

# 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 <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 <i>(to avoid over-heating. Higher currents possible, consult Saft)</i>	3.0 A
Pulse capability : Typically up to 60 A <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) (possible without leakage)	+30°C (+86°F) max -60°C/+85°C (-76°F/+185°F)
Operating temperature range	-60°C/+70°C (-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

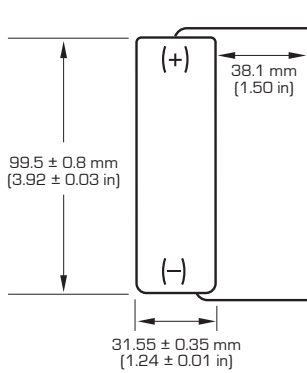
Standard cell comes with resin potting at the positive end and two radial 0.15 mm - thick nickel tabs

Other finish configurations available on request.



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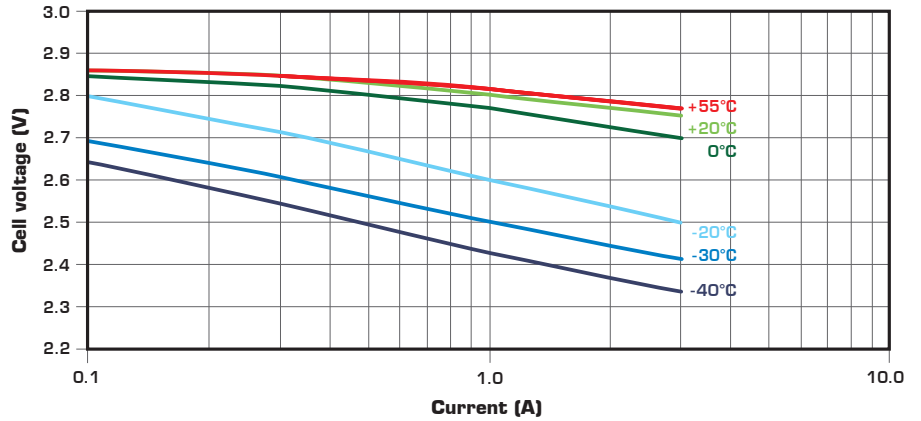
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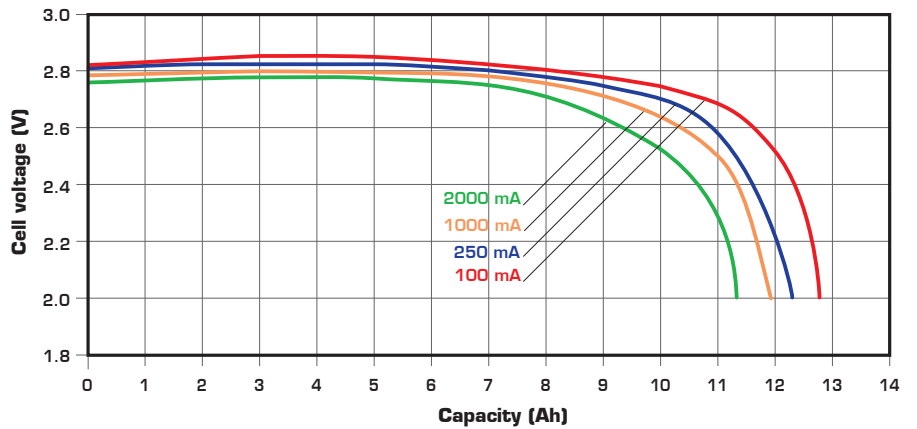
## Handling precautions

- 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).

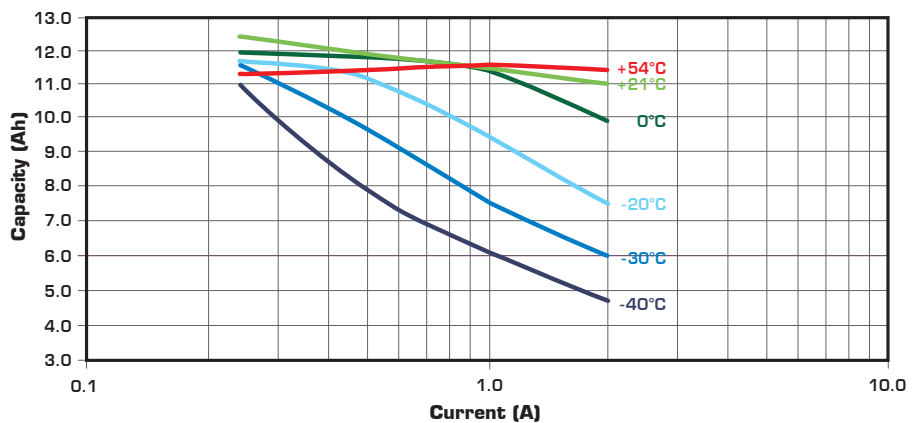
Voltage plateau versus Current and Temperature



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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