

THOR-502050 LiPo Pouch Cell

Compact rechargeable LiPo cell for miniature electronics and OEM battery pack integration.

3.7 V

Nominal Voltage

500 mAh

Rated Capacity

1.85 Wh

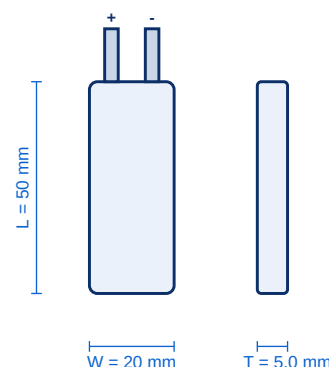
Energy

5.0 x 20 x 50

Size (mm)

Item	Specification
Model	THOR-502050
Nominal Voltage	3.7 V
Rated Capacity	500 mAh
Energy	1.85 Wh
Dimensions (T x W x L)	5.0 x 20 x 50 mm
Weight	Approx. 11 g
Internal Impedance	<= 200 mOhm (typ)
Cell Type	Lithium Polymer pouch
Connector	PH2.0 / Molex 1.25
Wire	UL1571 28AWG, 5cm
PCM / NTC	PCM std / NTC optional

Cell Dimension Sketch



2. Charge / Discharge

Parameter	Specification	Parameter	Specification
Standard Charge	0.2C (100 mA) CC-CV	Standard Discharge	0.2C (100 mA)
Max Charge Current	1C (500 mA)	Max Cont. Discharge	2C (1000 mA)
Charge Cut-off	4.20 +/- 0.03 V	Discharge Cut-off	3.0 V
Charge Voltage	CC-CV to 4.2V	Cycle Life	>= 500 @0.5C, >= 80%
Charge Temp.	0degC ~ 45degC	Self-Discharge	<= 3% / month @25degC

3. Temperature & Safety

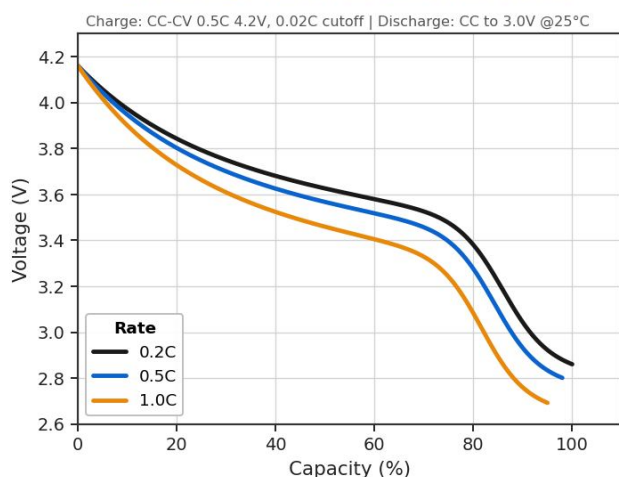
Parameter	Specification	Parameter	Specification
Discharge Temp.	-20degC ~ 60degC	Overcharge Detect	4.28 +/- 0.03 V
Storage (1 month)	-10degC ~ 45degC	Over-discharge Detect	2.75 +/- 0.05 V
Overcurrent Prot.	Per PCM design	Short-circuit Prot.	Yes, auto-recovery
Certifications	UN38.3 / MSDS		CE / KC / UL / CB / PSE / RoHS*

* Certification coverage and final specifications may vary by finished pack design and customer requirements.

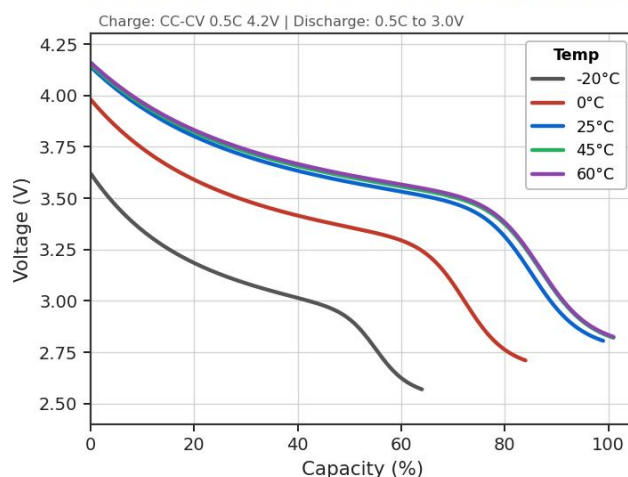
4. Typical Performance Characteristics

Representative curves for engineering reference. Final values depend on connector, wire, PCM, load profile and test conditions.

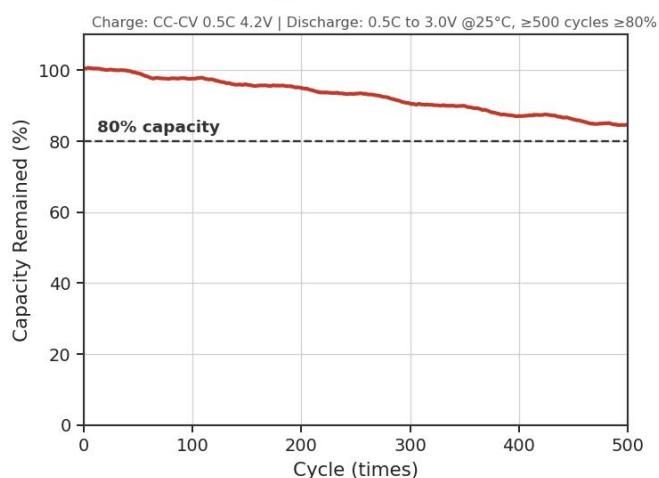
Discharge Curve at Different Rates



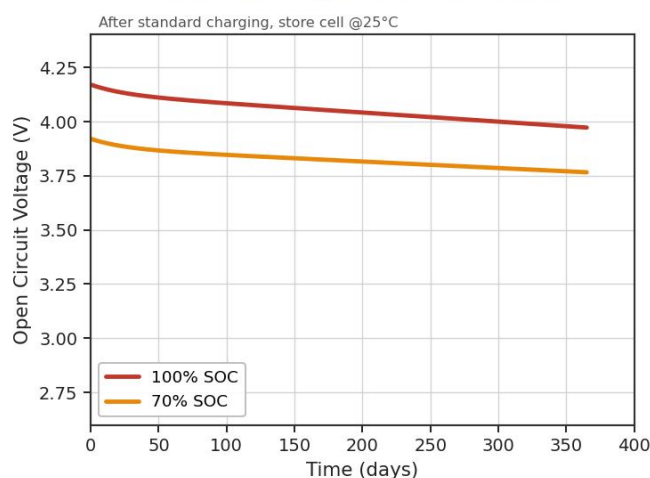
Discharge Curve at Different Temperatures



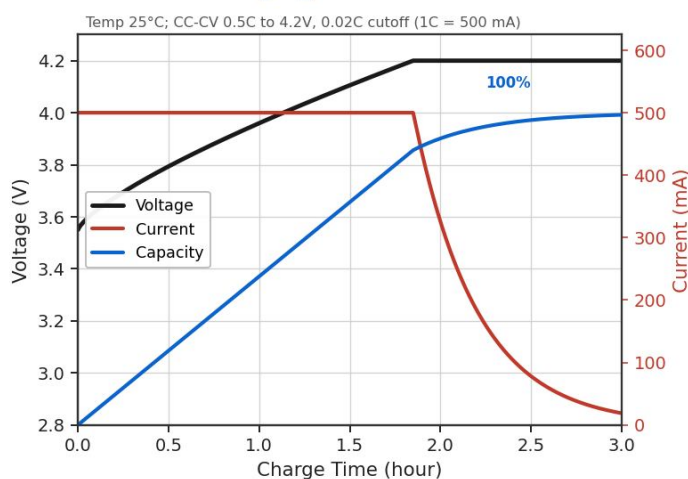
Cycle Life Curve



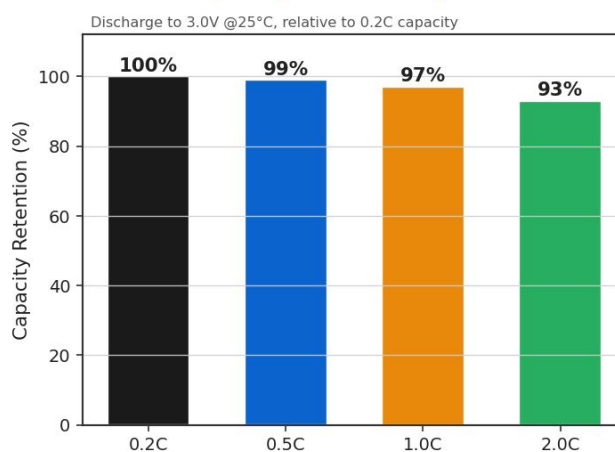
Self-Discharge at Different SOC



Charging Characteristic



Capacity vs Discharge Rate



5. Finished Pack Drawing



6. Test Standards

Test	Condition / Criteria	Test	Condition / Criteria
Std. Discharge	0.2C to 3.0V, >= rated cap	Drop	1.0m x6 faces, no fire/leak
1.0C Discharge	>= 90% of rated capacity	Overcharge	3C 4.8V, no fire/explosion
Cycle Life	0.5C, >= 500 cyc @ 80%	Short-circuit	<100mOhm, no fire, <150degC
High-Temp Humidity	40degC/90%RH 48h	Thermal Abuse	130degC 30min, no fire
Vibration	10-55Hz 3 axes, no leakage		

7. Storage & Shipment

Period	Condition	Period	Condition
< 1 month	-20 ~ +45degC, 90%RH	Ship Voltage	3.72 ~ 3.90 V (40-60% SOC)
> 3 months	-10 ~ +45degC, 90%RH	Long-term	Charge to 40-60% every 3 months
Recommended	15 ~ 35degC, 85%RH		

8. Certifications & Customization

Certifications: UN38.3 & MSDS available; CE, KC, UL, CB, PSE, RoHS and IEC 62133-2 provided on request.

Customization: cell size, capacity, connector type, wire length, PCM/BMS and NTC configurations are all supported to order.

Samples & custom configurations available on request

Share your target size, connector, discharge current, wire length, PCM/NTC needs and annual volume, and we will provide a configuration-specific engineering datasheet and quotation.

Email sales@thorbattery.com WhatsApp / Tel +86 180 2916 9106 Web thorbattery.com

9. Warnings & Cautions

Use this cell only according to the specified charging, discharging, storage and handling conditions.

! DANGER / WARNING

- Do not immerse the battery in water or seawater; store in a cool, dry place when not in use.
- Do not place near heat sources such as fire or heaters; do not use or store above the rated temperature range.
- Charge only with a charger designed for Li-Polymer cells, using the specified CC-CV method.
- Do not reverse terminals; reverse charging damages the cell and creates a safety hazard.
- Do not short-circuit terminals with metal objects or transport/store with metallic items.
- Do not strike, throw, trample, pierce, bend, deform, disassemble or modify the cell.
- Do not directly solder to the cell body.
- Do not use a damaged, leaking, swollen, discolored or abnormal-odor cell.
- Keep away from children. If electrolyte contacts eyes, rinse with clean water and seek medical attention immediately.
- Cell replacement should be performed only by the cell/device supplier, never by the end user.

! CAUTION

- Stop charging if charging is not completed within the specified time.
- Stop use immediately if abnormal heat, odor, discoloration or deformation occurs during use, charge or storage.
- For long-term storage, charge to 40-60% SOC and recharge every 3 months to prevent over-discharge.
- Clean dirty terminals with a dry cloth before use to avoid poor contact.
- Insulate the terminals of discharged/waste cells before disposal to prevent short-circuit and fire.

THOR Power reserves the right to improve specifications without prior notice. Performance curves are typical/representative, measured under the stated conditions; actual values vary with application. For a configuration-specific engineering datasheet, contact sales@thorbattery.com.