

new

# Primary lithium battery

## LS 14500Ex

3.6 V Primary lithium-thionyl chloride (Li-SOCl<sub>2</sub>)

High energy density

AA-size bobbin cell

For demanding and potentially explosive atmospheres



### Benefits

- Used in potentially explosive atmospheres
- Enhanced capacity
- 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)

### Key features

- Non-flammable electrolyte
- Compliant with IEC 60079-11 intrinsic safety standard and IEC 60086-4 safety standard
- Stainless steel container and end caps (low magnetic signature)
- Hermetic glass-to-metal sealing
- Underwriters Laboratories (UL) Component Recognition
- Non-restricted for transport
- Manufactured in UK and China

### Main applications

- Gas metering
- Automatic meter reading
- Alarms and security devices
- Miners cap lamps
- Gas detectors
- Air monitoring equipment
- Safety torches
- Gas tanks level monitoring
- Miner equipment

### Cell size references

R6 - AA

### Electrical characteristics

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

|   |         |
|---|---------|
| Nominal capacity<br>(at 2 mA +20°C 2.0 V cut-off. The capacity restored by the cell varies according to current drain, temperature and cut-off) | 2.6 Ah  |
| Open circuit voltage (at +20°C)   | 3.67 V  |
| Nominal voltage (at 0.2 mA +20°C)   | 3.6 V   |
| Nominal energy  | 9.36 Wh |

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)

|   |                               |
|---|-------------------------------|
| Maximum recommended continuous current<br>(Higher currents possible, consult Saft)  | 50 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)   | 14.55 mm (0.57 in) |
| Height (max)     | 50.3 mm (1.98 in)  |
| Typical weight   | 16.7 g (~ 0.6 oz)  |
| Li metal content | approx. 0.7 g      |

|                              |                     |
|------------------------------|---------------------|
| Available termination suffix |                     |
| CN, CNR                      | radial tabs         |
| 2 PF, 3 PF, 3 PF RP, 4 PF    | radial pins         |
| CNA (AX)                     | axial leads         |
| FL                           | flying leads...etc. |

### IEC 60079-11 Intrinsic safety characteristics

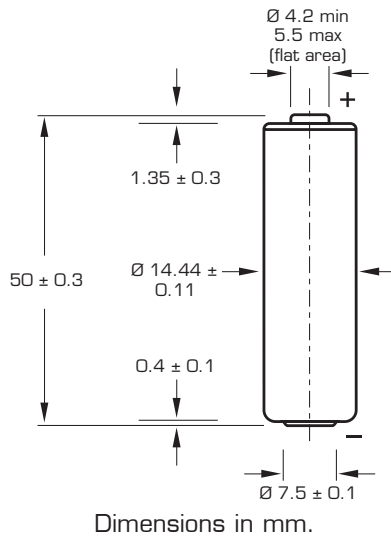
(T4 up to +55°C)

|                               |          |
|-------------------------------|----------|
| I short-circuit current (max) | 3.7 A    |
| Ri (max)                      | 989 mΩhm |
| Temperature rise (max)        | +78°C    |

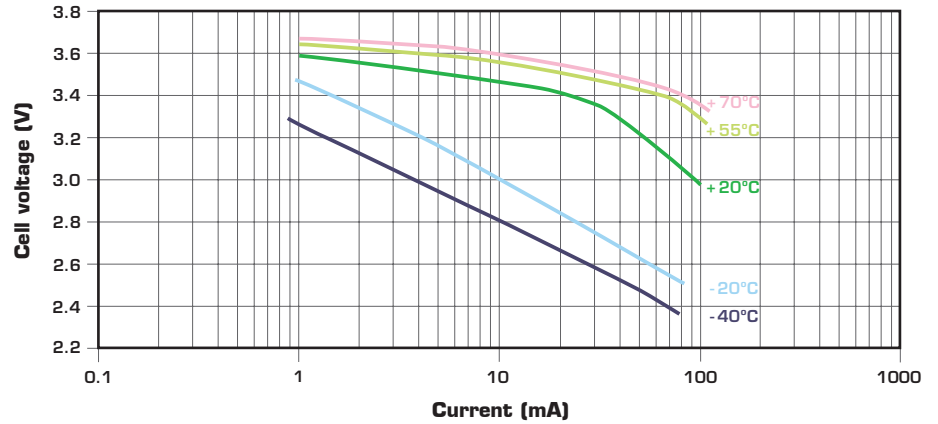


saft

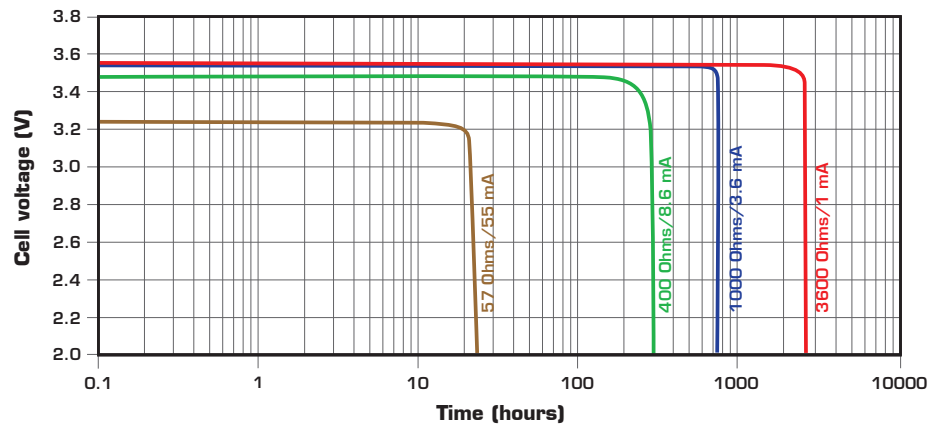
# LS 14500Ex



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



Typical discharge profiles at +20°C



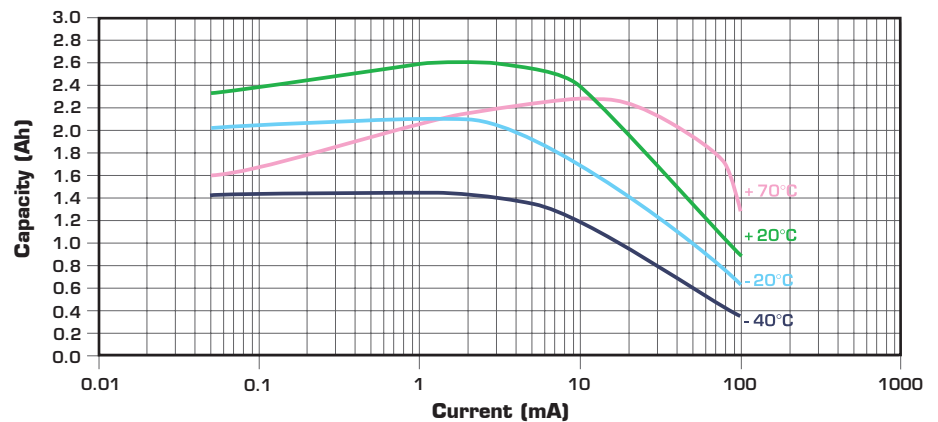
## Storage

- 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).

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



## Saft

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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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