Rechargeable military lithium-ion battery
2 VL 34570

Extreme performance in demanding military environments

The battery is assembled from two VL 34570 Saft lithium-ion cells connected in series (2s1p configuration) and protected by a specific electronic monitoring circuit.

Benefits

- Extended autonomy and life
- Wide operating temperature range with unrivalled low temperature performance
- Recommended for ruggedized designs
- Easy integration into compact and light systems
- Maintenance-free
- Light weight

Key features

- Electronic protection against charger faults
- Very high energy density
- Excellent charge recovery after long storage, even at high temperature
- Long cycle life (over 70% initial capacity after 500 cycles, 100% DoD)
- Restricted for transport (Class 9)
- Components cells with built-in circuit breaker, shut-down separator and safety vent
- Recommended Saft chargers EcMC² 250 and EcMC² 350
- Compatible with OEM or “Universal” military battery chargers
- Direct replacement for the BA-5800 primary Li-SO₂ battery
- Made in the EU

Electrical characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal voltage (under 1.1 A at 20°C)</td>
<td>7.4 V</td>
</tr>
<tr>
<td>Typical capacity at 20°C (under 1.1 A, 5.4 V cut-off)</td>
<td>5.4 Ah</td>
</tr>
<tr>
<td>Nominal energy</td>
<td>40 Wh</td>
</tr>
</tbody>
</table>

Mechanical characteristics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height (max)</td>
<td>129 mm (5.08 in)</td>
</tr>
<tr>
<td>Diameter (max)</td>
<td>35.5 mm (1.40 in)</td>
</tr>
<tr>
<td>Typical weight</td>
<td>265 g (9.35 oz)</td>
</tr>
<tr>
<td>Volume (max)</td>
<td>128 cm³ (7.81 cu. in)</td>
</tr>
</tbody>
</table>

Operating conditions

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charge method</td>
<td>Constant Current/Constant Voltage</td>
</tr>
<tr>
<td>Max. recommended charge current</td>
<td>2.7 A at 20°C</td>
</tr>
<tr>
<td>Charge temperature range</td>
<td>-20°C to +60°C (-4°F to +140°F)</td>
</tr>
<tr>
<td>Time at 20°C</td>
<td>3 to 4 hours under C/2 (2.7 A) constant</td>
</tr>
<tr>
<td>Max. recommended continuous discharge current</td>
<td>4 A at 20°C</td>
</tr>
<tr>
<td>Pulse discharge current</td>
<td>up to 10 A</td>
</tr>
<tr>
<td>Discharge cut-off voltage</td>
<td>5.4 V</td>
</tr>
<tr>
<td>Discharge temperature range</td>
<td>-40°C to +60°C (-40°F to +140°F)</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>-25°C to +60°C (-13°F to +140°F)</td>
</tr>
<tr>
<td>NSN</td>
<td>6140 14 559 7056</td>
</tr>
<tr>
<td>Part number</td>
<td>08034L</td>
</tr>
</tbody>
</table>

* For optimised charging below 0°C, +60°C and discharging at -40°C, consult Saft.

Main applications

- GPS-PLGR +96
- AN/PSN-1O (small lightweight GPS Receiver)
- CP-1995 Battlefield computer
- NBC Respirators
- Night vision equipment

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Technology
- Graphite-based negative electrode
- Lithium Cobalt oxide-based positive electrode
- Electrolyte: organic solvents
- Built-in redundant safety protections
- Battery assembled from two cylindrical VL 34570 cells in series with an electronic protection circuit

Built-in protection devices ensure safety in case of:
- Exposure to heat
- Exposure to direct sunlight for extended periods of time
- Short circuit
- Overcharge
- Overdischarge
- Shrapnel penetration

When handling Saft VL batteries:
- Do not solder directly to battery terminals
- Do not disassemble
- Do not remove the protection circuit
- Do not incinerate

Transportation and storage
- Store in a dry place at a temperature preferably not exceeding 30°C
- For long-term storage, keep the battery preferably within a (30 ± 15)% state of charge

Protection circuit
- Protection against over voltage (resettable)
- Protection against under voltage (resettable)
- Protection against over current during discharge
- End of discharge equalising
- Internal thermistor for temperature detection

Typical discharge profiles (1.1 A - C/5 rate) at various temperatures

Charge characteristics at +20°C (C/2 and C/5 rates)