

Rechargeable lithium-ion battery

VL 6 A - Very high power cell

(Optimized for 2 C to 100 C continuous discharge or up to 250 C pulse power)



Benefits

- Excellent power density and specific power
- Power capability at cold temperature
- 100% columbic efficiency
- Maintenance free battery
- Long cycle life
 - > 80% of initial capacity remaining after 5,000 cycles at 100% DOD
 - >500000 cycles during shallow cycling (SOC Δ ~3%)
- Projected 15 years calendar life
- No memory effect
- Integral safety vent

Main applications

- Delocalized power
- Replacement for super capacitors
- Windmill pitch control

Key features

- Graphite based anode
- Nickel oxide based cathode
- Sold only as assembled battery systems
- SOC indicator on battery system
- No export license required for civil applications

Cell electrical characteristics

Power (25°C/100 % SOC)	
Continuous	1,900 W
2 s pulse	2,500 W
100 ms pulse	3,800 W
Specific power (25°C/100 % SOC)	
18 s pulse (2.5 V)	5,600 W/kg
2 s pulse (2.5 V)	7,850 W/kg
200 ms pulse (2.5 V)	11,250 W/kg
Recommended maximum discharge current at 25°C:	
Continuous	750 A
2 s Pulse	1,100 A
100 ms Pulse	1,600 A
Nominal voltage	3.65 V
Energy	22 Wh / 79.2 kJ
Nominal capacity at C rate at 4.1 V/2.5 V & 25°C	6 Ah

Cell mechanical characteristics

Diameter max	35 mm
Height max ¹	165 mm
Mass max	0.34 kg
Volume max ¹	0.16 l

Cell operating conditions

Lower voltage limit for discharge	2.0 V
Typical charging method	Constant current/Constant voltage (CCCV)
Charging voltage	4.1 \pm 0.04 V
Recommended continuous charge current at 25°C	C/1 (2.5 hours)
End of charge detection	100 mA
Fast charging modes* :	
15 C (80 % SOC)	< 6 minutes
5 C (95 % SOC)	20 minutes
Operating temperature	
Charge**	- 20°C to + 55°C
Discharge	- 60°C to + 55°C
Storage and transportation temperature	- 60°C to + 65°C

¹ Includes terminals

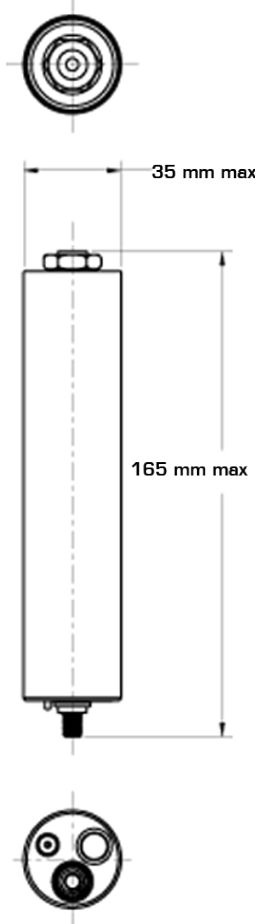
* Fast charging may impact life

** Charge rate should be lower with lower temperature

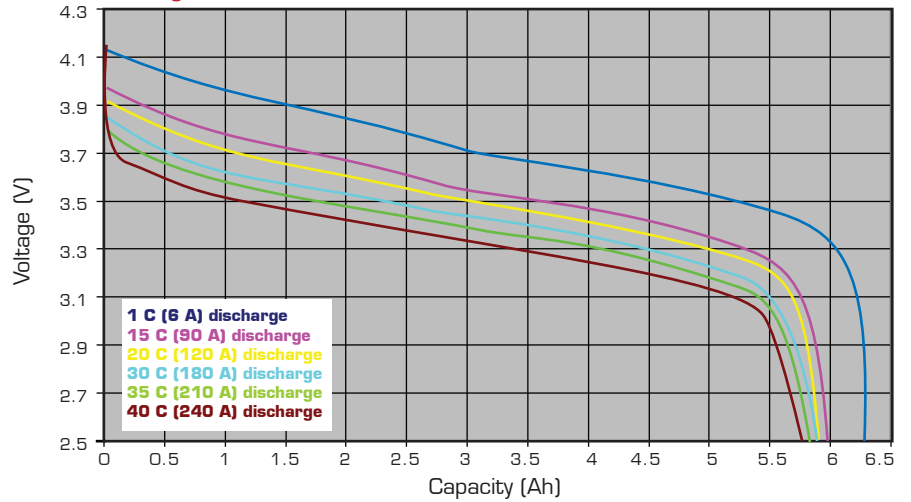


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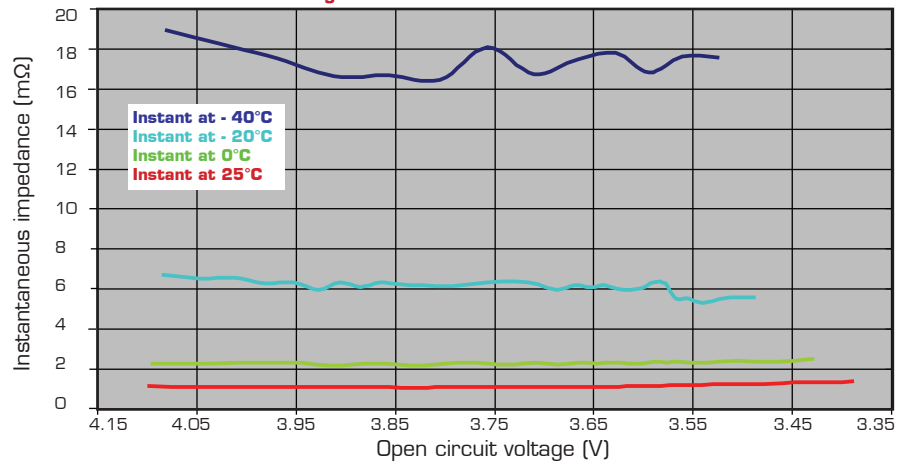
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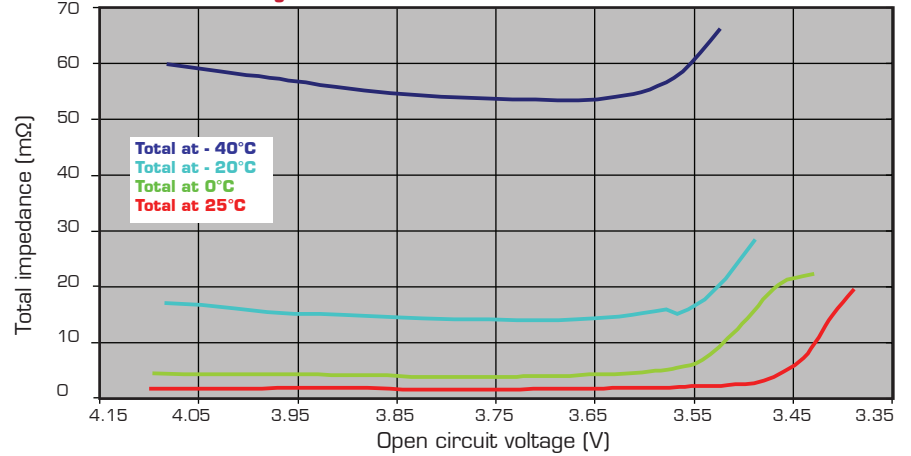
Discharge at various rates at 25° C*



100 millisecond discharge impedance*



15 second discharge impedance*



*** Note:**
Impedance Time: Total = 15 sec, Instant = 100 msec
Discharge Currents: 100 A for 25°C and 0°C, 50 A for -20°C, 20 A for -40°C

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