

# Rechargeable lithium-ion battery

## VL 48 E - high energy space cell



### Benefits

- Excellent energy density and specific energy
- 100 % coulombic efficiency
- Hermetically-sealed cells
- Completely maintenance free
- Operates in any orientation
- Long cycle life:
  - 15 year GEO at 80% DOD
  - 25,000 LEO cycles at 20% DOD
- No memory effect

### Main applications

- GEO space applications
- LEO space applications
- High energy applications

### Key features

- Graphite-based anode
- Nickel alloy oxide-based cathode

### Cell electrical characteristics

Nominal voltage	3.6 V
Nominal capacity at C/2 rate at 4.1 V/3 V & 25° C	48 Ah
Maximum discharge current at 25° C:	
Continuous	100 A
~2 s pulse	300 A
Specific energy	150 Wh/Kg
Energy density <sup>1</sup>	300 Wh/l

### Cell mechanical characteristics

Diameter max	54 mm
Height max <sup>1</sup>	245 mm
Mass max	1.15 kg
Volume max <sup>1</sup>	0.56 l

### Cell operating conditions

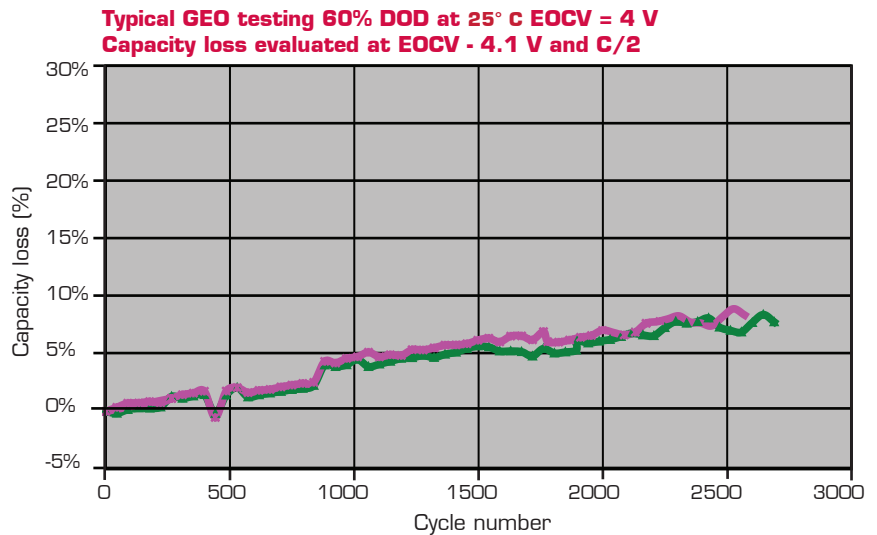
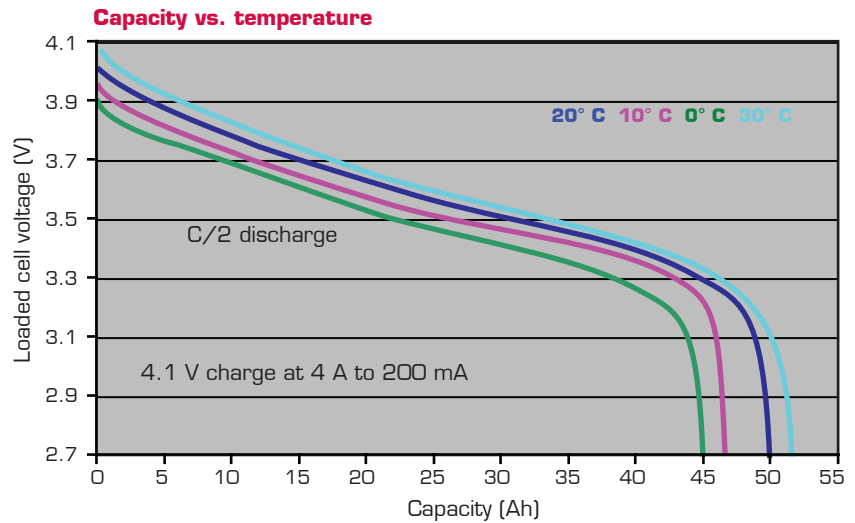
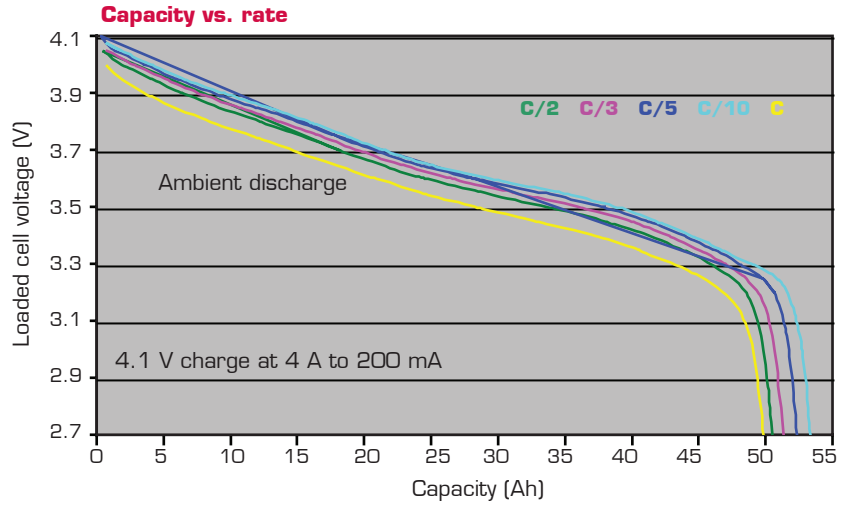
Lower voltage limit for discharge:	
Continuous (0° C to + 45° C)	2.5 V
Charging method	Constant current/constant voltage (CCCV)
Charging voltage (max)	4.1 V
Recommended continuous charge current	
GEO	C/10
LEO (20% DOD)	C/5
Operating temperature:	
Charge	+ 10° C to + 35° C
Discharge	0° C to + 40° C
Storage and transportation temperature	- 40° C to + 65° C

<sup>1</sup>Includes terminals



**saft**

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