Safar lithium cell series: performance data

- Some of the cells are shipped un-assembled and can be assembled within battery packs.
- Others may be supplied assembled with end flanges or complete casing as required.
- Nominal capacity at +25°C and 5 V discharge rate without load (continuous current).
- Maximum recommended pulse current: varies according to pulse characteristics (duration, frequency), temperature conditions, cell storage conditions prior to usage and the application's acceptable minimum voltage. The use of parallel capacitors to enhance the voltage at the beginning of pulses might be recommended. Consult Saft.
- Terminals: according to ST/SG/AC.10/1 Revision 4, 2003.

Examples of standard individual cell tabbing arrangements:

- The LS and LST cells are available with various electrode end flanges according to customer requirements. They are available in standard "C" and "D" sizes according to the storage requirements and applications.

The LSH, LO/G and LM/M cells are also available with the lower recommended "AA" size and available in standard "AA", "C" and "D" sizes. "500" size, "680" size, "900" high power capacities Series and "1000" high power capacities Series are also available upon request. Consult Saft.

Examples of standard battery pack configurations:

- Side-by-side with end flanges or complete casing as required.

Saft primary lithium batteries: applications

- The lithium batteries are suitable for use in many applications, from consumer goods to industrial equipment and military technology.
- Whether your application, your battery needs to be tailored to your specific requirements. If you cannot make references to the standard within your application, please contact us directly.

Saft is committed to the highest standards of environmental stewardship.

- Saft offers a wide range of environmentally responsible solutions, including recycling programs in many countries.
- Saft is dedicated to minimizing its impact on the environment through the use of recycled materials and innovative manufacturing processes.
- Saft is committed to the highest standards of environmental stewardship.

Saft’s products and services are designed to meet the stringent requirements of the aerospace, defense, and industrial markets. We offer a wide range of environmentally responsible solutions, including recycling programs in many countries.

Contact Saft for more information or assistance with your application. Please contact your sales representative for further information.


Key features

Primary cells and batteries are not rechargeable.

- High and stable operating voltage
  - Lithium (3.6 V cells)
  - Lithium-thionyl chloride (Li-SOCl2) in 3.6 V cells, Li-SO2 in 3.0 V cells,
  - Lithium-manganese dioxide (Li-MnO2) in 3.0 V cells.

- Wide current capability range
  - From several microamperes, typically in 0.5 mAh, 1.0 mAh and 2.0 mAh cells,
  - To several LST and LSH cells.

- Wide operating temperature range
  - From – 60°C up to +85°C (LS, LST, LSH cells)
  - From – 60°C up to +120°C (LM/M cell series)
  - From – 40°C up to +150°C (LO/G cell series).

- High and stable operating voltage
  - Typically above 5 years, and up to 20 years for some applications.

- Extended operating life
  - Capacity loss in storage at +20°C is 3-10 times greater than the loss in storage at room temperature.

- High energy densities
  - Typically above 5 years, and up to 20 years for some applications.

- Long shelf life
  - Capacity loss in storage at +20°C is 3-10 times greater than the loss in storage at room temperature.

- High temperature LSH cell series
  - Operating voltage > 3 V
  - Bobbin, coil or spiral construction
  - Non-pressurized at +150°C.

- Superior pulse capability
  - High and stable operating voltage
  - Non-flammable electrolyte
  - Spiral construction
  - Cells non-pressurized at +150°C.

- Non-metallic construction
  - Corrosion-free stainless steel cell envelopes.

- Excellent behavior in humid environments
  - Hermeticity guaranteed up to +120°C.

- High operating temperature
  - Operating safely and reliably up to +95°C.

- Wide military acceptance
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...exceeding your expectations

Saft® primary lithium batteries: performance data

The L and H2 cells are assembled and feature high-temperature technology. They are available in standard “C” and “D” sizes according to the temperature characteristics of the envisioned applications.

The LSH, LO and LM cells are also assembled and feature high-temperature technology. They are available in “C”, “D” and “W” sizes. “SH” high-temperature series and “ST” high-temperature series.

Examples of standard individual cell tabbing arrangements

Examples of standard battery pack configurations

Saft® primary lithium batteries: applications

Whether your applications, are based on products with standard, medium, or high performance requirements, if custom-made solutions are not standard within your in-house battery construction technologies.

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Saft lithium batteries meeting your needs...

For more than 30 years, Saft has pioneered the development and production of primary lithium cells and battery packs in Europe, North America and Asia/Pacific. Saft is a world specialist in the design, manufacturing, and assembly of high-energy density primary lithium batteries. Saft’s Lithium Battery Division is responsible for the development and production of primary lithium cells and battery packs in Europe, North America and Asia/Pacific. Saft also offers high-energy density primary lithium cells and battery packs for industrial, space and military uses.

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Lithium is a light metal which exhibits electrochemical characteristics. (3.86 Ah/gram) and unique an exceptional specific capacity for your applications!

For more than 32 years, Saft has pioneered the development and production of primary lithium cells and battery packs in Europe, North America and Asia/Pacific. Saft is a world specialist in the design, manufacturing, and assembly of high-energy density primary lithium batteries. Saft’s Lithium Battery Division is responsible for the development and production of primary lithium cells and battery packs in Europe, North America and Asia/Pacific. Saft also offers high-energy density primary lithium cells and battery packs for industrial, space and military uses.

• Lithium-thionyl chloride (Li-SOCl2)
• Lithium-sulfur dioxide (Li-SO2)
• Lithium-manganese dioxide (Li-MnO2)

Three lithium chemistries are currently available:

- 3.0 V cells, typically above 5% capacities
- 3.6 V cells, typically above 5% capacities

From a few microamperes to several tens of Amps, Saft’s lithium products offer high energy, low weight, reduced self-discharge and a performance, reliability, openness and flexibility that have contributed to making Saft’s brand the reference worldwide are quality, service life, price... Saft knows how to tailor battery solutions you can count on.

Lithium Battery Division to serve its customers worldwide with a product range that covers the three main uses: industrial, space and military. Five manufacturing sites and an extensive sales network enable the Saft sales team to respond to the customer’s needs.

Lithium power at your service of primary lithium chemistries of today. Among recognized characteristics of lithium battery packs, Saft’s Lithium Battery Division offers high energy, low weight, reduced self-discharge rate, and ability to operate under extreme conditions.

• High operating temperature – typical cell series
• High energy density – typical cell series
• Minimal voltage delay – typical cell series
• Superior pulse capability – typical cell series
• High output current – typical cell series
• Hermeticity guaranteed up to +100°C

Operating safely and reliably up to +150°C, Saft’s lithium products are suitable for use in environments with high temperatures. Saft’s lithium products are also suitable for use in environments with extreme temperatures. Saft’s lithium products are also suitable for use in environments with extreme temperatures. Saft’s lithium products are also suitable for use in environments with extreme temperatures.

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Saft lithium cell series: performance data

- Nominal capacity at +20ºC and 2 V discharge cut-off (continuous current).

Examples of standard battery packs configurations

Examples of standard individual cell tabbing arrangements

Saft primary lithium batteries: applications

...exceeding your expectations

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Primary lithium batteries
Li-SOCl₂ range

Li-SOCl₂ cells

<table>
<thead>
<tr>
<th>Production site</th>
<th>Size</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Nominal capacity (drain) (2.0 V cut-off)</th>
<th>Maximum recommended continuous current</th>
<th>Operating temperature range</th>
<th>Outside diameter max.</th>
<th>Height max.</th>
<th>Typical weight</th>
<th>UL recognition</th>
<th>Transport status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Small LS/LST cells</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LS 14500</td>
<td>F</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>1.2 Ah (1 mA)</td>
<td>35 mA</td>
<td>-60/+ 85°C*</td>
<td>14.65 mm</td>
<td>24.8 mm</td>
<td>8.9 g</td>
<td>yes</td>
<td>Non-restricted</td>
</tr>
<tr>
<td>LST 14250</td>
<td>UK</td>
<td>1/2 AA</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>1.2 Ah (1 mA)</td>
<td>35 mA</td>
<td>-60/+ 85°C*</td>
<td>14.20 mm</td>
<td>25.15 mm</td>
<td>8.8 g</td>
<td>yes</td>
</tr>
<tr>
<td>LS 14250C</td>
<td>F</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>1.2 Ah (1 mA)</td>
<td>15 mA</td>
<td>-60/+ 70°C*</td>
<td>14.65 mm</td>
<td>24.8 mm</td>
<td>8.9 g</td>
<td>yes</td>
<td>Non-restricted</td>
</tr>
<tr>
<td>LS 14250W</td>
<td>F</td>
<td>1/2 AA</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>1.2 Ah (1 mA)</td>
<td>35 mA</td>
<td>-60/+ 95°C*</td>
<td>14.65 mm</td>
<td>24.8 mm</td>
<td>8.9 g</td>
<td>—</td>
</tr>
<tr>
<td>LS 14500</td>
<td>F</td>
<td>AA</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>2.6 Ah (2 mA)</td>
<td>70 mA</td>
<td>-60/+ 85°C*</td>
<td>14.65 mm</td>
<td>50.3 mm</td>
<td>16.7 g</td>
<td>yes</td>
</tr>
<tr>
<td>LST 14500</td>
<td>UK</td>
<td>AA</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>2.45 Ah (1 mA)</td>
<td>45 mA</td>
<td>-60/+ 85°C*</td>
<td>14.20 mm</td>
<td>49.85 mm</td>
<td>16.3 g</td>
<td>yes</td>
</tr>
<tr>
<td>LS 14500C</td>
<td>F</td>
<td>AA</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>2.7 Ah (2 mA)</td>
<td>25 mA</td>
<td>-60/+ 70°C*</td>
<td>14.65 mm</td>
<td>50.3 mm</td>
<td>16.2 g</td>
<td>yes</td>
</tr>
<tr>
<td>LS 14500W</td>
<td>F</td>
<td>AA</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>2.6 Ah (2 mA)</td>
<td>70 mA</td>
<td>-60/+ 95°C*</td>
<td>14.65 mm</td>
<td>50.3 mm</td>
<td>16.7 g</td>
<td>yes</td>
</tr>
<tr>
<td>LST 17330</td>
<td>UK</td>
<td>3/4 A</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>2.1 Ah (3 mA)</td>
<td>25 mA</td>
<td>-60/+ 85°C*</td>
<td>16.50 mm</td>
<td>33.4 mm</td>
<td>14.4 g</td>
<td>yes</td>
</tr>
<tr>
<td>LS 17500</td>
<td>F</td>
<td>A</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>3.6 Ah (3 mA)</td>
<td>130 mA</td>
<td>-60/+ 85°C*</td>
<td>17.00 mm</td>
<td>50.9 mm</td>
<td>21.9 g</td>
<td>—</td>
</tr>
</tbody>
</table>

*Cells leakproof up to +130°C

Large LS cells

<table>
<thead>
<tr>
<th>Production site</th>
<th>Size</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Nominal capacity (drain) (2.0 V cut-off)</th>
<th>Maximum recommended continuous current</th>
<th>Operating temperature range</th>
<th>Outside diameter max.</th>
<th>Height max.</th>
<th>Typical weight</th>
<th>UL recognition</th>
<th>Transport status</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS 28500</td>
<td>F</td>
<td>C</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>7.7 Ah (4 mA)</td>
<td>150 mA</td>
<td>-60/+ 85°C*</td>
<td>26.00 mm</td>
<td>49.1 to 50.4 mm**</td>
<td>48 g</td>
<td>yes</td>
</tr>
<tr>
<td>LS 33600**</td>
<td>F</td>
<td>D</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>17.0 Ah (5 mA)</td>
<td>250 mA</td>
<td>-60/+ 85°C</td>
<td>33.40 mm</td>
<td>60.2 to 61.6 mm***</td>
<td>90 g</td>
<td>yes</td>
</tr>
<tr>
<td>LS 33600C**</td>
<td>F</td>
<td>D</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>18.5 Ah (1 mA)</td>
<td>80 mA</td>
<td>-60/+ 70°C*</td>
<td>33.40 mm</td>
<td>60.2 to 61.6 mm***</td>
<td>90 g</td>
<td>yes</td>
</tr>
</tbody>
</table>

*Cells leakproof up to +120°C  **Low Magnetic cell versions available  *** Depending on cell finish

LSH spiral cells

<table>
<thead>
<tr>
<th>Production site</th>
<th>Size</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Nominal capacity (drain) (2.0 V cut-off)</th>
<th>Maximum recommended continuous current</th>
<th>Operating temperature range</th>
<th>Outside diameter max.</th>
<th>Height max.</th>
<th>Typical weight</th>
<th>UL recognition</th>
<th>Transport status</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSH 26180</td>
<td>F</td>
<td>1/2 C</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>1.2 Ah (10 mA)</td>
<td>0.4 A</td>
<td>-60/+ 85°C*</td>
<td>26.20 mm</td>
<td>18.6 mm</td>
<td>24 g</td>
<td>—</td>
</tr>
<tr>
<td>LSH 14</td>
<td>F</td>
<td>C</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>5.8 Ah (15 mA)</td>
<td>1.3 A</td>
<td>-60/+ 85°C*</td>
<td>26.00 mm</td>
<td>50.4 mm</td>
<td>51 g</td>
<td>yes</td>
</tr>
<tr>
<td>LSH 14 “light”</td>
<td>F</td>
<td>C</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>3.6 Ah (15 mA)</td>
<td>1.3 A</td>
<td>-60/+ 85°C*</td>
<td>26.00 mm</td>
<td>50.4 mm</td>
<td>51 g</td>
<td>—</td>
</tr>
<tr>
<td>LSH 20**</td>
<td>F</td>
<td>D</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>13.0 Ah (15 mA)</td>
<td>1.8 A</td>
<td>-60/+ 85°C*</td>
<td>33.40 mm</td>
<td>61.6 mm</td>
<td>100 g</td>
<td>—</td>
</tr>
<tr>
<td>LSH 20-150</td>
<td>F</td>
<td>D</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>14.0 Ah (300 mA)</td>
<td>300 mA</td>
<td>-40/+ 150°C</td>
<td>32.05 mm</td>
<td>61.7 mm</td>
<td>104.5 g</td>
<td>—</td>
</tr>
</tbody>
</table>

*Cells leakproof up to +120°C  **High Temperature (120°C max) LSH 20 HTS cell version available

All LSH cells are fitted with individual 5 Amp fuse protection

Primary cells and batteries are not rechargeable.
Their internal impedance may rise versus time, especially in case of exposure at elevated temperature.

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Li-SOCl₂ Military battery packs

<table>
<thead>
<tr>
<th>Cell type construction</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Voltage cut-off</th>
<th>Rated capacity</th>
<th>Maximum dimensions</th>
<th>Typical weight</th>
<th>Safety features</th>
<th>NATO Stock Number (NSN)</th>
<th>Typical applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS 31 A LSH 26180</td>
<td>1s1p</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>2.0 V</td>
<td>1.2 Ah</td>
<td>26.2 x 18.9 mm</td>
<td>25 g</td>
<td>5 A fuse</td>
<td>Night vision</td>
</tr>
<tr>
<td>PS 38 A LSH 26180</td>
<td>5s1p</td>
<td>18.3 V</td>
<td>17.5 V</td>
<td>10.0 V</td>
<td>1.2 Ah</td>
<td>110.7 x 37 mm</td>
<td>155 g</td>
<td>5 A fuse</td>
<td>Laser telemetry</td>
</tr>
<tr>
<td>PS 40 A LSH 14</td>
<td>4s1p</td>
<td>14.7 V</td>
<td>14.0 V</td>
<td>10.0 V</td>
<td>4.6 Ah</td>
<td>108 x 65 x 49 mm</td>
<td>265 g</td>
<td>PTC 1.1 A**</td>
<td>Radiocommunication</td>
</tr>
<tr>
<td>PS 42 A LSH 20</td>
<td>2s1p</td>
<td>7.3 V</td>
<td>7.0 V</td>
<td>5.0 V</td>
<td>9.0 Ah</td>
<td>69.9 x 67.2 x 34 mm</td>
<td>230 g</td>
<td>PTC 3.5 A**</td>
<td>Radiocommunication</td>
</tr>
<tr>
<td>PS 48 B LSH 20</td>
<td>5s2p</td>
<td>18.3 V</td>
<td>17.5 V</td>
<td>12.6 V</td>
<td>18.0 Ah</td>
<td>212.4 x 72.7 x 68.5 mm</td>
<td>1150 g</td>
<td>PTC 1.85 A**</td>
<td>Radiocommunication</td>
</tr>
<tr>
<td>PS 52 A LSH 20</td>
<td>2s1p</td>
<td>7.3 V</td>
<td>7.2 V</td>
<td>5.0 V</td>
<td>12.5 Ah</td>
<td>77.5 x 63.5 x 34.6 mm</td>
<td>225 g</td>
<td>PTC 2.0 A**</td>
<td>Radiocommunication</td>
</tr>
<tr>
<td>PS 53 B LSH 20</td>
<td>6s1p</td>
<td>22.0 V</td>
<td>21.0 V</td>
<td>15.0 V</td>
<td>12.5 Ah</td>
<td>210.5 x 68.5 x 37.5 mm</td>
<td>720 g</td>
<td>PTC 2.5 A**</td>
<td>Radiocommunication</td>
</tr>
</tbody>
</table>

* Xs Yp = Y parallel branches of X cells in series per branch  ** Maximum hold current

Li-SOCl₂ Civil battery packs

<table>
<thead>
<tr>
<th>Cell type construction</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Rated capacity</th>
<th>Maximum dimensions</th>
<th>Typical weight</th>
<th>Safety features</th>
<th>Typcical applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS 14250 MLB</td>
<td>1s1p LSH 14250</td>
<td>3.67 V</td>
<td>3.6 V</td>
<td>1.2 Ah</td>
<td>16.8 x 28.6 mm</td>
<td>15 g</td>
<td>Metering, professional electronics</td>
</tr>
<tr>
<td>LS 9V LSH 14250</td>
<td>3s1p LSH 14250</td>
<td>11.0 V</td>
<td>9.0 V</td>
<td>1.2 Ah</td>
<td>49.1 x 46.8 x 26.8 mm</td>
<td>23 g</td>
<td>Memory back-up, metering, smoke detectors, professional electronics</td>
</tr>
<tr>
<td>Lithopack</td>
<td>2s1p LSH 14500</td>
<td>7.3 V</td>
<td>7.2 V</td>
<td>2.6 Ah</td>
<td>56.6 x 31.6 x 17.3 mm</td>
<td>34 g</td>
<td>Memory back-up, metering, professional electronics</td>
</tr>
</tbody>
</table>

Primary cells and batteries are not rechargeable.

This data sheet is an insert part of the Primary lithium batteries Selector guide (ref 31048-2), where complementary information and data on features, safety and storage can be found.

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
Primary lithium batteries
Li-SO₂ range

<table>
<thead>
<tr>
<th>Production site</th>
<th>Size</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Nominal capacity (drain)</th>
<th>Maximum recommended continuous current</th>
<th>Operating temperature range</th>
<th>Outside diameter max.</th>
<th>Height max.</th>
<th>Weight</th>
<th>UL recognition status</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 04/3</td>
<td>UK</td>
<td>1/2 AA</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>0.45 Ah (50 mA)</td>
<td>0.25 A</td>
<td>-60/+ 70°C*</td>
<td>14.2 mm</td>
<td>27.9 mm</td>
<td>8 g</td>
</tr>
<tr>
<td>G 06/2</td>
<td>UK</td>
<td>AA</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>0.95 Ah (80 mA)</td>
<td>0.5 A</td>
<td>-60/+ 70°C*</td>
<td>14.2 mm</td>
<td>50.3 mm</td>
<td>15 g</td>
</tr>
<tr>
<td>G 32/3</td>
<td>UK</td>
<td>2/3 A</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>0.8 Ah (80 mA)</td>
<td>0.75 A</td>
<td>-60/+ 70°C*</td>
<td>16.3 mm</td>
<td>34.5 mm</td>
<td>12 g</td>
</tr>
<tr>
<td>G 36/2</td>
<td>UK</td>
<td>Long</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>1.7 Ah (80 mA)</td>
<td>1.5 A</td>
<td>-60/+ 70°C*</td>
<td>16.3 mm</td>
<td>57.7 mm</td>
<td>18 g</td>
</tr>
<tr>
<td>LO 34 SX</td>
<td>USA</td>
<td>1/3 C</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>0.86 Ah (80 mA)</td>
<td>1.0 A</td>
<td>-60/+ 70°C*</td>
<td>25.9 mm</td>
<td>20.3 mm</td>
<td>18 g</td>
</tr>
<tr>
<td>LO 35 SX</td>
<td>USA</td>
<td>2/3 C</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>2.2 Ah (650 mA)</td>
<td>2.0 A</td>
<td>-60/+ 70°C*</td>
<td>25.9 mm</td>
<td>35.9 mm</td>
<td>30 g</td>
</tr>
<tr>
<td>G 52/3</td>
<td>UK</td>
<td>C</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>3.2 Ah (1.0 A)</td>
<td>2.5 A</td>
<td>-60/+ 70°C*</td>
<td>25.6 mm</td>
<td>49.5 mm</td>
<td>47 g</td>
</tr>
<tr>
<td>LO 29 SHX</td>
<td>USA</td>
<td>C</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>3.75 Ah (0.25 A)</td>
<td>2.5 A</td>
<td>-60/+ 70°C*</td>
<td>25.6 mm</td>
<td>50.4 mm</td>
<td>40 g</td>
</tr>
<tr>
<td>G 54/3</td>
<td>UK</td>
<td>5/4 C</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>5.0 Ah (0.2 A)</td>
<td>2.5 A</td>
<td>-60/+ 70°C*</td>
<td>25.6 mm</td>
<td>60.2 mm</td>
<td>58 g</td>
</tr>
<tr>
<td>LO 43 SHX</td>
<td>USA</td>
<td>5/4 C</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>5.0 Ah (0.2 A)</td>
<td>2.5 A</td>
<td>-60/+ 70°C*</td>
<td>26.0 mm</td>
<td>59.2 mm</td>
<td>53 g</td>
</tr>
<tr>
<td>LO 40 SX</td>
<td>USA</td>
<td>Thin</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>3.5 Ah (0.12 A)</td>
<td>2.0 A</td>
<td>-60/+ 70°C*</td>
<td>28.95 mm</td>
<td>42.29 mm</td>
<td>40 g</td>
</tr>
<tr>
<td>LO 30 SHX</td>
<td>USA</td>
<td>Thin</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>5.75 Ah (0.2 A)</td>
<td>3.0 A</td>
<td>-60/+ 70°C*</td>
<td>29.1 mm</td>
<td>59.9 mm</td>
<td>63 g</td>
</tr>
<tr>
<td>G 26</td>
<td>UK</td>
<td>D</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>7.75 Ah (0.25 A)</td>
<td>2.5 A</td>
<td>-60/+ 70°C*</td>
<td>34.5 mm</td>
<td>59.8 mm</td>
<td>85 g</td>
</tr>
<tr>
<td>LO 26 SX</td>
<td>USA</td>
<td>D</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>7.75 Ah (0.25 A)</td>
<td>2.5 A</td>
<td>-60/+ 70°C*</td>
<td>34.2 mm</td>
<td>59.3 mm</td>
<td>85 g</td>
</tr>
<tr>
<td>LO 26 SXC</td>
<td>USA</td>
<td>D</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>9.2 Ah (0.25 A)</td>
<td>2.5 A</td>
<td>-60/+ 70°C*</td>
<td>34.2 mm</td>
<td>59.3 mm</td>
<td>85 g</td>
</tr>
<tr>
<td>LO 26 SHX</td>
<td>USA</td>
<td>D</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>7.5 Ah (1.0 A)</td>
<td>4.0 A</td>
<td>-60/+ 70°C*</td>
<td>34.2 mm</td>
<td>59.3 mm</td>
<td>85 g</td>
</tr>
<tr>
<td>LO 25 SX</td>
<td>USA</td>
<td>Fat</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>8.0 Ah (0.27 A)</td>
<td>2.5 A</td>
<td>-60/+ 70°C*</td>
<td>39.5 mm</td>
<td>50.3 mm</td>
<td>96 g</td>
</tr>
<tr>
<td>LO 39 SHX</td>
<td>USA</td>
<td>F</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>11.5 Ah (1.0 A)</td>
<td>3.0 A</td>
<td>-60/+ 70°C*</td>
<td>31.9 mm</td>
<td>100.3 mm</td>
<td>125 g</td>
</tr>
<tr>
<td>G 22/6</td>
<td>UK</td>
<td>DD</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>16.5 Ah (0.5 A)</td>
<td>3.0 A</td>
<td>-60/+ 70°C*</td>
<td>33.3 mm</td>
<td>120.6 mm</td>
<td>175 g</td>
</tr>
<tr>
<td>G 82/1</td>
<td>UK</td>
<td>Long Fat</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>34.0 Ah (1.0 A)</td>
<td>3.0 A</td>
<td>-60/+ 70°C*</td>
<td>41.7 mm</td>
<td>141.0 mm</td>
<td>300 g</td>
</tr>
</tbody>
</table>

* Cells leakproof up to +85°C

Primary cells and batteries are not rechargeable.
Their internal impedance may rise versus time, especially in case of exposure at elevated temperature.

February 2009
### Li-SO2 Military battery packs

<table>
<thead>
<tr>
<th>Cell type</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Voltage cut-off</th>
<th>Rated capacity</th>
<th>Maximum dimensions</th>
<th>Typical weight</th>
<th>NATO Stock Number (NSN)</th>
<th>Typical applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA 5112/U</td>
<td>4s1p LO 35 SX</td>
<td>12.0 V</td>
<td>11.2 V</td>
<td>8.0 V</td>
<td>2.3 Ah</td>
<td>77.8 x 57.2 x 39.1 mm</td>
<td>180 g</td>
<td>6135-01-235-4168</td>
</tr>
<tr>
<td>BA 5557/U</td>
<td>4s1p LO 35 SX</td>
<td>15.0 V</td>
<td>14.0 V</td>
<td>28.0 V</td>
<td>4.4 Ah/2.2 Ah</td>
<td>100.1 x 106.3 x 37.3 mm</td>
<td>500 g</td>
<td>6135-01-088-2707</td>
</tr>
<tr>
<td>BA 5567A</td>
<td>1s1p LO 34 SX</td>
<td>3.0 V</td>
<td>2.8 V</td>
<td>2.0 V</td>
<td>1.0 Ah</td>
<td>25.9 x 19.9 mm</td>
<td>16 g</td>
<td>6135-01-090-5363</td>
</tr>
<tr>
<td>BA 5588A</td>
<td>5s1p LO 34 SX</td>
<td>15.0 V</td>
<td>13.5 V</td>
<td>11.0 V</td>
<td>3.5 Ah</td>
<td>96 x 90 x 31 mm</td>
<td>295 g</td>
<td>6135-00-088-2708</td>
</tr>
<tr>
<td>BA 5590A</td>
<td>5s2p LO 26 SX</td>
<td>15.0 V</td>
<td>13.5 V</td>
<td>27.0 V</td>
<td>10.0 V/20.0 V</td>
<td>127 x 111.8 x 62.2 mm</td>
<td>1020 g</td>
<td>6135-01-523-3337</td>
</tr>
<tr>
<td>BA 559B</td>
<td>5s2p LO 26 SX</td>
<td>15.0 V</td>
<td>13.5 V</td>
<td>27.0 V</td>
<td>10.0 V/20.0 V</td>
<td>127 x 111.8 x 62.2 mm</td>
<td>1020 g</td>
<td>6135-01-030-3485</td>
</tr>
<tr>
<td>BA 559HC</td>
<td>5s2p LO 26 SXC</td>
<td>15.0 V</td>
<td>13.5 V</td>
<td>27.0 V</td>
<td>10.0 V/20.0 V</td>
<td>127 x 111.8 x 62 mm</td>
<td>1020 g</td>
<td>TBD</td>
</tr>
<tr>
<td>BA 559UA</td>
<td>5s1p LO 25 SX</td>
<td>15.0 V</td>
<td>13.5 V</td>
<td>10.0 V</td>
<td>7.5 Ah</td>
<td>120.7 x 92 x 54 mm</td>
<td>800 g</td>
<td>6135-01-034-2239</td>
</tr>
<tr>
<td>BA 5599A</td>
<td>5s1p LO 25 SX</td>
<td>9.0 V</td>
<td>8.1 V</td>
<td>6.0 V</td>
<td>7.5 Ah</td>
<td>152 x 38 x 64 mm</td>
<td>450 g</td>
<td>6135-01-069-8575</td>
</tr>
<tr>
<td>BA 5600A</td>
<td>3s1p LO 26 SX</td>
<td>9.0 V</td>
<td>8.1 V</td>
<td>6.0 V</td>
<td>7.5 Ah</td>
<td>185.9 x 38.9 mm</td>
<td>360 g</td>
<td>6135-01-168-2944</td>
</tr>
<tr>
<td>BT 5790</td>
<td>5s2p LO 26 SXC</td>
<td>15.0 V</td>
<td>14.0 V</td>
<td>10.0 V</td>
<td>7.5 Ah</td>
<td>186.5 x 35.7 x 66.7 mm</td>
<td>830 g</td>
<td>N/A</td>
</tr>
<tr>
<td>BT 5791</td>
<td>5s2p LO 26 SXC</td>
<td>15.0 V</td>
<td>14.0 V</td>
<td>10.0 V</td>
<td>15.0 Ah</td>
<td>186.5 x 70.0 x 65.3 mm</td>
<td>1200 g</td>
<td>N/A</td>
</tr>
<tr>
<td>BA 5800A</td>
<td>2s1p LO 26 SX</td>
<td>6.0 V</td>
<td>5.3 V</td>
<td>4.0 V</td>
<td>7.5 Ah</td>
<td>128.5 x 35.5 mm</td>
<td>220 g</td>
<td>6135-99-798-9851</td>
</tr>
<tr>
<td>BA 5847B</td>
<td>2s1p LO 26 SX</td>
<td>6.0 V</td>
<td>5.3 V</td>
<td>4.0 V</td>
<td>7.5 Ah</td>
<td>95 x 64.8 x 38 mm</td>
<td>220 g</td>
<td>6135-01-090-5364</td>
</tr>
<tr>
<td>BT 5313</td>
<td>5s1p LO 26 SXH</td>
<td>27.0 V</td>
<td>25.2 V</td>
<td>18.0 V</td>
<td>7.2 Ah</td>
<td>Special</td>
<td>1100 g</td>
<td>N/A</td>
</tr>
<tr>
<td>Li/3</td>
<td>3s1p LO 26 SX</td>
<td>9.0 V</td>
<td>8.4 V</td>
<td>6.0 V</td>
<td>7.5 Ah</td>
<td>110 x 42 x 26.2 mm</td>
<td>450 g</td>
<td>6135-14-383-9768</td>
</tr>
<tr>
<td>G6-104</td>
<td>5s1p LO 26 SX</td>
<td>6.0 V</td>
<td>5.6 V</td>
<td>4.0 V</td>
<td>7.5 Ah</td>
<td>128.5 x 35.5 mm</td>
<td>200 g</td>
<td>CAM</td>
</tr>
<tr>
<td>G9-124</td>
<td>3s1p LO 26 SX</td>
<td>9.0 V</td>
<td>8.4 V</td>
<td>6.0 V</td>
<td>7.5 Ah</td>
<td>110 x 42 x 83 mm</td>
<td>370 g</td>
<td>6135-14-383-9768</td>
</tr>
<tr>
<td>G15-114</td>
<td>5s1p LO 26 SX</td>
<td>15.0 V</td>
<td>14.0 V</td>
<td>9.6 V</td>
<td>1.9 Ah</td>
<td>90.6 x 40.3 x 71 mm</td>
<td>270 g</td>
<td>6135-99-795-4351</td>
</tr>
<tr>
<td>G15-127</td>
<td>2 x 5s1p LO 26 SX</td>
<td>2x15.0 V</td>
<td>2x14.0 V</td>
<td>2x10.0 V</td>
<td>34 or 68 Ah</td>
<td>216 x 152 x 92 mm</td>
<td>3500 g</td>
<td>6135-99-794-2898</td>
</tr>
<tr>
<td>G16-115</td>
<td>5s1p LO 26 SX</td>
<td>18.0 V</td>
<td>16.8 V</td>
<td>12.0 V</td>
<td>7.5 Ah</td>
<td>131.6 x 66.8 x 128 mm</td>
<td>850 g</td>
<td>6135-99-795-4350</td>
</tr>
<tr>
<td>G30-101</td>
<td>10s1p LO 26 SX</td>
<td>30.0 V</td>
<td>28.0 V</td>
<td>20.0 V</td>
<td>7.5 Ah</td>
<td>184.5 x 73.5 x 80 mm</td>
<td>1500 g</td>
<td>6135-99-747-4430</td>
</tr>
<tr>
<td>G30-102/B</td>
<td>10s1p LO 26 SX</td>
<td>30.0 V</td>
<td>28.0 V</td>
<td>20.0 V</td>
<td>16.0 Ah</td>
<td>194 x 72.5 x 133 mm</td>
<td>2500 g</td>
<td>6135-99-840-0109</td>
</tr>
<tr>
<td>XSG 1493/1</td>
<td>5s1p LO 32 G32</td>
<td>15.0 V</td>
<td>14.0 V</td>
<td>10.0 V</td>
<td>0.85 Ah</td>
<td>78.5 x 37.2 x 40 mm</td>
<td>170 g</td>
<td>-</td>
</tr>
</tbody>
</table>

* Xs Yp = Y parallel branches of X cells in series per branch
** SOCI: State of Charge Indicator

Primary cells and batteries are not rechargeable.

This data sheet is an insert part of the Primary lithium batteries Selector guide (ref 31048-2), where complementary information and data on features, safety and storage can be found.

---

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Doc N° 31050-2-0209
Edition: February 2009
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Produced by Arthur Associates Limited.
Primary lithium batteries

Li-MnO₂ range

<table>
<thead>
<tr>
<th>Production site</th>
<th>Size</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Nominal capacity (2.0 V cut-off)</th>
<th>Maximum recommended continuous current</th>
<th>Operating temperature range</th>
<th>Outside diameter max.</th>
<th>Height max.</th>
<th>Weight</th>
<th>UL recognition</th>
<th>Transport status</th>
</tr>
</thead>
<tbody>
<tr>
<td>LM 17130</td>
<td>USA</td>
<td>1/3 A</td>
<td>3.2 V</td>
<td>0.5 Ah (4.5 mA)</td>
<td>0.3 A</td>
<td>-40/+ 70°C</td>
<td>16.7 mm</td>
<td>16.6 mm</td>
<td>8.0 g</td>
<td>--</td>
<td>Non-restricted</td>
</tr>
<tr>
<td>LM 22150</td>
<td>USA</td>
<td>1/3 sub-C</td>
<td>3.2 V</td>
<td>0.9 Ah (40 mA)</td>
<td>0.4 A</td>
<td>-40/+ 70°C</td>
<td>22.8 mm</td>
<td>17.3 mm</td>
<td>15.0 g</td>
<td>--</td>
<td>Non-restricted</td>
</tr>
<tr>
<td>M 49</td>
<td>Germany*</td>
<td>3/4 sub-C</td>
<td>3.2 V</td>
<td>1.6 Ah (80 mA)</td>
<td>0.3 A</td>
<td>-40/+ 70°C</td>
<td>22.5 mm</td>
<td>32.0 mm</td>
<td>24.0 g</td>
<td>--</td>
<td>Class 9</td>
</tr>
<tr>
<td>M 52 HR</td>
<td>Germany*</td>
<td>C</td>
<td>3.2 V</td>
<td>4.5 Ah (900 mA)</td>
<td>1.2 A</td>
<td>-40/+ 70°C</td>
<td>26.0 mm</td>
<td>51.0 mm</td>
<td>59.0 g</td>
<td>--</td>
<td>Class 9</td>
</tr>
<tr>
<td>M 20</td>
<td>Germany*</td>
<td>D</td>
<td>3.2 V</td>
<td>10.5 Ah (500 mA)</td>
<td>2.0 A</td>
<td>-40/+ 70°C</td>
<td>34.0 mm</td>
<td>61.0 mm</td>
<td>115 g</td>
<td>--</td>
<td>Class 9</td>
</tr>
<tr>
<td>M 20 HR</td>
<td>Germany*</td>
<td>D</td>
<td>3.2 V</td>
<td>10.5 Ah (2.0 A)</td>
<td>2.5 A</td>
<td>-40/+ 70°C</td>
<td>34.0 mm</td>
<td>61.0 mm</td>
<td>117 g</td>
<td>--</td>
<td>Class 9</td>
</tr>
<tr>
<td>M 24 HR</td>
<td>Germany*</td>
<td>DD</td>
<td>3.2 V</td>
<td>20.0 Ah (2.0 A)</td>
<td>4.0 A</td>
<td>-40/+ 70°C</td>
<td>33.5 mm</td>
<td>111 mm</td>
<td>201 g</td>
<td>--</td>
<td>Class 9</td>
</tr>
<tr>
<td>M 62</td>
<td>Germany*</td>
<td>“Big” DD</td>
<td>3.2 V</td>
<td>33.0 Ah (1.6 A)</td>
<td>5.0 A</td>
<td>-40/+ 70°C</td>
<td>42.0 mm</td>
<td>133 mm</td>
<td>355 g</td>
<td>--</td>
<td>Class 9</td>
</tr>
</tbody>
</table>

* FRIWO cell series

Li-MnO₂ Military battery packs

<table>
<thead>
<tr>
<th>Cell type construction*</th>
<th>Open circuit voltage</th>
<th>Nominal voltage</th>
<th>Voltage cut-off</th>
<th>Nominal capacity</th>
<th>Maximum dimensions</th>
<th>Weight</th>
<th>NATO Stock Number (NSN)</th>
<th>Typical applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>LM 22150</td>
<td>12.8 V</td>
<td>12.0 V</td>
<td>9.0 V</td>
<td>0.9 Ah</td>
<td>76.2 x 26.9 mm</td>
<td>145 g</td>
<td>613501455-7947</td>
<td>Radiocommunication (PRC-90-103-106-135)</td>
</tr>
<tr>
<td>LM 17130</td>
<td>6.4 V</td>
<td>6.0 V</td>
<td>4.0 V</td>
<td>0.5 Ah</td>
<td>16.5 x 33.0 mm</td>
<td>20 g</td>
<td>613501214-6441</td>
<td>Radiocommunication (SINCGARS)</td>
</tr>
</tbody>
</table>

* Xs Yp = Y parallel branches of X cells in series per branch

Primary cells and batteries are not rechargeable.

This data sheet is an insert part of the Primary lithium batteries Selector guide (ref 31048-2), where complementary information and data on features, safety and storage can be found.

May 2008

Doc N° 31051-2-0508
Edition: May 2008

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Doc N° 31052-2-0508
Edition: May 2008
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Saft lithium cell series: performance data

Examples of standard individual cell tabbing arrangements

Examples of standard battery packs configurations

Saft primary lithium batteries: applications

...exceeding your expectations

The 3L and 8P cells are classified and labelled for transport in accordance with UN requirements. Please consult Saft regarding specific packing and labelling requirements.


The SP, 2P, 3P, 4P, 5P and 8P cells are also classified and labelled for transport in accordance with UN requirements. Please consult Saft for details.

Examples of standard battery packs configurations

Saft primary lithium batteries: applications

...exceeding your expectations

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