



1M2M datasheet

for battery packs

Single cell specifications:

3.6V Li-SOCI2 Battery

Electrical characteristics

(Typical values relative to cells stored for max 6 months at 20°C.)

Nominal capacity ----- 2200mAh
Discharged capacity at 3mA, +25°C and 2.0V cut-off

Open circuit voltage ----- 3.66V

Max. recommended continuous current ----- 400mA
Discharged to 2.0V at +25°C permitting 5% of the nominal capacity to be achieved

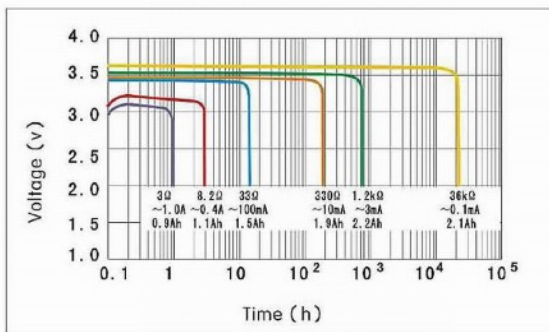
Max. pulse capability ----- 1000mA
1000mA, 0.1 second pulses every 2 minutes, drained with 50%, 3mA at 25°C from undischarged cells with 20µA base current, yield voltage readings above 2.7V, the value may vary according to the pulse characteristics, the temperature and the cell's previous history

Operating temperature range ----- -40°C ~ +85°C

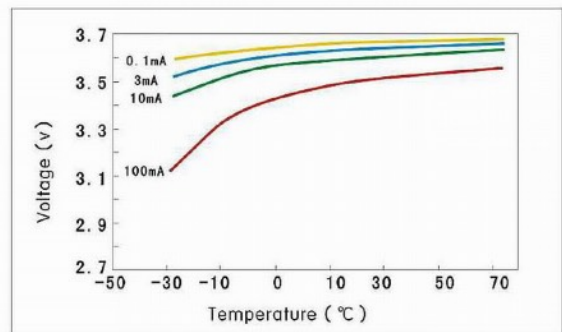
Size ----- Ø 14.5 x 50.5 (mm)

Weight ----- 19 gr.

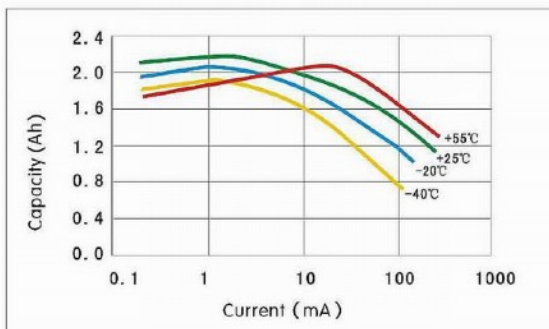
Typical discharge curves at 25°C



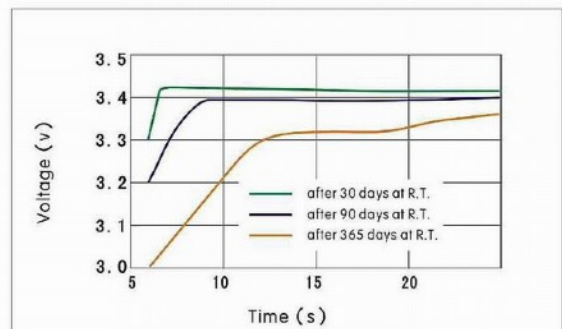
Voltage vs. Temperature



Capacity vs. Current (2.0V cut-off)



Voltage response at 150mA 23 ± 2°C





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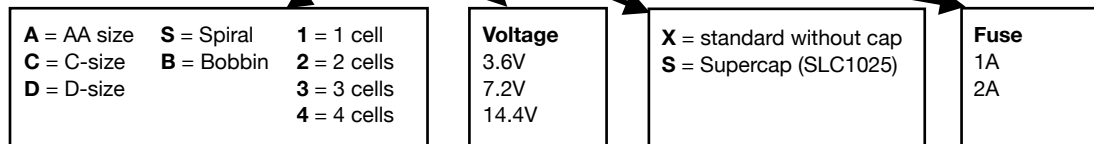
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Battery part numbers for assembly

All batteries have a printed "1M2M.eu", id-code and a production date. All batteries are equipped with a fuse (normally 1A in the black wire).

Website: www.1m2m.eu

Identification code: ED-850-xxx-v-z-1A



Voltage explained:

Each cell has a voltage of 3.6V. So for a higher voltage battery cells will be placed in series.

Fuse explained:

All battery packs have a fuse, normally 1 Ampere slow.

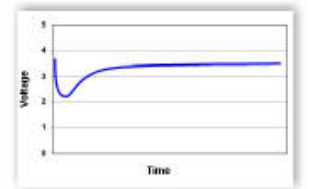
Production date code: YYMMDD

Year (2 digits), Month (2 digits), Day (2 digits)

Shelf life:

A Li-SOCl₂ battery has max. 3% self-discharge per year when stored at +20°C. To stop self-discharging, the battery creates a passivation layer which results in a higher internal resistance. If the battery is stocked for more than 6 months (or a higher temperatures) the internal resistance may be high and then the voltage will be too low to start the tracker. So be sure to use a battery pack within 6 months after delivery.

A battery pack can be depassivated by drawing 150mA (per cell) for a short time (or 120mA for a longer time), as soon as the voltage rises above 3.2V the battery is depassivated.



Nominal capacity and usable capacity

The nominal capacity is a maximum value in optimal conditions. In real life the capacity will be lower, it depends on temperature and used current. In extreme conditions (e.g. @-20°C) the capacity can be 50% of the listed value. See also the Capacity vs. current graph on page 1, blue line.

Example 1, 4 cells in parallel connected, produced on Juli 8th, 2019:

www.1m2m.eu

ED-850-AS4-3.6V-X-1A
190708

Example 2, 2x cells in parallel connected, produced on January 15th, 2018:

www.1m2m.eu

ED-850-AS2-3.6V-X-1A
180115



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Electrical characteristics for standard battery packs:

ED-850-AS4-3.6V-X-1A (4 spiral cells in parallel)

(Typical values relative to cells stored for max. one year at +25°C max.)

Nominal capacity ----- 8800mAh
Discharged capacity at 12mA, +25°C and 2.0V cut-off

Open circuit voltage ----- 3.66V

Max. recommended continuous current ----- 1000mA
Discharged to 2.0V at +25°C permitting 5-% of the nominal capacity to be achieved

Max. pulse capability ----- 1500mA
1500mA, 0.1 second pulses every 2 minutes, drained with 50%, 1mA at 25°C from undischarged cells with 20µA base current, yield voltage readings above 2.7V, the value may vary according to the pulse characteristics, the temperature and the cell's previous history

Operating temperature range ----- -40°C .. +85°C

Size ----- 51 x 58 x 15 (mm)

ED-850-AS2-3.6V-X-1A (2 spiral cells in parallel)

(Typical values relative to cells stored for max. one year at +25°C max.)

Nominal capacity ----- 4400mAh
Discharged capacity at 6mA, +25°C and 2.0V cut-off

Open circuit voltage ----- 3.66V

Max. recommended continuous current ----- 800mA
Discharged to 2.0V at +25°C permitting 5-% of the nominal capacity to be achieved

Max. pulse capability ----- 1500mA
1500mA, 0.1 second pulses every 2 minutes, drained with 50%, 1mA at 25°C from undischarged cells with 20µA base current, yield voltage readings above 2.7V, the value may vary according to the pulse characteristics, the temperature and the cell's previous history

Operating temperature range ----- -40°C .. +85°C

Size ----- 51 x 29.5 x 15 (mm)



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STORAGE

Store in clean, dry and cool circumstances (temperature between 0 and 20 degrees). After 6 months storage the battery pack must be depassivated to remove the internal high impedance passivation layer.

WARNING

Don't charge, crush, disassemble, expose contents to water, heat above 100°C or this may lead to explosion, burn, poison or leakage



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