LITHIUM-ION POLYMER RECHARGEABLE BATTERY

SPECIFICATIONS

Model	:	LIP654063
Description	:	Lithium-Ion Polymer rechargeable battery (RoHS compliant)
Dimension	:	Max. 6.8 x 40.8 x 66.0mm
Nominal Capacity	:	2000mAh (Min. 1900) at 400mA rate discharge to 3V at 25°C
Nominal Voltage	:	3.7 Volt
Cut-Off Voltage	:	3.0 Volt
Approximate Weight	:	39g
Internal Impedance	:	<60mΩ (bare cell, with 1KHz AC testing at full charge)
Cycle Life	:	Over 500 standard charge/discharge cycles
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 <20mA Max. 1000mA x 3.5 hours (Ref.)
Discharging	:	Max. 1000mA continuous at 25°C (Conditions apply) Max. 2000mA pulse at 25°C (Conditions apply)
Temperature Environment	:	Charge 0°C to 45°C Discharge -20°C to 60°C Storage -20°C to 20°C (1 year) -20°C to 45°C (3 months) -20°C to 60°C (1 month) 10°C to 25°C (Recommended)
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
Long Term Storage	:	Long term storage may cause loss of capacity.
PCM Specification	:	Details to be confirmed
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 25+/-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
Standard Charge	:	Charge at 400mA constant current until 4.20V. Then charge at constant voltage of 4.2V with taper charge current. Ref. charging time is 6.5 hours
Standard Discharge	:	Discharge with current 400mA to 3V within 1 hour after standard charge Initial standard discharge capacity >= 1900mAh (3 cycles allowed)

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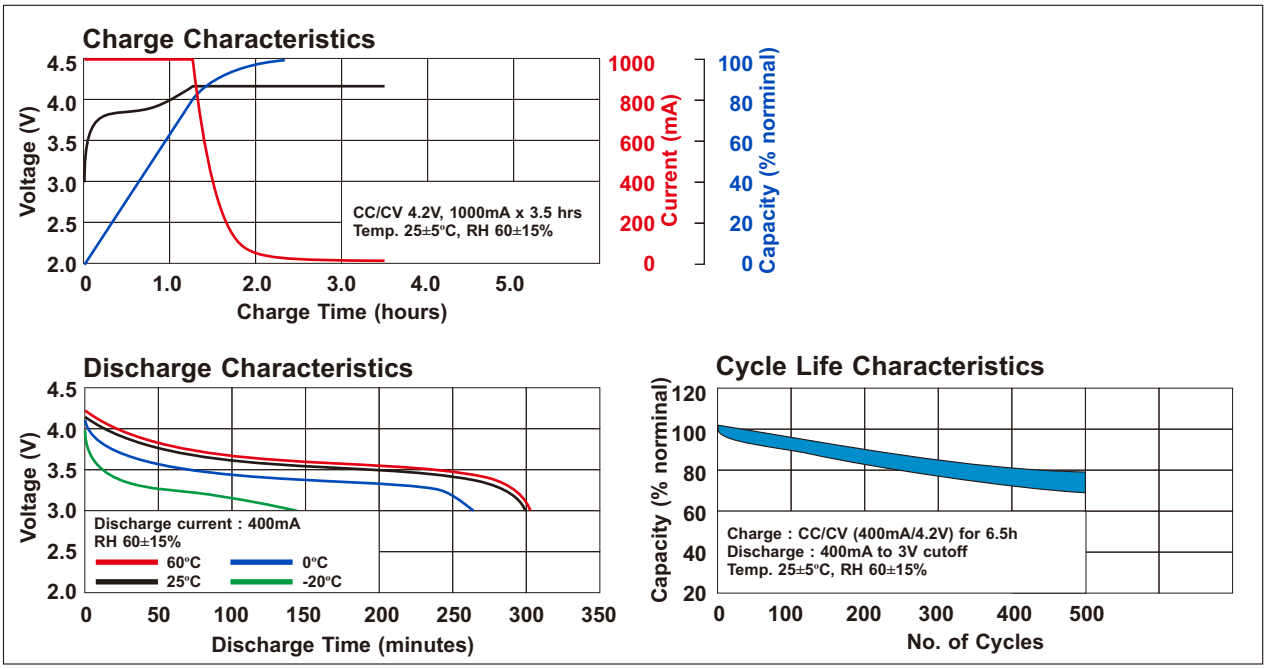
Internal Impedance	:	Measured at AC 1kHz within 1 hour after standard charge Initial internal impedance <= 60mΩ (per bare cell)
Cycle Life	:	After 100 standard charge/discharge cycles plus 1 day Capacity >= 1600mAh
Capacity Retention	:	Discharge measured after storage for 28 days after standard charge Initial capacity retention >= 1700mAh
Maintenance Charging	:	Maintenance charging required for storage over 6 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 4.2V/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%. The OCV at this SoC >= 3.6V. We recommend customer to arrange supplementary charging of the battery after receiving the batteries .
Drop Test	:	No fire, no explosion for dropping onto 18-20mm think oak-board from 1.0m height at a random direction 6 times
Vibration Test	:	No fire, no explosion for vibrating along 2 mutually perpendicular axes with total excursion of 1.8mm and with frequency cycling between 10Hz and 55Hz by 1Hz/min



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Model : LIP654063
Version : 2.20

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

Charging	:	Charging current should less than the maximum charging current specified in the specification Charging voltage must up to the voltage specified in the specification Do not charge battery over the specified time in the specification Charging temperature should be within the specified range in the specification Reverse charging should be strictly prohibited Improper charging may generate heat, smoke, rupture or flame, and cause damage to the battery
Discharging	:	Discharging current should be less than the maximum discharging current specified in the specification Discharging temperature should be within the specified range in the specification Do not over discharge the battery below 2.0V/cell Over discharge may occur by self-discharge if the battery is left for a very long time without any use Improper discharge may cause loss of performance
Storage	:	Storage temperature should be within the specified range in the specification Storage is recommended in low humidity, nop corrosive gas atmosphere Long term storage may cause loss of capacity
Cycle Life	:	Cycle life differs by conditions of charging, discharging, operating temperature and/or storage condition Level of capacity differs by cycles of battery used
Product Design	:	Do not solder directly on bare cell Battery should be positioned far from heat source and heat components Appropriate shock absorber should be equipped to minimize shock on the battery Protection circuit against overcharge, over discharge, over current should be equipped to insure safety in case of misuse Battery should be designed to connect only to specified charger and system Reverse connection of battery should be avoided in system design Improper product and system design may cause loss of battery performance
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 when battery is moved / transported to other place Do not disassembly, short-cutcuit, incinerate, immersion in water, and mix use of battery Battery should be disposed in discharged state Improper handling may cause loss of battery performance
Warning	:	The battery may present risk of fire and chemical burn if mistreated. Keep away battery from children.

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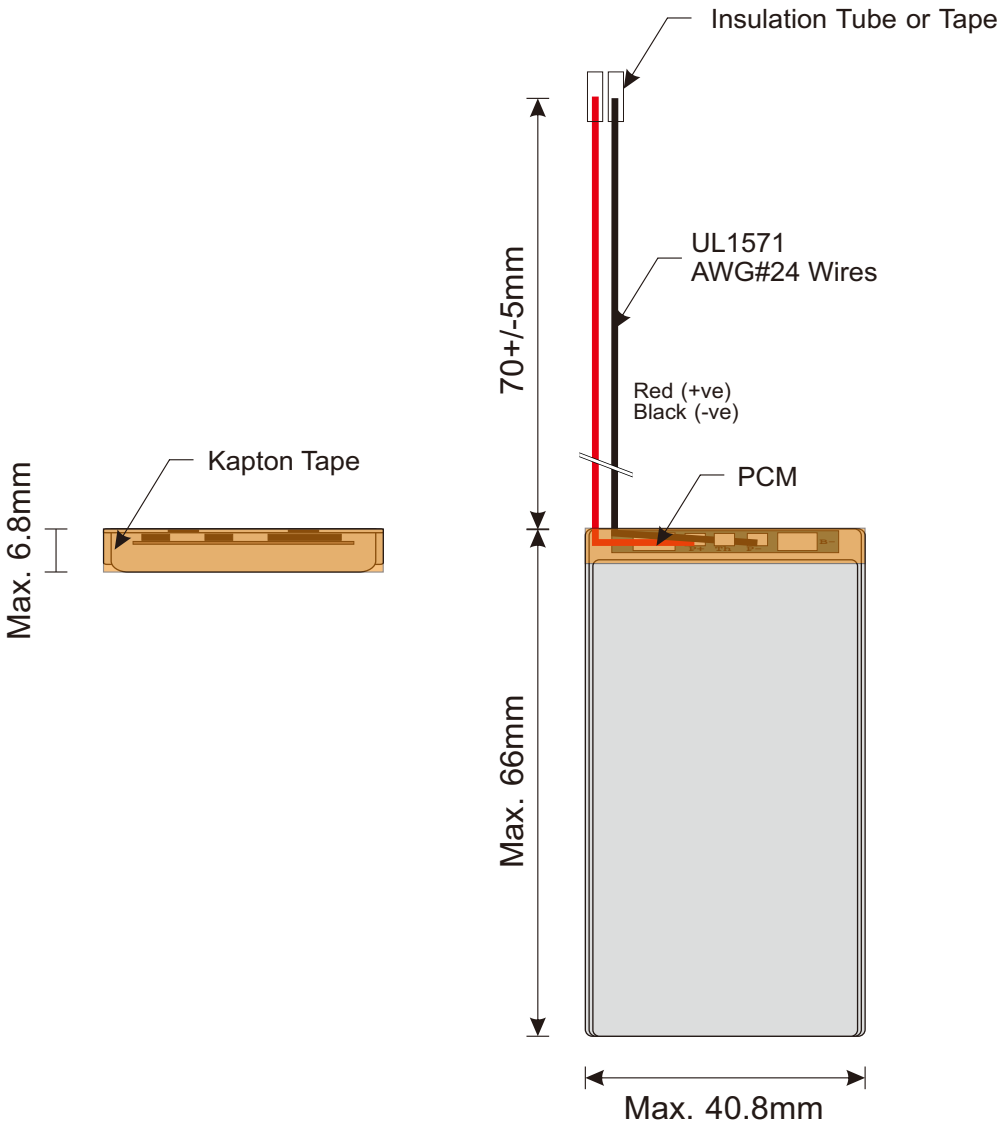
PRODUCT DRAWING



PRINTING :

KINETIC (Lot. YY MM)
LIP654063 (Li-Po)
3.7V 2000mAh 7.4Wh

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Model : LIP654063 **Version : 2.20**		