

# Primary lithium battery

## LS 17330

3.6 V Primary lithium-thionyl chloride (Li-SOCl<sub>2</sub>)  
 High energy density  
<sup>2</sup>/<sub>3</sub> A-size bobbin cell



### Benefits

- High voltage response, stable during most of the lifetime of the application
- Wide operating temperature range (-60°C/+85°C)
- Low self-discharge rate (less than 1 % after 1 year of storage at +20°C)
- Easy integration into compact systems

### Key features

- Hermetic glass-to-metal sealing
- Non-flammable electrolyte
- Underwriters Laboratories (UL) Component Recognition (File Number MH 12802)
- Compliant with IEC 60086-4 safety standard and IEC 60079-11 intrinsic safety standard
- Non-restricted for transport/ Non-assigned to Class 9 according to the UN Recommendations on the transport of dangerous goods - Model Regulations

### Main applications

- Utility metering
- Automatic meter reading
- Alarms and security devices
- Tollgate systems
- Memory back-up
- Tracking systems
- Automotive electronics
- Professional electronics

### Cell size reference

<sup>2</sup>/<sub>3</sub> A

### Electrical characteristics

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

|                                                                                                                                                   |         |
|---------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Nominal capacity<br>(at 3 mA + 20°C 2.0 V cut-off. The capacity restored by the cell varies according to current drain, temperature and cut-off). | 2.1 Ah  |
| Open circuit voltage (at +20°C)                                                                                                                   | 3.67 V  |
| Nominal voltage (at 0.2 mA + 20°C)                                                                                                                | 3.6 V   |
| Nominal energy                                                                                                                                    | 7.56 Wh |

Pulse capability: Typically up to 120 mA  
 (120 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)

|                                                                                    |                   |
|------------------------------------------------------------------------------------|-------------------|
| Maximum recommended continuous current<br>(Higher currents possible, consult Saft) | 25 mA             |
| Storage (recommended)<br>(for more severe conditions, consult Saft)                | +30°C (+86°F) max |

|                                                                                                                                                             |                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| Operating temperature range<br>(Operation above ambient T may lead to reduced capacity and lower voltage readings at the beginning of pulses. Consult Saft) | -60°C/+85°C<br>(-76°F/+185°F) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|

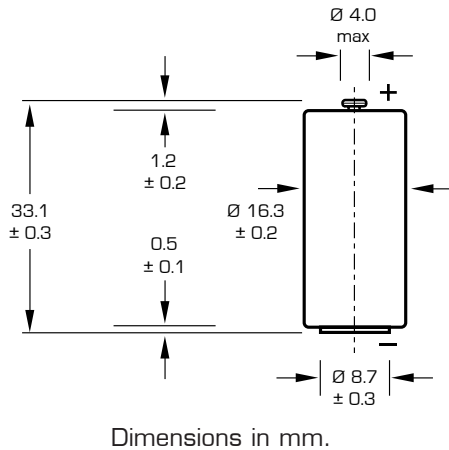
### Physical characteristics

|                  |                   |
|------------------|-------------------|
| Diameter (max)   | 16.5 mm (0.65 in) |
| Height (max)     | 33.4 mm (1.31 in) |
| Typical weight   | 14.4 g (0.5 oz)   |
| Li metal content | approx. 0.6 g     |

Available termination suffix

|                     |                         |
|---------------------|-------------------------|
| CNR, CNR OP         | rectangular radial tabs |
| 2 PF, 3 PF, 3 PF RP | radial pins             |
| CNA (AX)            | axial leads             |

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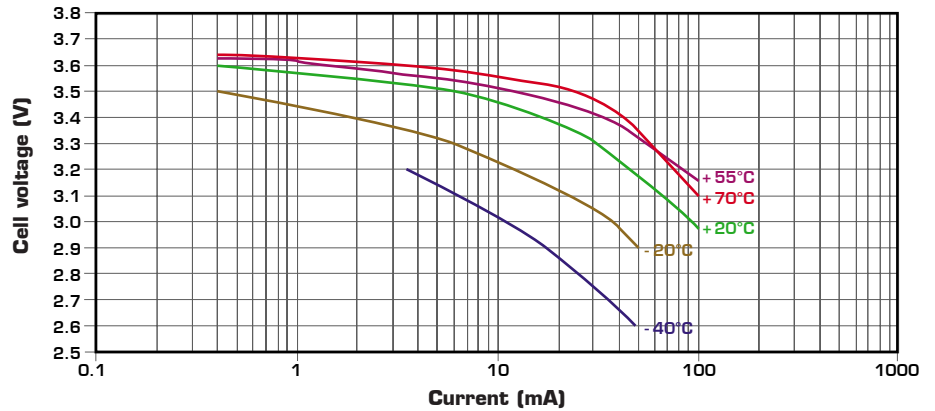
## Storage

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

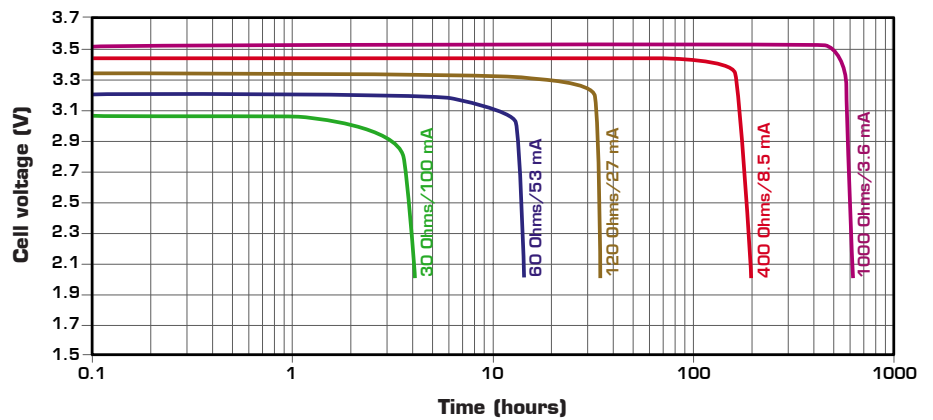
## Warning

- 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).

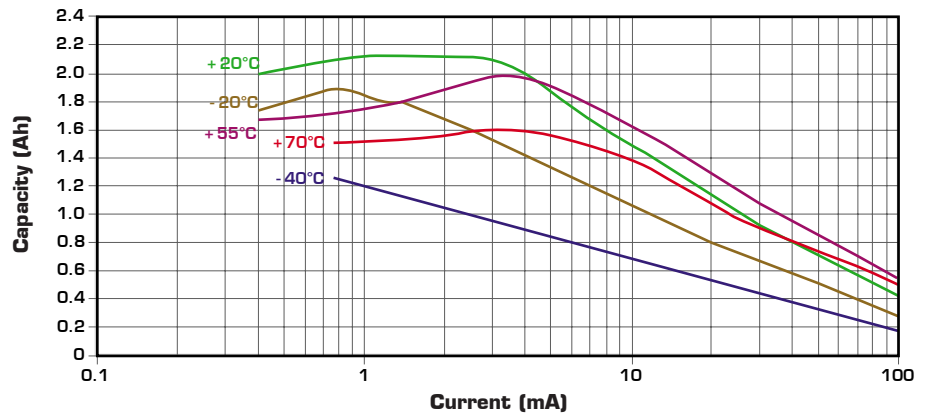
Voltage plateau versus Current and Temperature (at mid-discharge)



Typical discharge profiles at +20°C



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



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

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