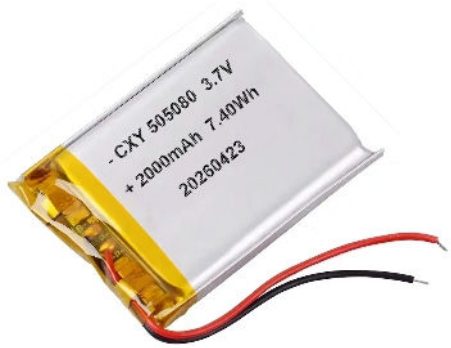
Lithium-ion Polymer Battery

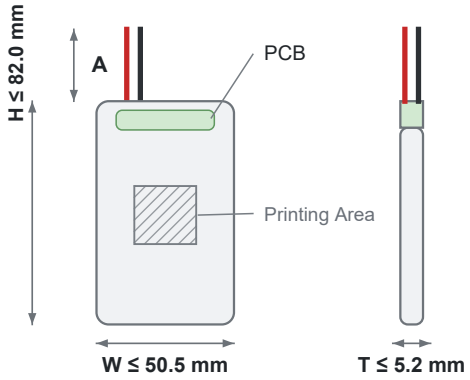
Product Datasheet · Model: 505080 · 3.7 V · 2000 mAh · with protective PCM board, NTC and connector

Battery pack with PCM board and connector



Surface marking: "CXY 505080 3.7V 2000mAh 7.40Wh 20260423"

Structure drawing (not to scale)



A = wire length (customizable) · PCB = protection circuit · printing area = CXY marking

Electrical Characteristics

Nominal Capacity	**2000 mAh (0.2C discharge)**
Nominal Voltage	**3.7 V**
Charge Voltage	**4.2 V**
Discharge Cut-off	**3.0 V**
Initial Impedance	**≤ 100 mΩ (with PCM)**
Cycle Life	**≥ 300 cycles ***
Capacity Retention	**≥ 90% after 28 days**

Mechanical Characteristics

Cell Weight	**Approx. 40.0 g**
Cell Dimensions (T×W×L)	**5.0 × 50.0 × 80.5 mm**
Pack Dimensions (T×W×H)	**5.2 × 50.5 × 82.0 mm**
Wire	**UL3302 26# AWG**
Connector	**JST PH 2.0 mm 3P male**

Charging & Discharging

Standard Charge	**0.2C CC/CV to 4.2 V**
Rapid Charge	**1.0C**
Standard Charge Time	**6.0 h (0.2C)**
Max. Charge Current	**1.0C**
Standard Discharge	**0.2C to 3.0 V**
Max. Discharge Current	**1.0C**

Temperature Characteristics

Charge Temperature	**0 °C ~ +45 °C**
Discharge Temperature	**-20 °C ~ +55 °C**
Storage < 1 Month	**-20 °C ~ +55 °C**
Storage < 3 Months	**-20 °C ~ +40 °C**
Storage < 1 Year	**0 °C ~ +25 °C, ≤ 75% RH**

* Cycle life: standard charge (0.2C CC/CV to 4.2 V), standard discharge (0.2C to 3.0 V), end of life at 80% of initial capacity. Impedance: AC 1 kHz at 50% SOC, 25°C. All values measured at 25°C unless stated otherwise.

PCM Specification (board with NTC)

Over-charge Protection	**4.300 ± 0.050 V**
Over-discharge Protection	**2.400 ± 0.100 V**
Over-current Protection	**Available**
Short-circuit Protection	**Available**
NTC	**Yes (10 kΩ, B=3435)**

Certificates & Documents

MSDS / UN38.3	**Available on request**
CE / RoHS	**Available on request**

Typical Applications

Wearable Devices · Smart Devices · Healthcare Devices · Beauty Devices · GPS Trackers

Specifications are subject to change without prior notice. Please confirm details with SafeLith before ordering.

Warning and Cautions

Lithium-ion Polymer Battery · Model 505080 · 2000 mAh · 3.7 V

To prevent the battery from leaking, heating or explosion, please observe the following precautions. This document should be passed on to the end user of the equipment containing this battery.

Warning

- Do not immerse the battery in water or seawater. Keep it in a cool and dry environment when not in use.
- Do not discard or leave the battery near a heat source such as fire or a heater.
- Charge the battery only with a charger specifically designed for this battery type.
- Do not reverse the positive and negative terminals.
- Do not connect the battery directly to an electrical outlet.
- Do not short-circuit the positive and negative terminals with metal objects such as wires or necklaces.
- Do not transport or store the battery together with metal objects such as necklaces or hairpins.
- Do not strike, throw or trample the battery.
- Do not directly solder the battery or pierce it with a nail or other sharp object.
- Do not use damaged or deformed cells. Never disassemble the battery.
- Keep the battery away from children.

Cautions

- Do not use or leave the battery at very high temperature conditions (for example, strong direct sunlight or a vehicle in extremely hot weather). Otherwise it can overheat or catch fire, and its performance and service life will be reduced.
- Do not use the battery in a location with strong static electricity or magnetic fields, otherwise the safety devices may be damaged and cause hidden dangers.
- If the battery leaks and the electrolyte gets into the eyes, do not rub the eyes. Rinse them with clean water immediately and seek medical attention.
- If the battery gives off an odor, generates heat, becomes discolored or deformed, or appears abnormal in any way during use, recharging or storage, remove it from the device or charger immediately and stop using it.
- If the battery terminals are dirty, clean them with a dry cloth before use. Poor connection may cause power failure or charging failure.

Storage & Transportation

- Store batteries in a cool, dry and well-ventilated area, away from fire and heat sources. Best storage conditions: 25 ± 5 °C, 60 ± 15% RH.
- Store the battery at 40%-60% state of charge (approx. 3.85 V). Recharge every 3 months to avoid over-discharge.
- Do not stack cartons more than 7 layers or store them upside down. Maximum temperature during transportation: below 60°C.
- Do not mix battery products with other cargo; keep them away from water and moisture.

Note: any items not covered in this specification shall be agreed by both parties. Dispose of the battery in accordance with local regulations.