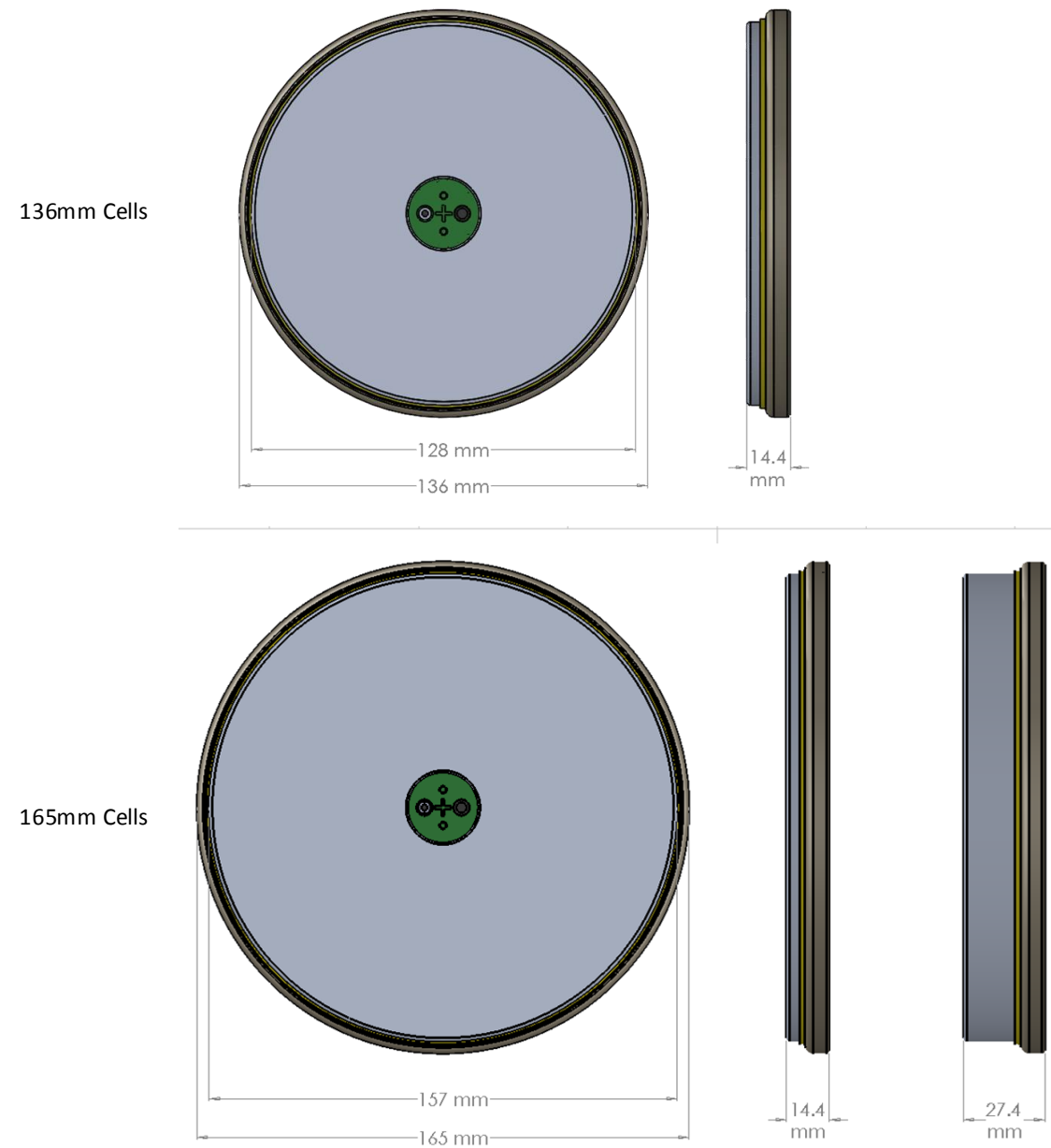


Rolled-Ribbon Li-ion LFP Cells

Dimensional Characteristics



Don't see what you need?

Rolled-Ribbon cells can be made in custom sizes using custom LFP, NMC, LTO, NCA, LMO, LCO or other electrochemical formulations. Please contact the Rolled-Ribbon Battery Company for assistance with custom cell requirements.

Information contained in this datasheet is subject to change or modification without notice. No warranty or guarantee is given with respect to the referenced products or the information contained herein. Please contact the Rolled-Ribbon Battery Company for current product information.

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Rolled-Ribbon® Li-ion LFP Cells



Rolled-Ribbon is the NEW CELL STANDARD for high-power high-capacity Li-ion batteries. Its unique design provides superior performance and value. Better cells – better batteries!

Rolled-Ribbon solves the longstanding industry problems associated with conventional cells (cylindrical, pouch and prismatic) for high-power high-capacity applications. Conventional cells do not scale up well for increasing power and capacity. As battery system power and capacity requirements increase, significant power and thermal issues emerge that are difficult to solve, resulting in decreased battery system performance and increased cost. Rolled-Ribbon overcomes these problems. In tests that compare Rolled-Ribbon and conventional cells on a side-by-side basis using diverse but identical electrochemical formulations, Rolled-Ribbon cells outperform conventional cells by wide margins. The Rolled-Ribbon cell performance advantages come from their physical structures and not their electrochemical formulations.

Rolled-Ribbon Advantages

- Maximum Power Delivery
- Minimum Heat Generation
- Unparalleled Thermal Performance
- Maximum Cycle Life
- Maximum Conversion Efficiency
- Rugged, Durable Construction

Applications

- Industrial Equipment
- Utility Vehicles
- Electric Vehicles
- Marine Vessels
- Transportable Power Systems
- Microgrids – Grid Energy Storage
- Uninterruptible Power Systems



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sales@rolled-ribbon.com

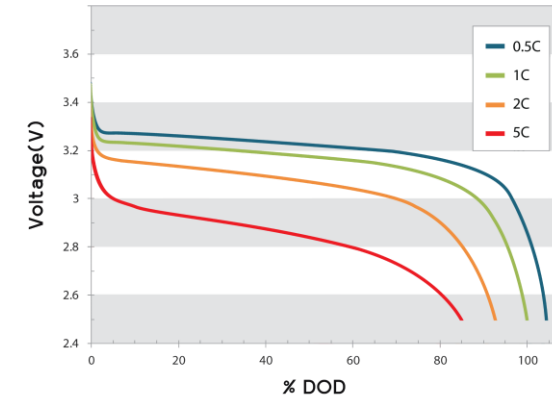
www.rolled-ribbon.com

Rolled-Ribbon Li-ion LFP Cells

Characteristic/Model	Units	136-15	165-15	165-28
Li-ion Formulation		LFPE04A	LFPE04A	LFPE04A
Nominal Voltage	V	3.20	3.20	3.20
Capacity (@23°C, 1C)				
Coulombic	Ah	14	21	43
Energy	Wh	44	67	137
Voltage Range	V	2.50-3.65	2.50-3.65	2.50-3.65
Ambient Operating Temperatures				
Discharging	°C	-20 to +45	-20 to +45	-20 to +45
Charging	°C	0 to +45	0 to +45	0 to +45
Storage	°C	-20 to +45	-20 to +45	-20 to +45
Discharging Characteristics (@23°C)				
Standard (1C)	A	14	21	43
Maximum Continuous (5C)	A	70	105	215
Peak < 15 sec (10C)	A	140	210	430
Charging Characteristics (@23°C)				
Charge Mode		CC-CV	CC-CV	CC-CV
Standard (1C)	A	14	21	43
Maximum Continuous (2C)	A	28	42	86
Peak < 15 sec (4C)	A	56	84	172
Power/Energy (@23°C)				
Peak Power (10C)	W	448	723	1,472
Volumetric Densities				
Standard Energy (1C)	Wh/L	210	217	233
Standard Power (1C)	W/L	214	217	234
Peak Power (10C)	W/L	2,143	2,347	2,511
Gravimetric Densities				
Standard Energy (1C)	Wh/kg	98	95	114
Standard Power (1C)	W/kg	100	96	114
Peak Power (10C)	W/kg	1,006	1,032	1,226
Impedance (@23°C)				
AC Impedance @ 1kHz	mΩ	< 1.00	< 0.65	< 0.33
DCIR (@50% DOD)	mΩ	< 3.40	< 2.44	< 1.25
Cycle Life				
1C/1C, 100% DOD		> 2,000	> 2,000	> 2,000
1C/1C, 80% DOD		> 3,000	> 3,000	> 3,000
Physical Characteristics				
Nominal Dimensions	mm	136 x 15	165 x 15	165 x 28
Terminal Area	cm ²	125	189	189
Cell Volume	cm ³	209	308	586
Cell Weight	g	445	700	1,200

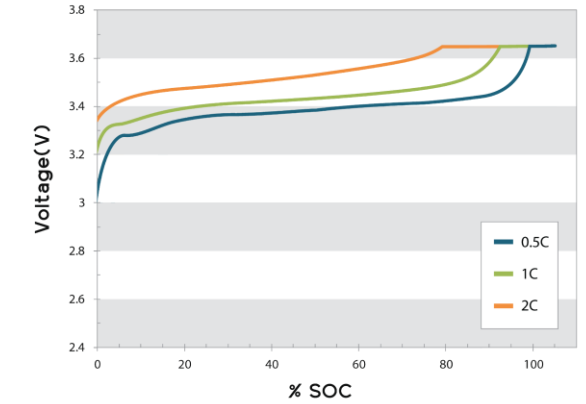
Rolled-Ribbon Li-ion LFP Cells

Discharge Characteristics



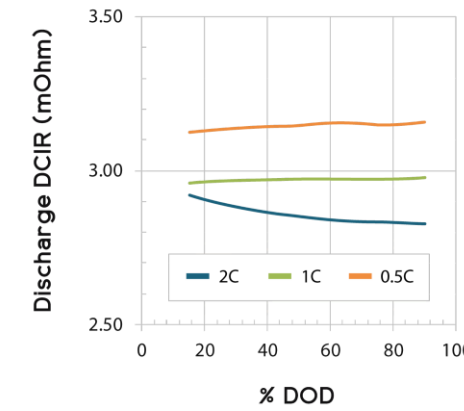
C-rate CC Discharge to 2.5V Cut-Off, @ 23°C

Charge Characteristics



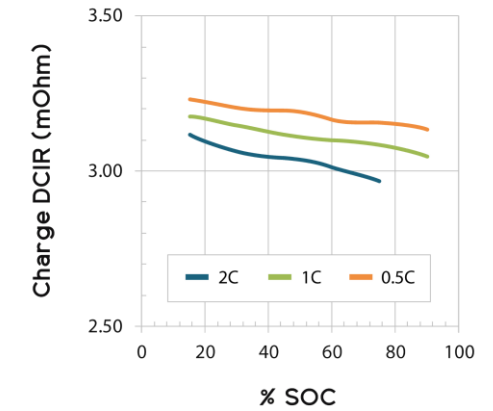
C-rate CC-CV Charge to 3.65V and C/30 Cut-Off, @ 23°C

DCIR - Discharging



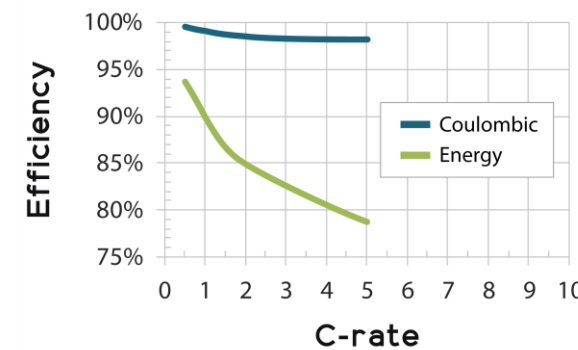
C-rate CC Discharge to 2.5V Cut-Off, @ 23°C

DCIR - Charging



C-rate CC-CV Charge to 3.65V and C/30 Cut-Off, @ 23°C

Conversion Efficiencies



C-rate CC Discharge to 2.5V Cut-Off, @ 23°C