

# Primary lithium battery

## LO 39 SHX

3.0 V Primary lithium-sulfur dioxide (Li-SO<sub>2</sub>)

Very high drain and pulse capability

F-size spiral cell



### Benefits

- High and stable discharge voltage
- Superior pulse capability
- Performance not affected by cell orientation
- Long storage possible before use
- Ability to withstand extreme temperature

### Key features

- Low self-discharge rate  
*(less than 3 % after 1 year of storage at +20°C)*
- Hermetic glass-to-metal sealing
- Built-in safety vent  
*(at the negative end of the cell)*
- Restricted for transport *(class 9)*
- UL Component Recognition  
*(File Number MH 15076)*
- Meets shock, vibration and other environmental requirements of military specifications
- Made in the USA

### Main applications

- Radiocommunications and other military applications
- Beacons and Emergency Location Transmitters
- Sonobuoys
- Emergency car door opening system

### Cell size references

F

#### Electrical characteristics

*(typical values for cells stored for one year or less)*

|   |  |
|---|--|
| Nominal capacity<br><i>(at 1 A +20°C 2.0 V cut-off. The capacity restored by the cell varies according to current drain, temperature and cut-off)</i>   | 11.5 Ah  |
| Nominal energy  | 32.2 Wh  |
| Open circuit voltage (at +20°C)   | 3.0 V  |
| Nominal voltage (at 0.6 A +21°C/+70°F)  | 2.8 V  |
| Maximum recommended continuous current<br><i>(to avoid over-heating. Higher currents possible, consult Saft)</i>  | 3.0 A  |
| Pulse capability : Typically up to 60 A<br><i>(The voltage 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)</i> |  |
| Storage (recommended)<br>(possible without leakage)   | +30°C (+86°F) max<br>-60°C/+85°C<br>(-76°F/+185°F) |
| Operating temperature range   | -60°C/+70°C<br>(-76°F/+158°F)                      |

*(Short excursions up to +85°C possible at currents below 1 A)*

#### Physical characteristics

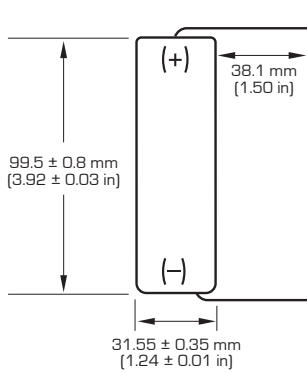
|                                       |                    |
|---------------------------------------|--------------------|
| Diameter (max)                        | 31.9 mm (1.25 in)  |
| Height (max; finish with radial tabs) | 100.3 mm (3.95 in) |
| Typical weight                        | 125 g (4.4 oz)     |
| Li metal content                      | 3.9 g              |

Standard cell comes with resin potting at the positive end and two radial 0.15 mm - thick nickel tabs

Other finish configurations available on request.



# LO 39 SHX



Overall dimensions

## Handling precautions

- Cell is pressurised at ambient temperature.
- Do not puncture, open or mutilate.
- Do not obstruct the safety vent mechanism.
- Do not short circuit or charge.
- Do not expose to fire or temperatures above +70°C (+158°F).

## Saft

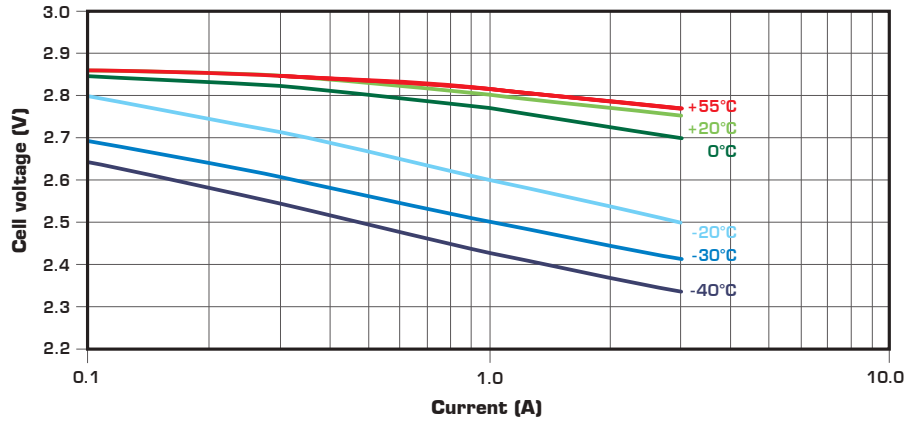
### Specialty Battery Group

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93170 Bagnolet - France  
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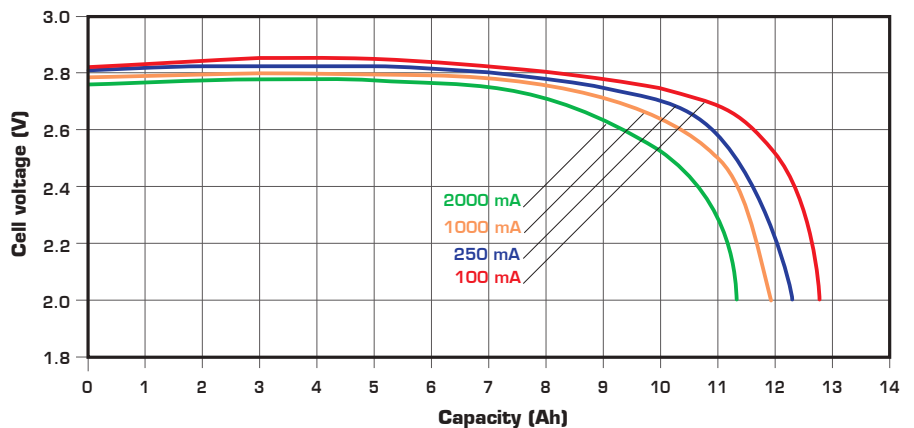
313 Crescent Street  
Valdese, NC 28690 - USA  
Tel.: +1 (828) 874 41 11  
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[www.saftbatteries.com](http://www.saftbatteries.com)

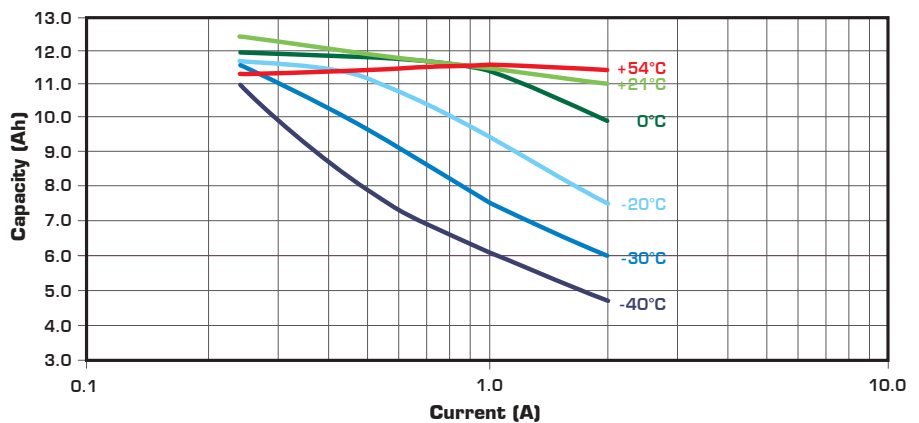
## Voltage plateau versus Current and Temperature



## 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 No 31048-2.

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