Primary lithium battery
LS 33600C

3.6 V Primary lithium-thionyl chloride (Li-$SOCl_2$)
High energy
D-size bobbin cell
(recommended for cool temperature environments)

Benefits

- High voltage response, stable during most of the lifetime of the application
- Superior voltage response during pulsing at ambient T
- Easy integration in compact system
- Low self-discharge rate *(less than 3% after 1 year of storage at +20°C)*

Key features

- Stainless steel container
- Hermetic glass-to-metal sealing
- Built-in safety vent
- Finish with or without flat positive end
- Non-flammable electrolyte
- Compliant with IEC 86-4 safety standard and EN 50020 intrinsic safety standard
- Underwriters Laboratories *(UL)* Component Recognition *(File Number MH 12609)*
- Restricted for transport *(Class 9)*

Main applications

- Utility metering
- Automatic meter readers
- Buoys
- Measuring equipment
- Industrial applications
- Professional electronics

Optional upon request

- Low magnetic version

Cell size references	UM3 - R20 - D

Electrical characteristics

(typical values relative to cells stored for one year or less at + 30°C max.)

Nominal capacity *(at 1 mA + 20°C 2.0 V cut off. The capacity restored by the cell varies according to current drain, temperature and cut off)*		18.5 Ah
Open circuit voltage	(at +20°C)	3.67 V
Nominal voltage	(at 0.7 mA + 20°C)	3.6 V
Pulse capability: Typically up to 250 mA. *(250 mA/0.1 second pulses, drained every 2 mn at + 20°C from undischarged cells with 10 µA base current, yield voltage readings above 3.0 V. The readings may vary according to the pulse characteristics, the temperature, and the cell's previous history. Fitting the cell with a capacitor may be recommended in severe conditions. Consult Saft)*		
Continuous current permitting 50% of the nominal capacity to be achieved at + 20°C with 2.0 V cut off. *(to maintain cell heating within safe limits. Battery packs may imply lower level of maximum current and may request specific thermal protection. Consult Saft)*		80 mA
Storage	*(recommended)* *(for more severe conditions, consult Saft)*	+ 30°C (+ 86°F) max
Operating temperature range *(Operation above ambient T may lead to reduced capacity and lower voltage plateau readings at the beginning of pulses. Consult Saft)*		- 60°C/+ 70°C (- 76°F/+ 158°F)

Physical characteristics

Diameter *(max)*		33.4 mm (1.32 in)
Height *(max)*		60.2 or 61.6 mm (2.37 or 2.42 in) depending on finish type
Typical weight		90 g (3.2 oz)
Li metal content		approx. 4.9 g
Available termination suffix		
	CN, CNR	radial tabs
	CNA (AX)	axial leads
	FL	flying leads ... etc.

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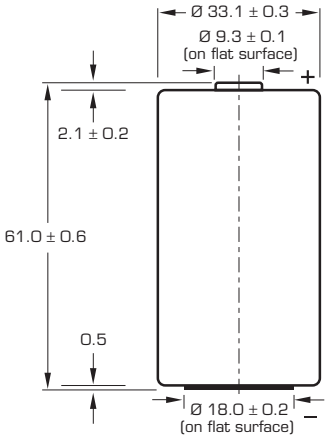
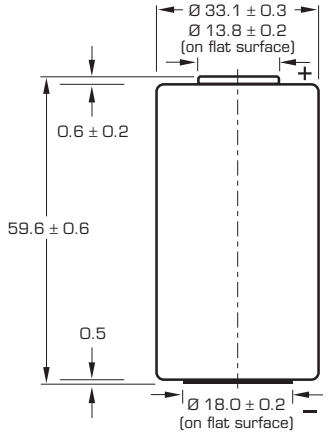


Finished version with protruding positive end cap



Finished version with flat positive end cap

Dimensions in mm.

Storage

- The storage area should be clean, cool (preferably not exceeding + 30°C), dry and ventilated.

Warning

- Fire, explosion and burn hazard.
- Do not recharge, short circuit, crush, disassemble, heat above 100°C (212°F), incinerate, or expose contents to water.
- Do not solder directly to the cell (use tabbed cell versions instead).

Saft
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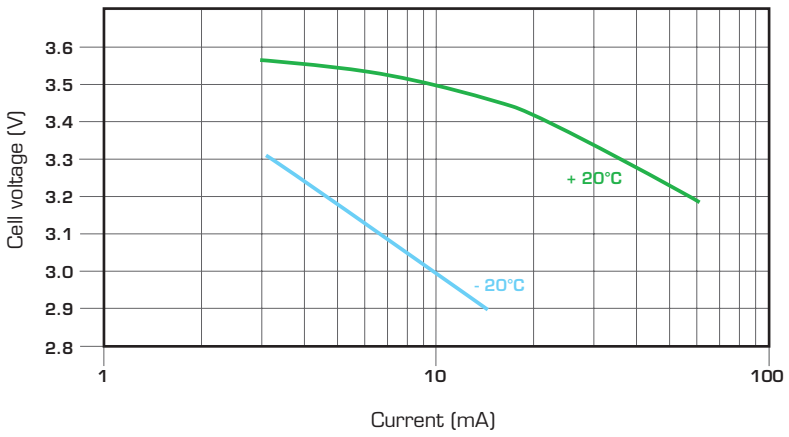
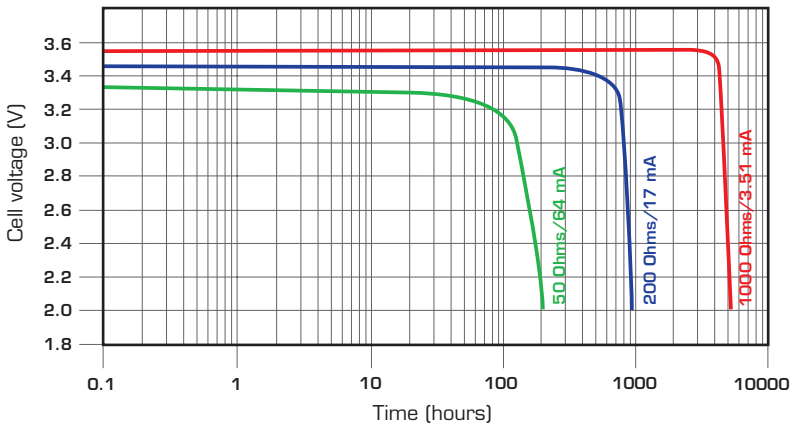
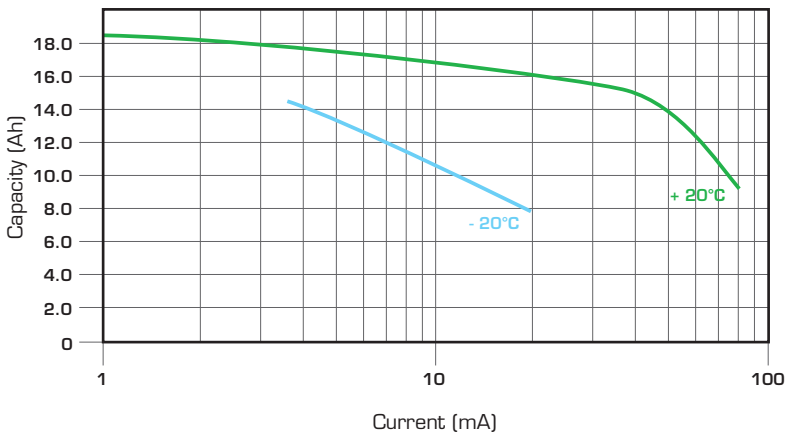


Voltage plateau versus Current and Temperature (at mid-discharge)



Typical discharge profiles at + 20°C



Restored Capacity versus Current and Temperature (2.0 V cut off)

Doc. N° 31017-2-1106

For more details on primary lithium technologies please refer to Primary Lithium Batteries Selector Guide Doc N° 31048-2.

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