# HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY



Faculty of Electronics and Electrical Engineering

## **EMBEDDED SYSTEM**

Group: 15 Class: TT01

#### **BATTERY CHARGER**

Instructor: Bùi Quốc Bảo

### HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY

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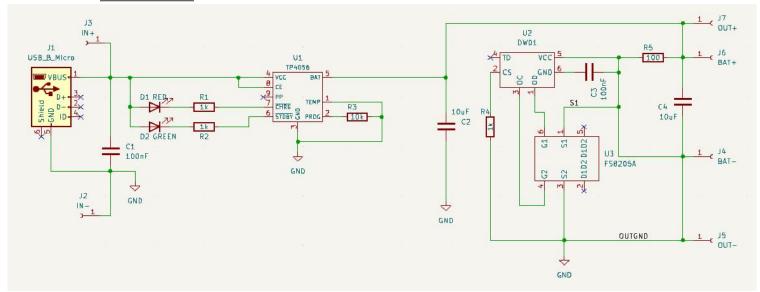
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#### Block Diagram:

#### Hardware Selection:

- TP4056 chip
- Battery case for 18650 Lithium Battery
- Plastic cover for the charger

#### Schematic:



#### Schematic Explanation:

- TP4056 is the main chip responsible for the charging of the battery, powered by 5V input voltage, supplying charging voltage at 4V and 1A current.
- DWO1A is a battery protection IC, responsible for protecting the battery from overcharge
- There is 2 main way of supplying power, either using the 5V USB or using the IN+ and IN- terminals
- RED LED to show if the battery is charging
- GREEN LED to show if the battery is fully charged