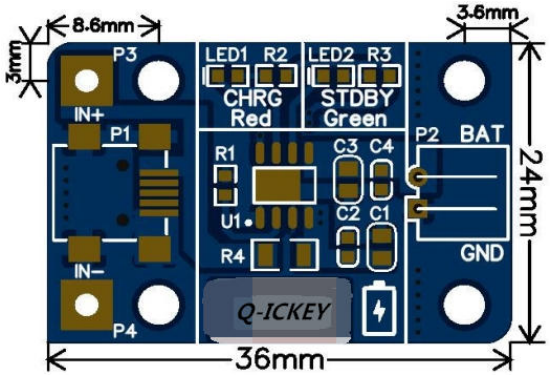
# TP4056 Lithium Battery Charging Module

## FEATURES：

- Up to 1A charging current
- 4.2V preset charging voltage charging status with accuracy up to ±1%
- no battery status indication
- Undervoltage locking, automatic recharging

## Module size diagram:




## Pin Function：

| Symbol | Description |
|---|---|
| P1 | Mini-USB Power input |
| P2 | XH2.54 Charging port |
| P3 | Power supply positive input interface |
| P4 | Power supply negative input interface |

## BOM LIST：

| Number | Components | Name | Value |
|---|---|---|---|
| 1 | U1 | Charge IC | TP4056 JX |
| 2 | R1 | Resistance | 1.2K/1% |
| 3 | R2 | Resistance | 2K/1% |
| 4 | R3 | Resistance | 10K/ 1% |
| 5 | R4 | Resistance | 0.25R/1% |
| 6 | C1,C3 | Resistance | 10uF/10V |
| 7 | C2,C4 | Resistance | 100nF/50V |
| 8 | LED1 | Light diode | Red/LED |
| 9 | LED2 | Light diode | Green/LED |
| 10 | P1 | Mini-USB | MINI-USB JX |
| 11 | P2 | XH2.54 connector | XH 2501R 2P JX |

## Introduction：

The module adopts TP4056 chip as the core, which can realize the complete constant current / constant voltage charging of a single lithium ionon cell.
Charge current I = 1200/R1 = 1A (with sufficient input power).
The module has a charging LED and a standby LED, and the charging LED LED1 (red) is on when charging; when the LED1 is off when fully charged, the standby LED LED2 (green) is on; when there is no battery access, the LED2 is on, and the LED1 flashes at a frequency of 1 to 4S.
The module has undervoltage locking function and automatic recharge function. When the input power supply VCC is less than 3.7V, the TP4056 is in shutdown mode. After charging, when the battery voltage drops below 4.05V (roughly 80% to 90% of the battery capacity), the charging cycle starts again.