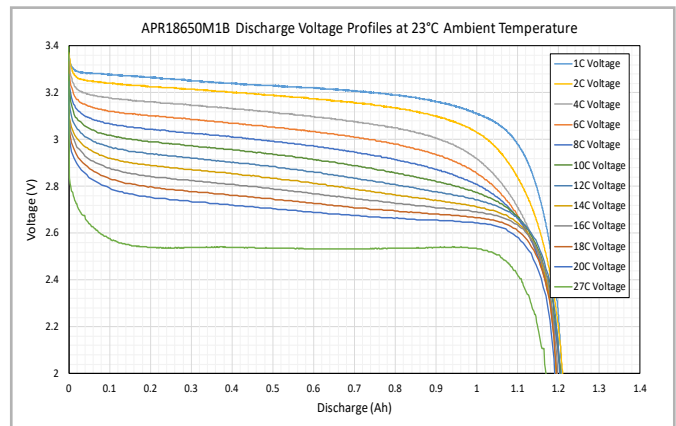
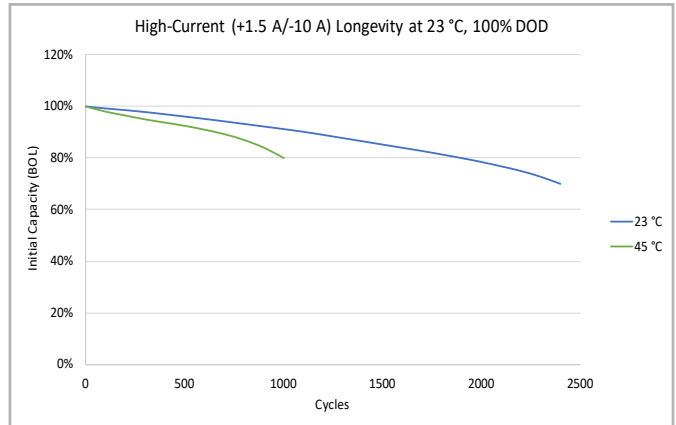
# 18650 Lithium Ion Power Cell

Nanophosphate® Technology

## Specs for APR18650M1B

Nominal Ratings	
Voltage	3.3 V
Capacity @ 23 °C Typ (Min)	1.2 Ah (1.1 Ah)
Energy @ 23 °C	3.63 Wh
Impedance (1kHz AC) Typ	12.6 mΩ
Cycle Life at 1.5 A charge /-10 A discharge, 100% DOD	> 2000 cycles
Discharging	
Max Continuous Discharge Current	30 A
Max Pulse Discharge Current (10s)	50 A
Minimum Voltage / HPPC Pulse	2 V / 1.6 V
Temperature	-30 °C to 55 °C
Charging	
Recommended Charge Current	1.5 A
Max Continuous Charge Current	4 A
Max Pulse Charge Current (10s)	10 A
Recommended Charge Voltage	3.6 V
Terminate Charge @ 3.6 V	< 50 mA
HPPC Pulse Voltage	3.8 V
Float Voltage	3.5 V
Temperature Range (reduce charging current to <40mA when under 0 °C)	0 °C to 55 °C
Storage	
Storage Temperature	-40 °C to 60 °C
Mechanical	
Diameter	Ø18.3 +/- 0.2 mm
Length	64.95 +/- 0.2 mm
Mass	39.5 +/- 1.0 g
Certifications	
Transportation	UN 3480 (UN38.3), CIQ
Safety	UL 1642, IEC 62133-2
Transportation	
Shipped	@ 30% SOC
Part Number	300749-006

## 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
Vent Open Pressure	1.8 - 2.4 MPa

18650 Data Sheet  
Feb 2019

**LithiumWerks™**

[www.lithiumwerks.com/contact](http://www.lithiumwerks.com/contact)

North American Office  
1807 W. Braker Ln.  
Suite 500  
Austin, Texas 78758 USA

Tel: +1 (512) 527-2900

European Office  
Unit 63 Mallusk Enterprise Park  
Mallusk Drive  
Belfast BT36 4GN, UK

Tel: +44 (0)28 9084 5400

Copyright © 2019 Lithium Werks Inc.

Performance may vary depending on, but not limited to cell usage and application. If cell is used outside specifications, performance will diminish. All specifications are subject to change without notice. All information provided herein is believed, but not guaranteed, to be current and accurate.