

S A F T

Specialty Battery Group
rue Georges Leclanché BP 1039
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TRANSPORTATION CERTIFICATE

Ref. TC-1S2P LS 14500C 06/03-3

This is to certify that several Saft battery pack types **1S2P LS 14500C** assembled from two LS 14500C cells in parallel, share the same LS 14500C component cell and the same "2-cells-in-parallel" assembly concept than the already tested 1S2P LS 14500C "ATR" battery pack P/N 04720B that has met the requirements of:

- UN Recommendations on the transport of dangerous goods, Model Regulations 12th Revised edition - 2001 - Ref. ST/SG/AC.10/1/Rev. 12
- UN Recommendations on the transport of dangerous goods, Manual of Tests and Criteria 3rd Revised edition - 1999 - Ref. ST/SG/AC.10/1/Rev. 3, amended per Addendum 2, Annex 4 - Ref. ST/SG/AC.10/27/Add.2

as detailed in Saft-Poitiers internal report P 0246/03, dated 15/05/2003.

Concerned Part Numbers: 04626H, 04756N, 04818C, 04856R.

Product Description




Primary (non- rechargeable) Lithium-Thionyl chloride (Li-SOCl₂) battery packs assembled from two AA-sized LS 14500C cells in parallel.

Nominal Voltage	3.6 Volts
Nominal Capacity	5.5 Ah
Lithium metal content	0.71 x 2 = 1.42 gram
Maximum recommended continuous discharge current	50 mA

Product Classification

By similarity with the already tested 1S2P LS 14500C "ATR" battery pack P/N 04720B that passes the UN-defined transport tests and because they also have a lithium content below the 2 grams limit, **the 1S2P LS 14500C battery packs P/N 04626H, 04756N, 04818C and 04856R are declared exempt from the Dangerous Goods regulations. They are non-restricted to transport/non-assigned to Class 9, providing packed in accordance with Clause 188 of UN Recommendations on the transport of dangerous goods, Model Regulations 12th Revised edition - 2001 - Ref. ST/SG/AC.10/1/Rev. 12.**

Signed on Behalf of Saft Specialty Battery Group

Pascal Hans	SBG Product Test Engineer		dated 05/09/03
Gilles Tardivo	SBG Quality Manager		dated 05/09/03
Alain Kerouanton	SBG Lithium Product Manager		dated 02/05/03

Lithopack

3.6 or 7.2 V Primary lithium - thionyl chloride (Li-SOCl₂) battery pack series



A rugged, reliable and flexible 3.6 or 7.2 V battery pack concept for long-term applications requiring low base currents combined with superimposed pulses in a wide temperature range.

Key features

- Series or parallel assembly of two AA-sized cells
- High drain version with 2.25 Ah rated LS 14500 cells
- High capacity version with 2.75 Ah rated LS 14500 C cells
- Component cells with stainless steel container and hermetic glass-to-metal sealing
- ABS, flame-retardant (UL V2) plastic case
- JST 02KR-6S end-connector
- High and stable operating voltage
- Low self discharge rate (less than 1% after 1 year of storage at +20°C)
- Non flammable electrolyte
- Non restricted for transport

Optional upon request

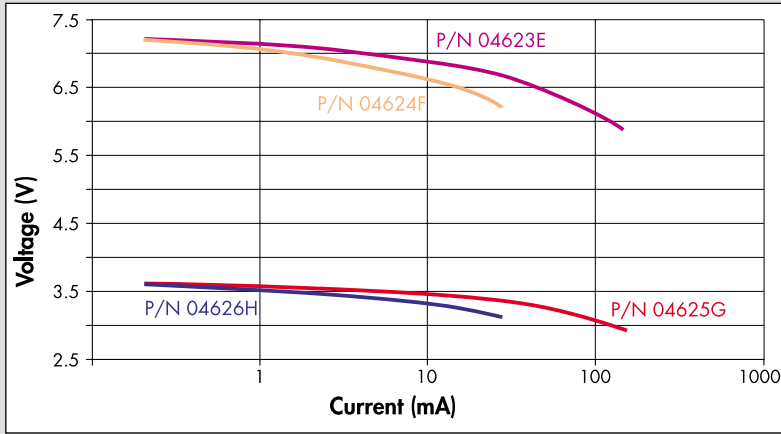
- Wires length and orientation
- Connector type
- Current limiting resistor in series
- Velcro tape for holding
- Custom labelling

Main applications

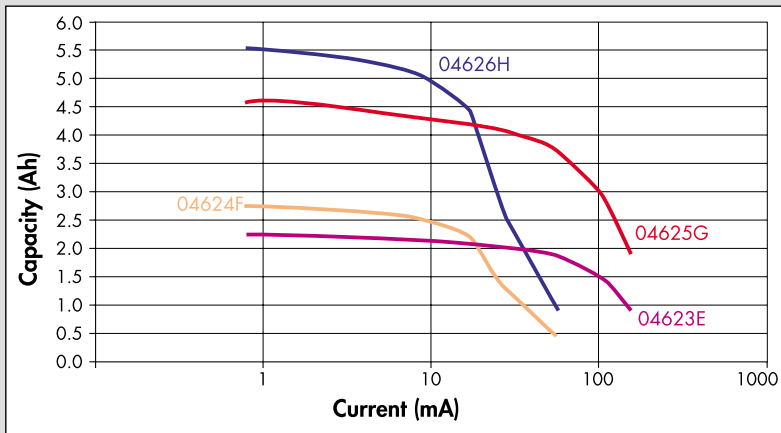
- Memory back-up
- Metering systems
- Alarm equipment
- Industrial electronics
- ... etc.

Pack design	2 LS 14500 in series	2 LS 14500C in series	2 LS 14500 in parallel	2 LS 14500C in parallel
Part number	04623E	04624F	04625G	04626H
Electrical characteristics <i>(typical values for packs stored for one year or less)</i>				
Nominal capacity	2.25 Ah (3 mA)	2.75 Ah (1 mA)	4.5 Ah (6 mA)	5.5 Ah (2 mA)
<i>(at +20°C and for a given discharge current. The capacity restored by the cell varies according to current drain, temperature and cut off).</i>				
Open circuit voltage (at +20°C)	7.34 V	7.34 V	3.67 V	3.67 V
Nominal voltage (at +20°C and given current)	7.2 V (0.2 mA)	7.2 V (0.2 mA)	3.6 V (0.4 mA)	3.6 V (0.4 mA)
Maximum recommended continuous current	120 mA	25 mA	240 mA	50 mA
<i>(to get 50% of the nominal capacity. Higher currents possible. Consult Saft).</i>				
Pulse capability : varies according to pulse characteristics (frequency, duration), temperature, cell history (storage conditions prior to usage) and the application's acceptable minimum voltage. For estimation, consult Saft.				
Storage (recommended) (possible without leakage)	+30°C max -60/+100°C			
Operating temperature range (operation above ambient T may lead to reduced capacity and lower voltage readings at the beginning of pulses).	-60/+85°C	-60/+40°C	-60/+85°C	-60/+40°C
Typical weight	37 g	37 g	37 g	37 g

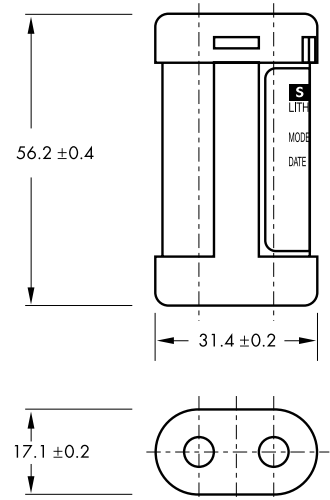
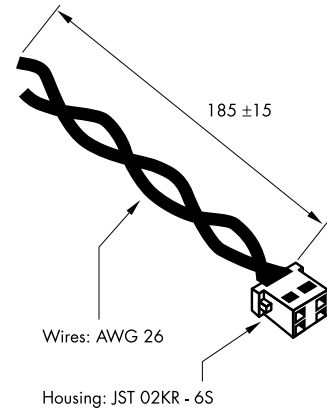
Cell voltage at mid-discharge versus Current (at +20°C)



Capacity versus Current at +20°C (2.0 V cut off)

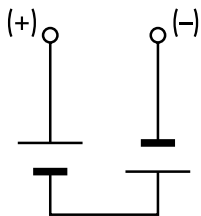


Lithopack

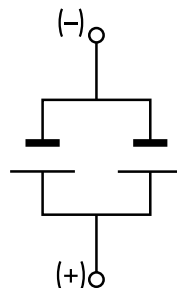


dimensions in mm

Electrical diagram



P/N 04623E
(2 LS 14500 cells in series)
P/N 04624F
(2 LS 14500C cells in series)



P/N 04625G
(2 LS 14500 cells in parallel)
P/N 04626H
(2 LS 14500C cells in parallel)



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