Rechargeable high temperature lithium-ion battery
VL 25500-125

Cylindrical, C-sized spiral cell
Reusable up to 200 times
in demanding >100°C environments

Benefits

- Ability to perform safely and reliably up to 125°C with severe vibration/shock constraints
- Attractive cycle life
- Easy integration within multi-cell tubular cylindrical packs
- High savings on operation costs

Key features

- Sturdy and pressure resistant stainless steel envelope
- Hermetic and corrosion-proof glass-to-metal sealing
- Redundant safety features
- Ability to withstand at 125°C 750 G peak/0.5 msec shocks
- Ability to withstand at 125°C 20 G_{RMS} random vibrations
- Ability to withstand at 125°C linear sine sweep at 30 G peak
- Non-restricted for transport

Main applications

- Oil drilling and all downhole high temperature environments
- Measure While Drilling *(MWD)*
- Oil and gas well monitoring
- Heat sterilizable applications

Cell size references	**R14 – C**
Electrical characteristics	
Nominal voltage (0.4 A rate at 125°C)	3.6 V
Nominal capacity	2.0 Ah
(under 0.4 A at +125°C with 2.5 V cut-off. The capacity restored by the cell varies according to current drain, temperature and cut-off)	
Nominal energy	7.2 Wh
Cycle life (C/5 rate, between 2.5 and 4.1 V) - *(100 % DOD)*	
Original capacity still restored after 35 cycles at 125°C	75 %
Original capacity still restored after 100 cycles at 110°C	75 %
Cycle life (C/5 rate, between 2.5 and 4.1 V) - *(25 % DOD)*	
Original capacity still restored after 200 cycles at 125°C	75 %
Capacity retention	
after storage 1 week at 125°C *(charged up to 4.0 V)*	90 %
after storage 1 week at 125°C *(charged up to 4.1 V)*	85 %
Physical characteristics (unsleeved cells)	
Diameter (max)	24.14 mm (0.951 in)
Height (max)	49.2 mm (1.937 in)
Typical weight	58.9 g (2.08 oz)
Li equivalent content	approx. 0.6 g
Operating conditions	
Charge method	Constant Current/Constant Voltage
Maximum charge voltage	4.10 +/– 0.05 V
Maximum recommended charge current	0.5 A (C/4 rate) at 20°C and 1 A (C/2 rate) at 125°C
Charge temperature range	0/125°C
Maximum continuous discharge current	1 A (C/2 rate)
Pulse discharge current	1 A
Discharge temperature range	0/125°C

Consult Saft for available and customized battery packs

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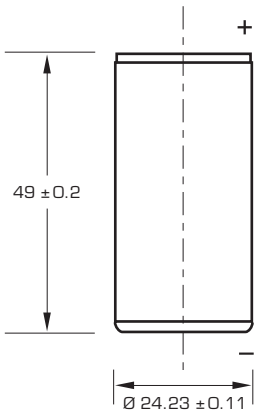


Dimensions in mm.

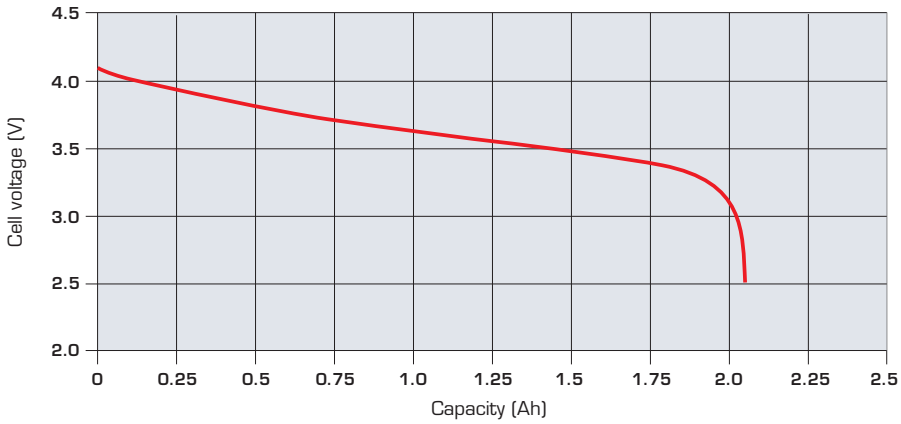
Storage

- It is recommended to maintain the storage area clean, ventilated and preferably not exceeding 30°C

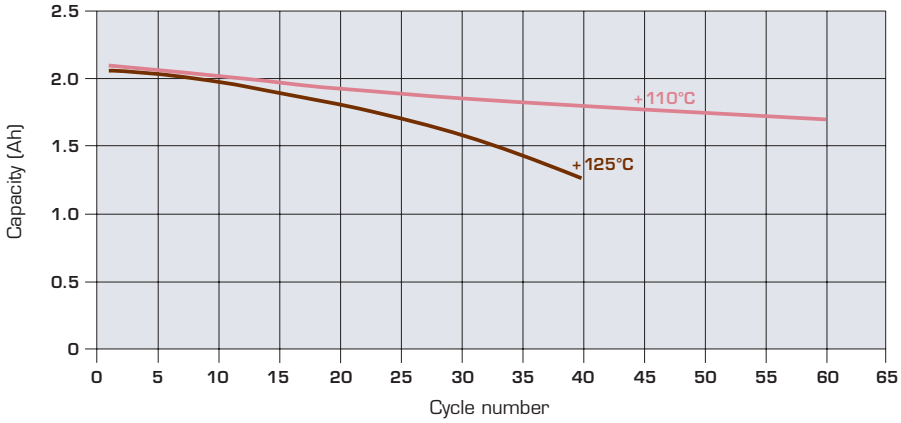
Warning

- Fire, explosion and burn hazard
- Do not short circuit, crush, disassemble, heat above 125°C (257°F), incinerate, or expose contents to water

Typical discharge curve under C/5 rate (400 mA) at +125°C



Restored capacities during cycling 2.5/4.1 V at +125°C and +110°C



Shocks and vibrations

- Ability to withstand at the +25°C to 125°C range 750 G peak/ 0.5 msec repetitive shocks on axial and radial axes *(undischarged and partially discharged cells)*
- Ability to withstand at the +25°C to 125°C range 20 G_{RMS} random vibrations 2 to 4 hours along X, Y and Z axis

< 30 Hz	@ ≥	6 dB/octave
30-80 Hz	@	3 dB/octave
80-300 Hz	@	0 dB/octave
300-1000 Hz	@	-3 dB/octave

- Ability to withstand at the +25°C to 125°C range 1 hour of linear sine sweep at 30 G peak, from 30 to 2000 Hz along X, Y and Z axis

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