PRODUCT SPECIFICATION

SUBJECT:	DATE:
Battery DLP 305590	29.08.01

Battery DLP 305590

Revision 1.0

This specification is in part the result of a battery model and is based on Danionics best knowledge of how the battery will perform. Accordingly, the specification may be subject to adjustments and will need to be verified through actual making of a number of prototypes and a subsequent performance characterization.

Table of content

Revision history

Rev.	Revision note	Date
1.0	First release	28.08.01

Approvals

Danionics A/S _____

Date: September 21, 2001 Date: _____

F. Flemming _____

Frederik Flemming
Project manager

General

Scope:

This specification shall be applied to the product name Battery DLP 305590

Characteristic:

This battery consists of one lithium ion polymer cell. Battery protection circuit is not included in this specification, but can be added.

Name and model

Model name: DLP 305590

Cell configuration: 1P-1S (3.1mm X 55mm X 90mm)

Safety regulation

Cells are UL approved, and the United States Department of Transportation or the International Air Transportation Association for use or shipment on aircraft does not restrict the battery.

UL approval is according to UL Standard for Safety for Lithium Batteries, UL 1642/2054 for technician replaceable batteries. The recommended charger is 500 mA charge w. 6 Volt maximum voltages.

Label and Marking

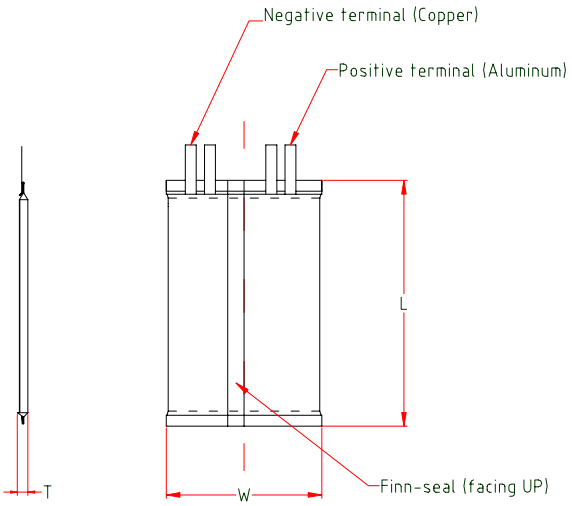
Cells are marked:

Danionics
DLP 305590

HXX-XXX-(XXX)
HH:MM

Where HXX-XXX is batch-tracking number and HH:MM is time stamp.

Specification



Mechanical Dimensions

W	L	T
Max 57.0	Max 90.0	Max 3.10
mm	mm	mm

Swelling of max 5% over battery life is not included in the specification.

Battery weight 30 g ± 2 g

Capacity

NOMINAL CAPACITY

1000 mAh (0.2C discharge rate, 3.0V cut-off)

MINIMUM CAPACITY:

At 23°C: 950mAh (0.2C, 3.0V cut-off)
At 45°C: 950mAh (0.2C, 3.0V cut-off)
At 10°C: 750mAh (0.2C, 3.0V cut-off)

Charge conditions

Charge method: CC-CV with voltage limit 4.20 V ± 1 %, 50 mA cut-off current.

Charge current: 500 mA recommended

Battery temperature during charge from 0°C to 50°C

Cycle life

400 cycles to 80% of initial capacity at 23°C @ 1000 mA constant current discharge, 500mA maximum charge current

300 cycles to 80% of initial capacity at 45°C @ 1000 mA constant current discharge, 500mA maximum charge current

Storage

RECOVERABLE CAPACITY

Storage 12 months at 23°C: 80% of initial capacity recoverable*
Storage 3 months at 45°C: 85% of initial capacity recoverable*

*Charged with constant current @ 500 mA charge

REMAINING CAPACITY

90% capacity remaining at 23°C for 1 month
85% capacity remaining at 23°C for 3 month
80% capacity remaining at 45°C for 1 month

STORAGE TEMPERATURE RANGE

-20 – 60°C (max 1 month): 85% of initial capacity is assured
-20 – 45°C (max 3 months): 85% of initial capacity is assured

HUMIDITY

5% to 95% relative humidity, 38.7°C wet bulb temperature.
No change to battery.

Rating

Nominal voltage 3.7 V

Rated charge voltage 4.20

Maximum charge voltage 4.25 V

Discharge voltage 3.0 V

Rated charge current 500 mA

Rated discharge current 1000 mA

Maximum continuous discharge current 2000 mA

Allowable temperature range measured in battery compartment during operation

Discharge -10 – 60°C
Charge 0 – 50°C

Charge time

The battery shall be charged for not more than 4 hours at 0.5C charge current