

# Primary lithium batteries

## LS & LSC 9 V

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

High energy density

Battery pack

A prismatic battery pack for a wide range of applications requesting low base currents combined with superimposed pulses. Two versions are available, depending on the envisioned temperature range. The LSC 9 V version yields superior voltage readings and operating life in cool environments (i.e. indoor applications with occasional T excursions up to +70°C). The LS 9 V version yields good voltage readings in a wider T range (-60°C to +85°C).



### Benefits

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

### Key features

- Pack assembled from three 1/2 AA-sized (*and UL-recognized*) cells connected in series
- Component cells with stainless steel container and hermetic glass-to-metal sealing
- Plastic sleeve for battery housing
- Miniature snap-on terminals
- Non-flammable electrolyte
- Non-restricted for transport

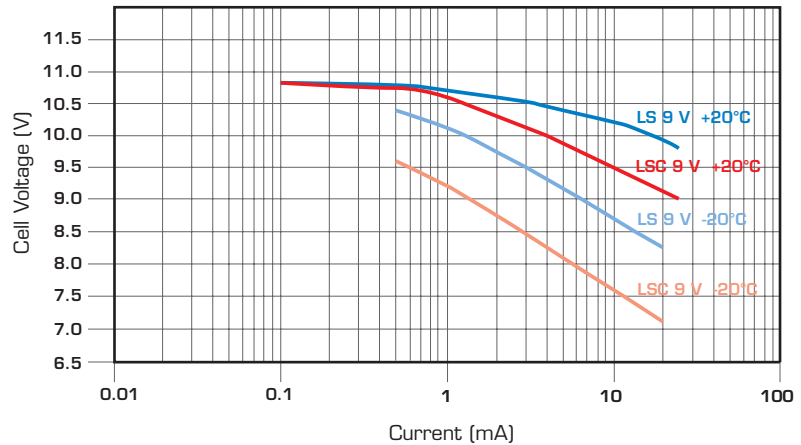
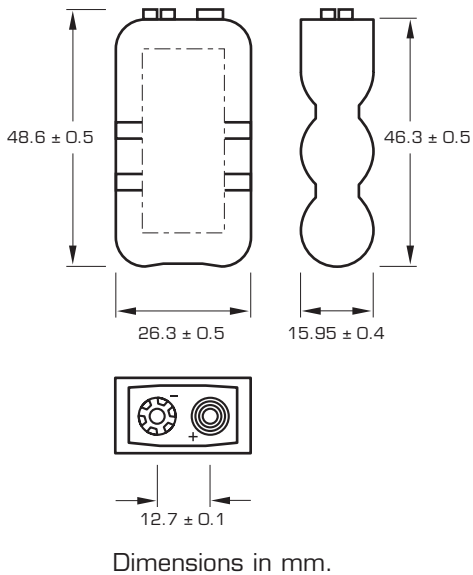
### Main applications

- Memory back-up
- Alarm and security devices
- Smoke detectors
- Alarm equipment
- Industrial electronics
- Medical equipment

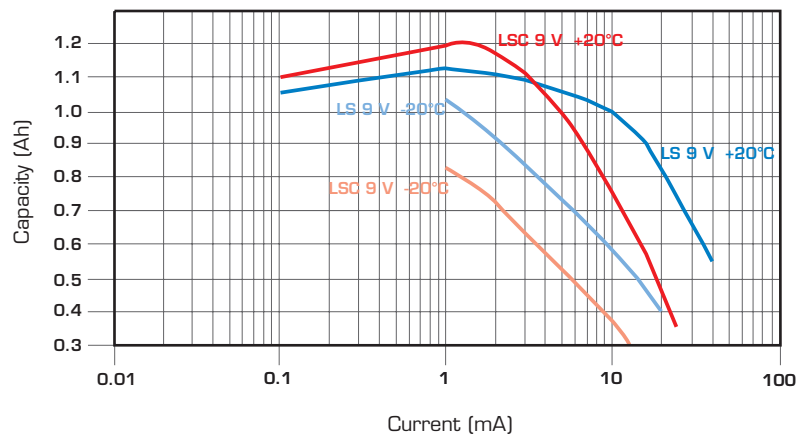
Pack construction	3 LS 14250 in series	3 LS 14250C in series
Pack designation	LS 9 V	LSC 9 V
Part number	04699G	04700H
<b>Electrical characteristics</b>		
<i>(typical values relative to cells stored for one year or less at +30°C max.)</i>		
Nominal capacity <i>(at +20°C; 6.0 V cut off and for a given discharge current. The capacity restored by the cell varies according to current drain, temperature and cut off)</i>	1.10 Ah (1.0 mA)	1.20 Ah (1.0 mA)
Open circuit voltage (at +20°C)	11.0 V	11.0 V
Nominal voltage (at +20°C and 1.5 mA)	10.8 V	10.8 V
Pulse capability: Typically up to <i>(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)</i>	100 mA	50 mA
Continuous current permitting 50% of the nominal capacity. <i>(Higher currents possible, consult Saft)</i>	40 mA	15 mA
Storage <i>(recommended for more severe conditions, consult Saft)</i>	+30°C (+86°F) max	+30°C (+86°F) max
Operating temperature range <i>(Operation above ambient T may lead to reduced capacity and lower voltage readings at the beginning of pulses. Consult Saft)</i>	-60°C/+85°C (-76°F/+185°F)	-60°C/+70°C (-76°F/+158°F)
Typical weight	29 g (1 oz)	29 g (1 oz)
Li metal content	approx. 0.9 g	approx. 0.9 g



# LS & LSC 9 V battery pack



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



**Restored Capacity versus Current and Temperature (6.0 V cut off)**

## 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.

## Saft Specialty Battery Group

12, rue Sadi Carnot  
93170 Bagnolet - France  
Tel +33 (0)1 49 93 19 18  
Fax +33 (0)1 49 93 19 69

[www.saftbatteries.com](http://www.saftbatteries.com)

Doc. N° 31080-2-0107

Information in this document is subject to change without notice and becomes contractual only after written confirmation by Saft.

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

Published by the Communications Department.

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Société anonyme au capital de 31 944 000 €  
RCS Bobigny B 383 703 873

Produced by Arthur Associates



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