

## THOR-452248 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**

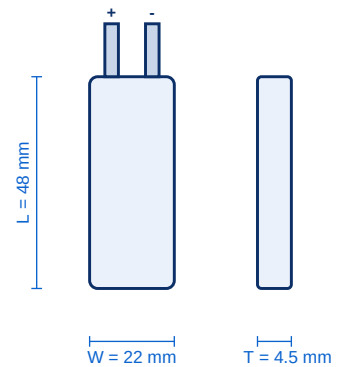
Energy

**4.5 x 22 x 48**

Size (mm)

| Item                   | Specification          |
|------------------------|------------------------|
| Model                  | THOR-452248            |
| Nominal Voltage        | 3.7 V                  |
| Rated Capacity         | 500 mAh                |
| Energy                 | 1.85 Wh                |
| Dimensions (T x W x L) | 4.5 x 22 x 48 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

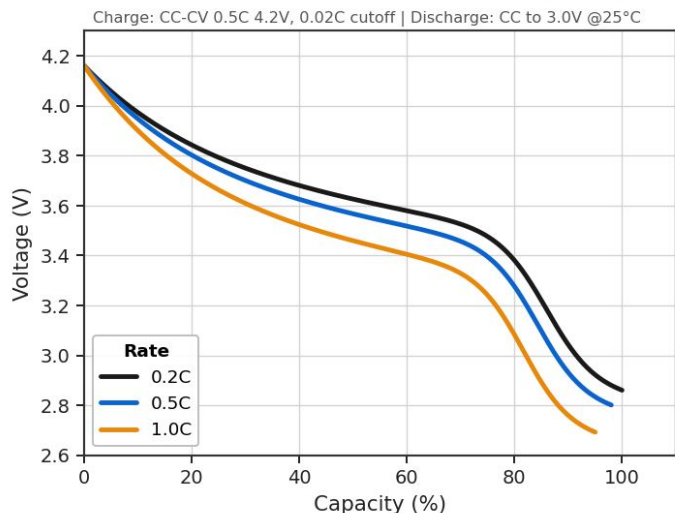
| Parameter         | Specification    | Parameter             | Specification                   |
|-------------------|------------------|-----------------------|---------------------------------|
| Discharge Temp.   | -20degC ~ 60degC | Overcharge Detect     | 4.28 +/- 0.03 V                 |
| Storage (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.

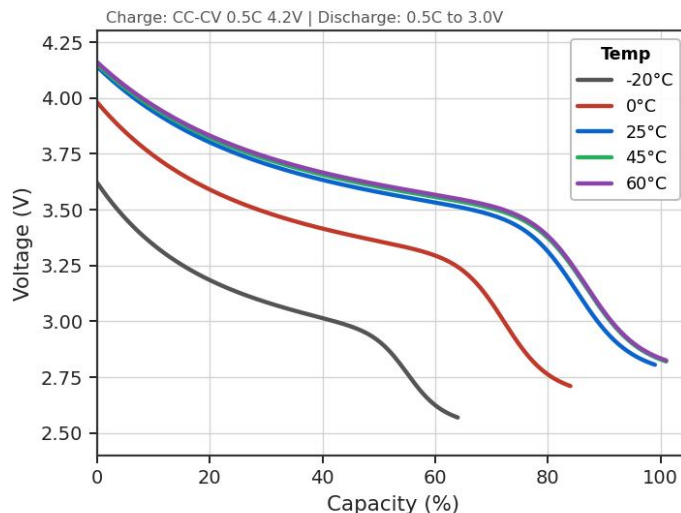
## 4. Typical Performance Characteristics

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

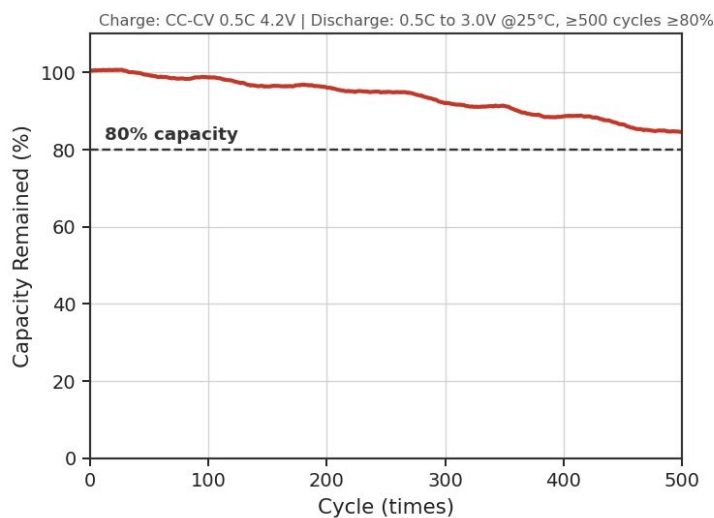
### Discharge Curve at Different Rates



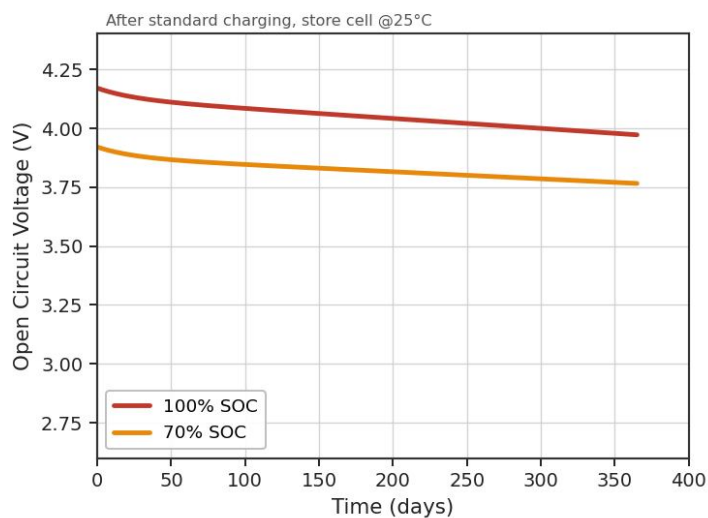
### Discharge Curve at Different Temperatures



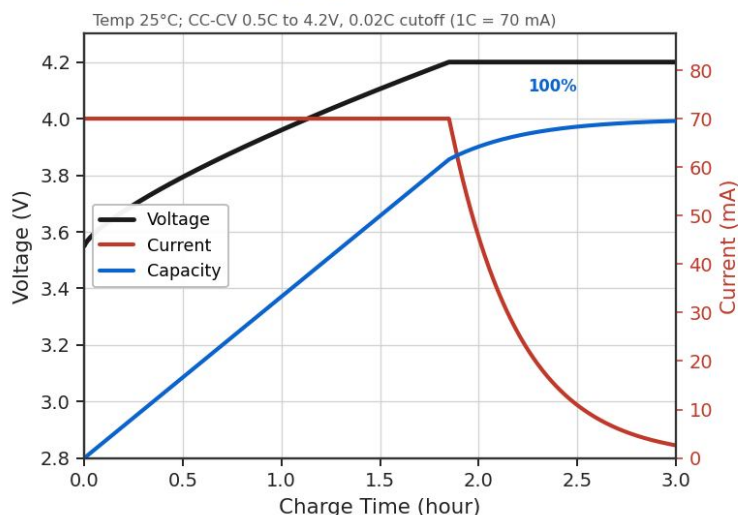
### Cycle Life Curve



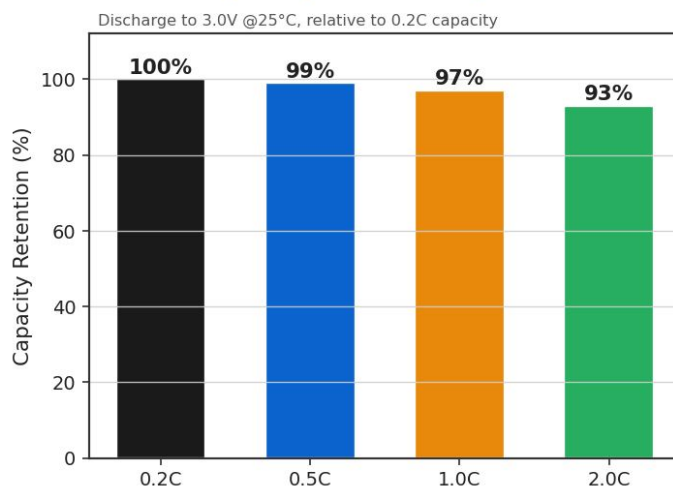
### Self-Discharge at Different SOC



### 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](mailto:sales@thorbattery.com) WhatsApp / Tel +86 180 2916 9106 Web [thorbattery.com](http://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](mailto:sales@thorbattery.com).