RIT SHED Makerspace

Tiger Badge Soldering Kit



V1.2 | September 2025 | Open Source: CERN-OHL-S

Parts List:

|  |  |  |
| --- | --- | --- |
| DPDT Switch  Qty: 1 | USB-C Port  Qty: 1 | PolyFuse  Qty: 1 |
|  |  |  |
| Used to select between USB power and coin cell battery power.  Polarity doesn’t matter, install it any way it’ll fit into the board. | Power your device without draining the battery.  **Must be installed on the BACK of the board!** | Protect your USB port from overcurrent.  Polarity doesn’t matter. |
| 510Ω Resistor  Qty: 2 | 47kΩ Resistor  Qty: 1 | Zener Diode  Qty: 1 |
|  |  |  |
| Identified by color bands;  Green, Brown, Brown, Gold | Slightly smaller than 510Ω resistors, identified by color bands:  Yellow, Violet, Orange, Gold | **Diodes have polarity!** Match the end with a black band (cathode) to the line on the PCB. |

Parts List, Cont.:

|  |  |  |
| --- | --- | --- |
| Phototransistor  Qty: 1 | LED  Qty: 1 | NPN Transistor  Qty: 1 |
|  |  |  |
| Part with a flat, clear top. Detects light intensity.  Has polarity!  **LONG LEG IS POSITIVE!** | Light Emitting Diode. Part with round, clear top. Glows a set color when power is applied.  Has polarity!  **LONG LEG IS POSITIVE!** | Electrical switch, turns on LED when dark.  Has polarity!  **Match curve of plastic body to curve on PCB!** |
| Battery Holder  Qty: 1 | PCB  Qty: 1 | Coin Cell 2032  Qty: 1 |
|  |  |  |
| Surface mount, goes on back of PCB. Powers the circuit when not on USB.  Polarity matters!  **Match “+” in plastic to “+” printed on PCB!** | Printed Circuit Board, all parts are soldered to this. Copper under the white solder mask connect the parts together. | CR2032 battery, install positive side up!  **Ask staff for help installing properly.** |