

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 5000 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

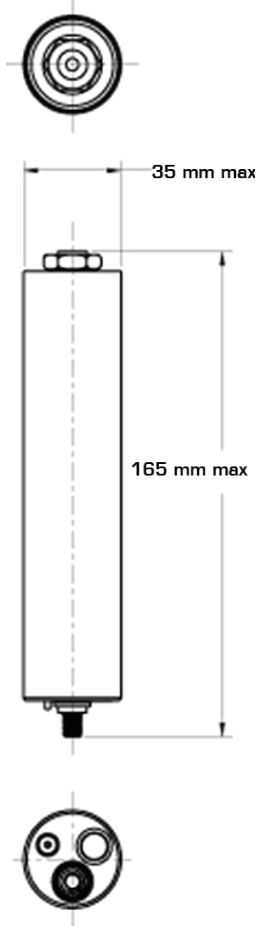
* Fast charging may impact life

** Charge rate should be lower with lower temperature

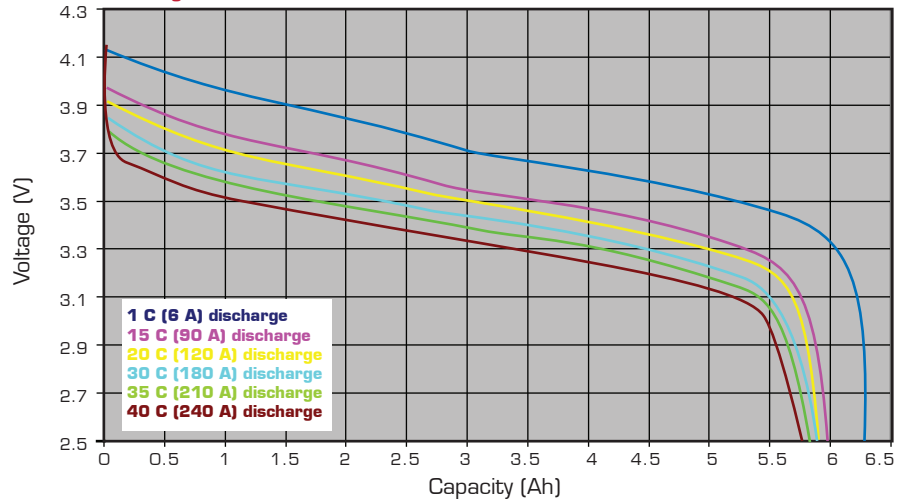


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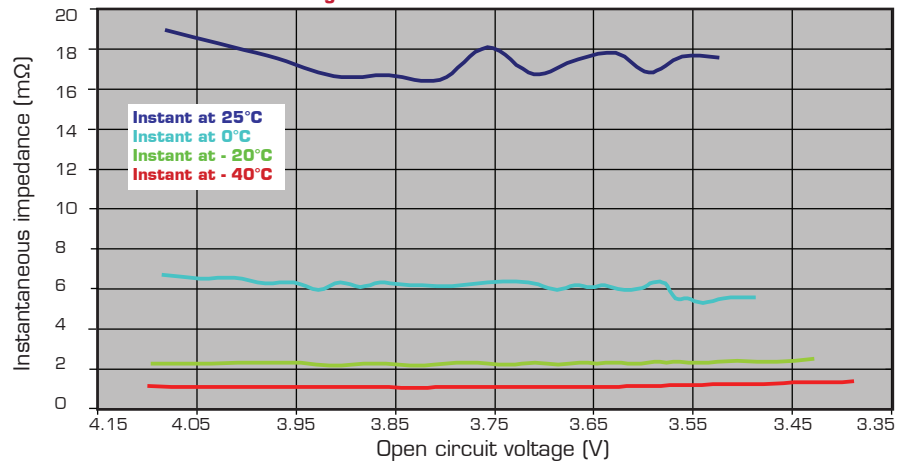
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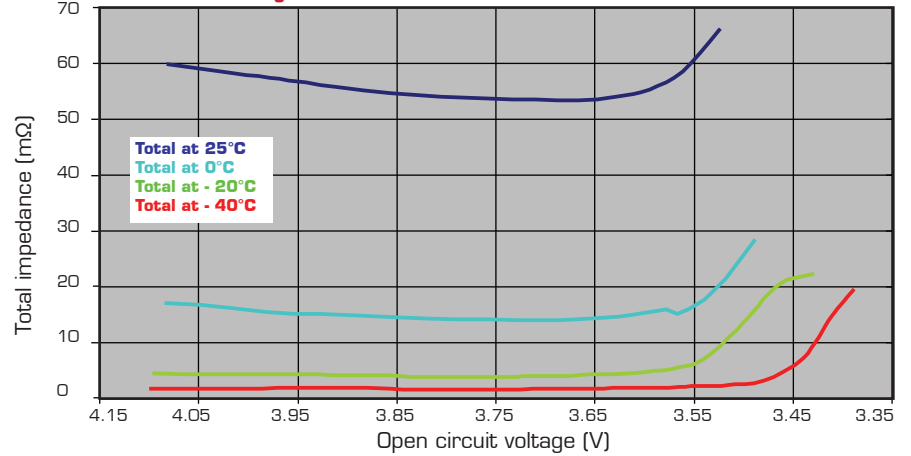
Discharge at various rates at 25° C*



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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Doc N° 5406-2-0907
 Edition: September 2007

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Published by the Communications Department

Photo credit: Saft

Produced by Saft America, Inc. - Space & Defense Division



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