LITHIUM-ION POLYMER RECHARGEABLE BATTERY

SPECIFICATIONS

Model	:	LIP503450
Description	:	Lithium-Ion Polymer rechargeable battery (RoHS compliant)
Dimension	:	Max. 5.3 x 34.8 x 53.0mm
Nominal Capacity	:	850mAh (Min. 800mAh) at 170mA rate discharge to 3.0V at 25°C 3 cycles allowed for incoming inspection Discharge capacity varies with discharge current and temperature
Nominal Voltage	:	3.7Volt (after charge)
Cut-Off Voltage	:	3.0Volt
Approximate Weight	:	17g
Internal Impedance	:	<80mΩ (bare cell with 1KHz AC testing at full charge)
Cycle Life	:	100 standard charge/discharge cycles > 80% (680mAh) capacity 500 standard charge/discharge cycles > 70% (595mAh) capacity
Charging	:	Using dedicated CC/CV (4.20±0.03V) battery charger only Charging with CC (Constant Current) to 4.20V, then charge with CV (Constant Voltage) till charge current <42.5mA Standard Charge Current 170mA at 25°C below 8 hours Max. Charge Current 425mA at 25°C below 3 hours
Discharging	:	Standard Discharge Current 170mA at 25°C Max. Discharge Current 850mA at 25°C (Conditions apply)
Temperature Range	:	Charge 0°C to 45°C Discharge -20°C to 60°C Storage 10°C to 25°C (Recommended) -10°C to 40°C (within 1 month) -5°C to 35°C (within 3 months)
Warranty	:	Limited warranty is provide against defects of poor workmanship for 12 months from date of shipment. Problem caused by misuse, mishandling, malfunction of equipment, or mix-use of cell is not under this warranty. Replacement of cell is limited to 1-to-1 only
Storage Characteristic	:	Long term storage may cause loss of capacity. Capacity recoverable related to time of storage. Cell is recommended to store with 45% capacity charged, temperature 20±5°C, and relative humidity 45%-75%. After max. 12 months storage, capacity recovery will be > 70% initial capacity (~595mAh), after 5 recovery charge/discharge cycles.
Appearance	:	No scratch, rust, discoloration, leakage which may adversely affect commercial value of the cell
Standard Test Condition	:	Unless otherwise specified, all test are conducted at temperature 20±5°C and relative humidity 60±15% The ammeter and voltmeter with accuracy grade 0.5 or higher The slide caliper with scale 0.01mm The impedance meter with AC 1kHz measurement

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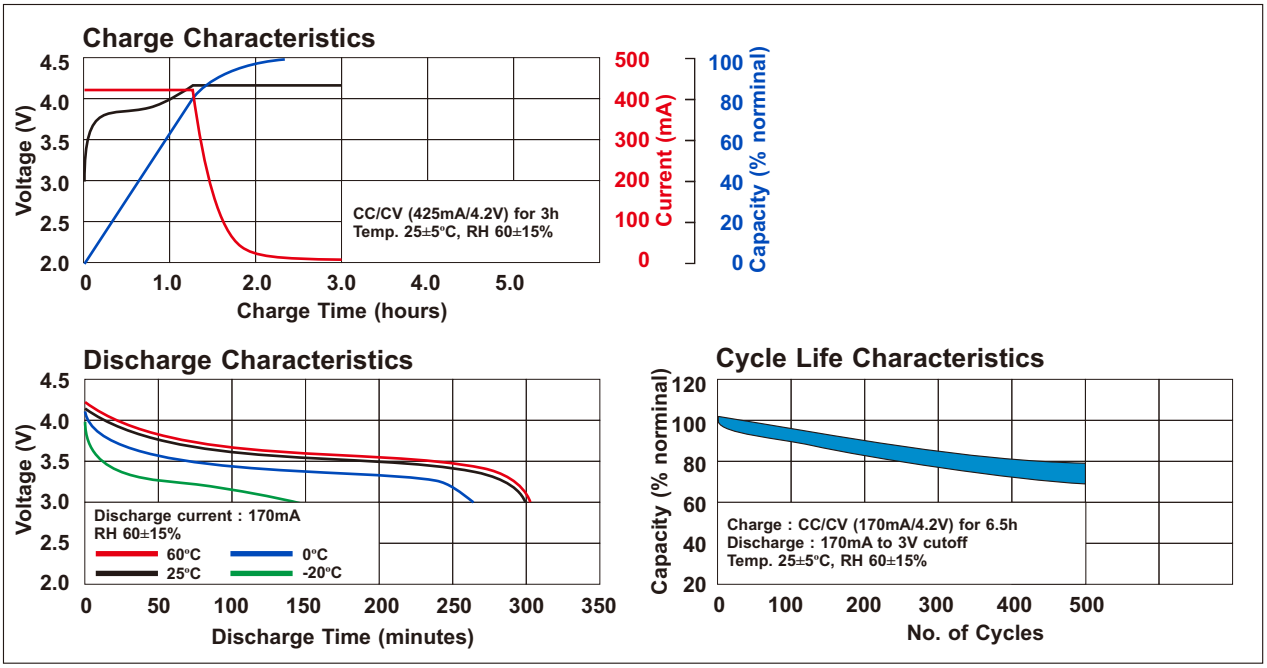
Capacity Retention	:	Discharge measured after the cell is stored for 28 days after standard charge. Capacity retention >= 85% initial capacity (~722.5mAh)
Maintenance Charging	:	Maintenance charging is required for storage over 3 months or when battery open circuit voltage below 3.8V. Prolonged storage without maintenance may result is battery gassing and loss of performance.
Remarks :	:	Charging voltage shall be less than 4.20V/cell. It must never exceed 4.25V/cell.
Ex-Factory Condition	:	As per air shipment regulations, the battery must be shipped at a State of Charge (SoC) <=30%. We recommend customer to arrange supplementary charging of the battery after receiving the batteries.
External Short Circuit Test	:	No fire, no explosion for short-circuiting of the positive and negative terminals of a fully charged cell with a total external resistance of 80mΩ±20mΩ at 20±5°C.
Free Fall Test	:	No fire, no explosion for dropping a fully charged cell 3 times from a height of 1m at random orientations onto a concrete floor at 20±5°C.
Thermal Abuse Test	:	No fire, no explosion for placing a fully charged cell in an oven with temperature raised at a rate of 5°C/min±2°C/min to a temperature of 130°C±2°C.
Crush Test	:	No fire, no explosion for crushing a fully charged cell between two flat surfaces with a force of 13kN±1kN at 20±5°C until maximum force has been applied, or an abrupt voltage drop of 1/3 of the original voltage has been obtained, or 10% of deformation has occurred.
Over-charging Test	:	No fire, no explosion for charging a fully discharged cell at a constant current of 1.7A with a voltage limit of 4.8V for 8 hours.
Forced Discharge Test	:	No fire, no explosion for reverse charging a fully discharged cell at a constant current of 0.85A for 90 min. at 20±5°C.



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Customer of lithium iron phosphate battery should employ appropriate cautions in order to obtain optimum performance and safety.

Charging	:	Charging current, voltage, time and temperature should be within the limit specified in the specification. Reverse charging should be strictly prohibited. Improper charging may generate heat, smoke, rupture or flame, and may cause leakage or damage to the cell and personal injury.
Discharging	:	Discharging current, voltage and temperature should be within the limit specified in the specification. Short circuit and over discharging should be strictly prohibited. Over discharge may occur by self-discharge if the cell is left idle for a long time, or by leakage current of equipment. Improper discharging may generate heat, smoke, rupture or flame, and may cause leakage or damage to the cell and personal injury.
Storage	:	Storage voltage, time, temperature and relative humidity should be within the limit specified in the specification. Storage is recommended in low temperature, low humidity, no corrosive gas atmosphere. Long term storage may cause permanent loss of capacity.
Cycle Life	:	Cycle life performance differs by conditions of charging, discharging, temperature and/or storage condition.
Shipping	:	The cell should be checked after long term storage prior to shipment. Packaging should be according to latest requirement of IATA and IMDG.
Product Design	:	Do not solder directly on bare cell. Cell should be positioned far from heat source and heat components. Shock absorber should be equipped to minimize shock on the cell. Protection circuit should be equipped to insure safety in case of misuse and abnormal conditions. Battery should be designed to connect only to specified charger and system. Product design should be able to avoid short circuit, reverse connection, vibration, shock and crush of battery. Improper product design may cause damage and personal injury.
Product Assembly	:	Battery cell should be inspected visually before product assembly to avoid usage of damaged cell (for example, sleeve damage, battery distortion, or leaking). Excessive force on the battery terminals and battery surface should be avoided. Precaution should be taken to avoid short circuit of cell. Precaution should be taken when cell is moved / transported to other place. Battery pack should be assembled by cells from same batch, with similar capacity, voltage, internal resistance and charge level.
Warning	:	The cell may present risk of fire and chemical burn if mistreated. Do not disassembly cell, immersion in water and dispose in fire. Do not use cell with unusual conditions such as odors or leakage or heat. Cell should be disposed in discharged state. Improper handling may cause damage and personal injury. Keep the cell away from children.

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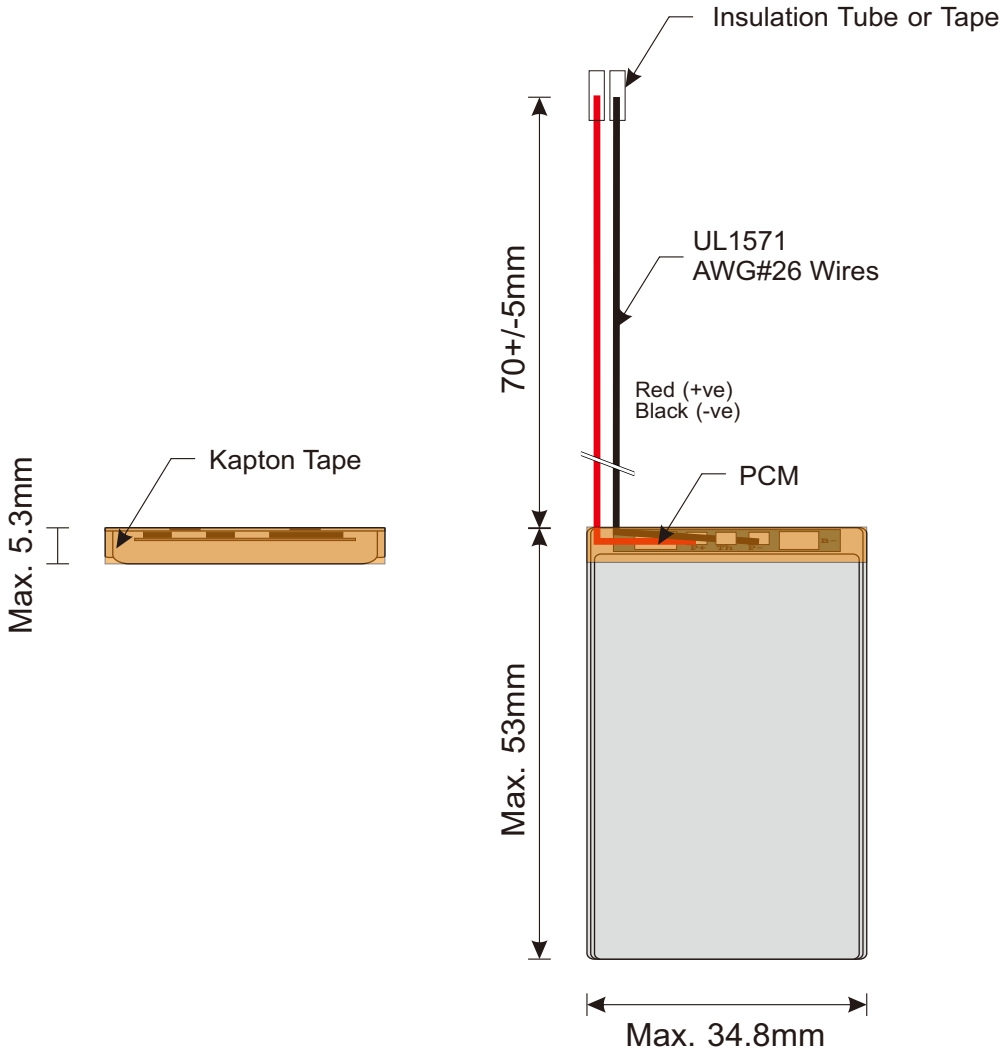
PRODUCT DRAWING



PRINTING :

KINETIC (Lot. YY MM)
LIP503450 (Li-Po)
3.7V 850mAh 3.145Wh

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