

# Rechargeable lithium-ion battery

## VL 34570

High performance  
D-size cylindrical cell



### Benefits

- Extended autonomy and life for mobile systems
- Wide operating temperature range
- Recommended for ruggedized designs
- Easy integration into compact and light systems

### Key features

- High power
- High voltage
- Very high energy density  
(380 Wh/l, 160 Wh/kg)
- Unrivalled low temperature performance
- Excellent charge recovery after long storage, even at high temperature
- Maintenance-free
- Long cycle life  
(over 70 % initial capacity after 500 cycles 100 % DoD)
- Built-in safety vent and circuit breaker
- Restricted for transport (Class 9)
- Underwriters Laboratories (UL) Component Recognition  
(File Number MH15076)

### Main applications

- Mobile asset tracking
- Rack-mount telecom batteries
- Small UPS
- Soldier of the future equipment
- Portable radios
- Professional portable lighting
- Electric bikes and personal mobility
- Portable gas analysers
- Professional video

### Cell size references

R20 - D

#### Electrical characteristics

Nominal voltage (under 1.1 A at 20°C)	3.7 V
Typical capacity 20°C (under 1.1 A at 20°C 2.75 V cut-off)	5.4 Ah

#### Mechanical characteristics (sleeved, without tabs)

Diameter (max)	34.20 mm (1.346 in)
Height (max)	59.43 mm (2.340 in)
Typical weight	125 g (4.3 oz)
Lithium equivalent content	1.62 g
Nominal energy	20.0 Wh

#### Operating conditions

Charge method	Constant Current/Constant Voltage
Maximum charge voltage	4.20 +/- 0.05 V
Maximum recommended charge current**	5.4 A (~C rate)
Charge temperature range*	-20°C to +60°C (-4°F to +140°F)
Time at 20°C	To be set as a function of the charge current: C rate → 2 to 3 h C/2 rate → 3 to 4 h C/5 rate → 6 to 7 h
Maximum continuous discharge current***	11 A (~2C rate)
Pulse discharge current	up to 21 A (~4C rate)
Discharge cut-off voltage	2.5 V
Discharge temperature range	-50°C to +60°C (-58°F to +140°F)

\* Consult Saft for optimized charging below 0°C

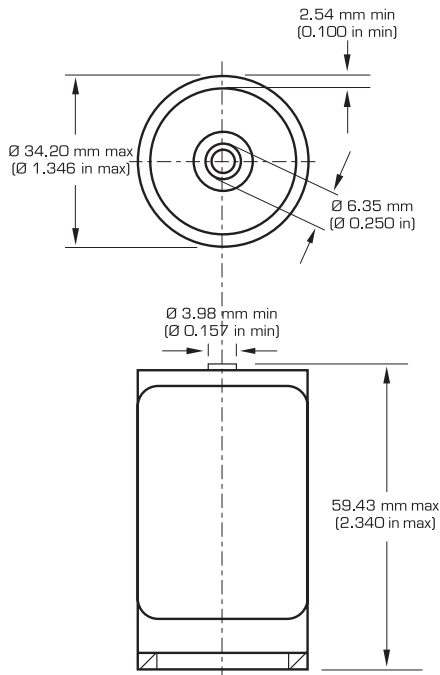
\*\* Electronic protection circuits within battery packs may limit the maximum charge/discharge current allowable. Consult Saft.

\*\*\* At rates >1C self-heating may limit runtime



**SAFT**

# VL 34570



## 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

## When handling Saft VL batteries:

- Do not solder directly to cell terminal (use tabbed versions instead)
- 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 (86°F)
- For long-term storage, keep the battery preferably within a (30 ± 15) % state of charge

## Saft

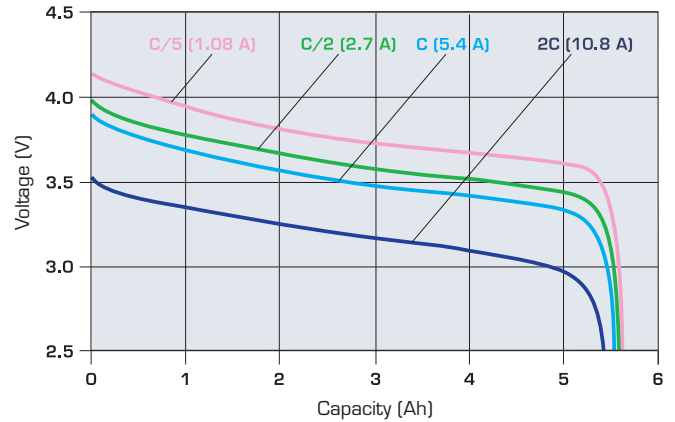
### Specialty Battery Group

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

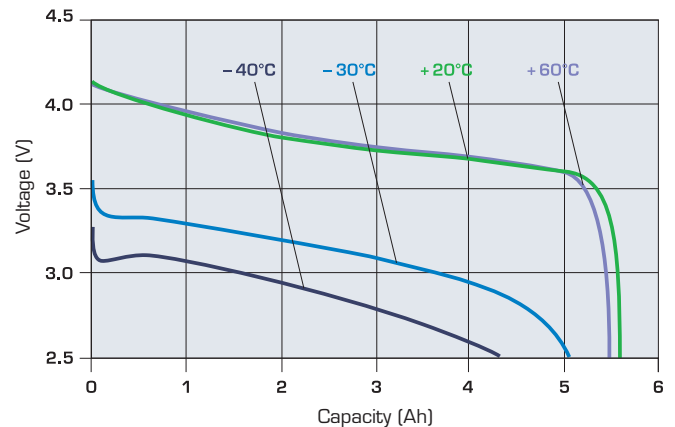
313 Crescent Street  
 Valdese, NC 28690 - USA  
 Tel.: +1 (828) 874 41 11  
 Fax: +1 (828) 879 39 81

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

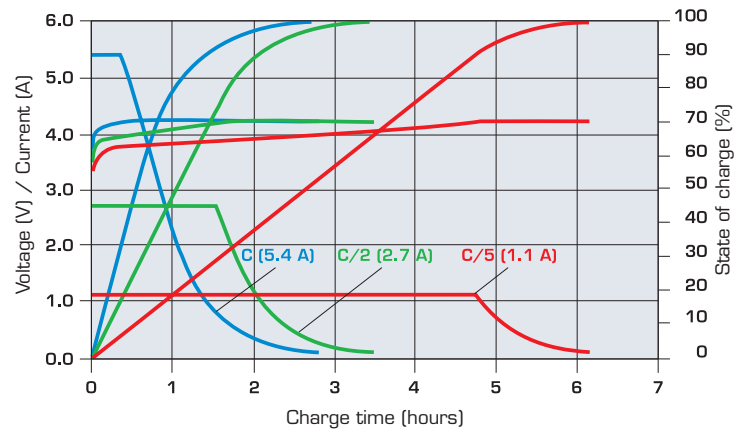
## Typical discharge profiles at +20°C



## Discharge profiles (1.1 A - C/5 rate) at various temperatures



## Charge characteristics to 4.2 V at +20°C (C, C/2 and C/5 rates)



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