

# Soldering Guide

## CHARM

Martin Michalski

October 25, 2022

## 1 Battery Charge Controller

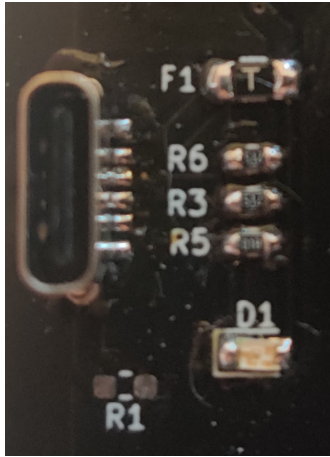
### 1.1 Materials

Begin by retrieving the components in Figure 1.

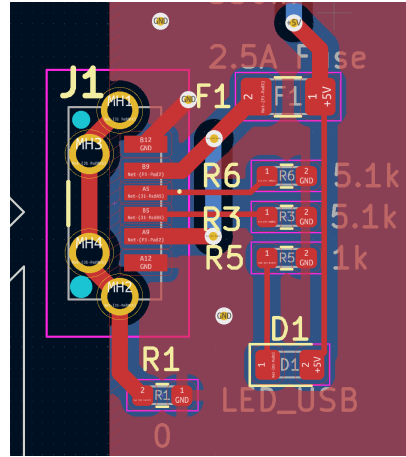
Part No.	Description	Silkscreen No(s).	Quantity
USB4140-GF-0070-C	USB-C Port	J1	1

Figure 1: Required Components for the Battery Charge Controller Subsystem

### 1.2 Layout



(a) Soldered Example



(b) PCB Layout

Figure 2: TODO Subsystem Layout Reference

### Polarity Notes

*Pay special attention to the orientation of the following components*

- D1: USB LED

### 1.3 Soldering

Solder the components.

## Recommended Order

1. X1: X1 Description

## 1.4 Quality Assurance

## 2 Buck Converter

### 2.1 Materials

Begin by retrieving the components in TODO.

Part No.	Description	Silkscreen No(s).	Quantity
USB4140-GF-0070-C	USB-C Port	J1	1

Figure 3: Required Components for USB-C Subsystem

### 2.2 Layout

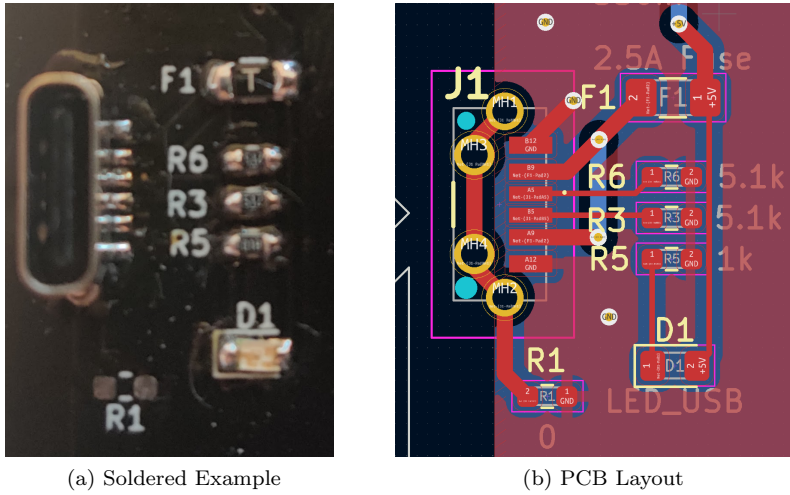


Figure 4: TODO Subsystem Layout Reference

### Polarity Notes

*Pay special attention to the orientation of the following components*

- D1: USB LED

### 2.3 Soldering

Solder the components.

## Recommended Order

1. X1: X1 Description

## 2.4 Quality Assurance

# 3 Omega 2S+

## 3.1 Materials

Begin by retrieving the components in TODO.

Part No.	Description	Silkscreen No(s).	Quantity
USB4140-GF-0070-C	USB-C Port	J1	1

Figure 5: Required Components for USB-C Subsystem

## 3.2 Layout

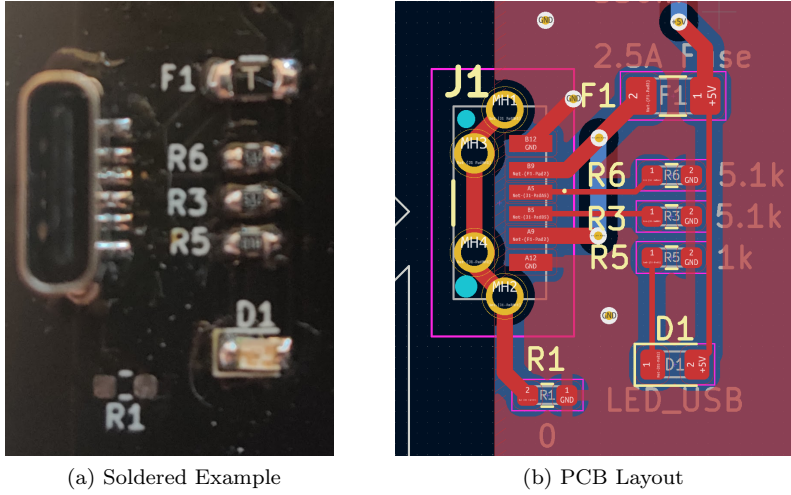


Figure 6: TODO Subsystem Layout Reference

### Polarity Notes

*Pay special attention to the orientation of the following components*

- D1: USB LED

## 3.3 Soldering

Solder the components.

### Recommended Order

1. X1: X1 Description

## 3.4 Quality Assurance

# 4 GPS Module

## 4.1 Materials

Begin by retrieving the components in TODO.

Part No.	Description	Silkscreen No(s).	Quantity
USB4140-GF-0070-C	USB-C Port	J1	1

Figure 7: Required Components for USB-C Subsystem

## 4.2 Layout

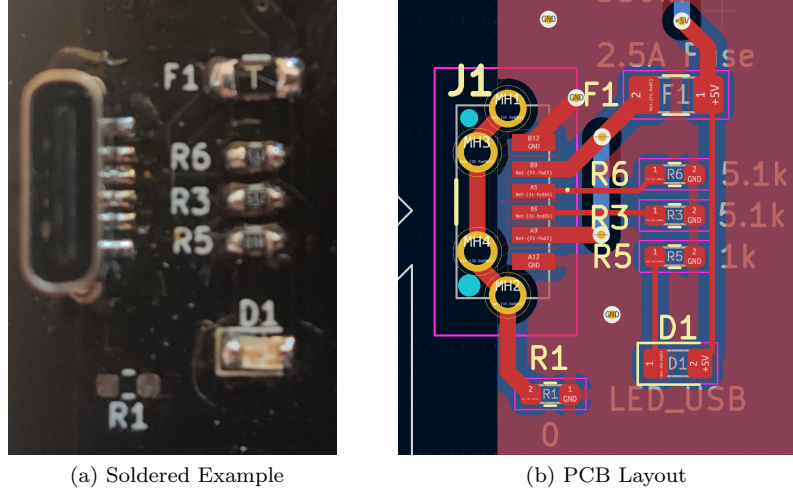


Figure 8: TODO Subsystem Layout Reference

### Polarity Notes

*Pay special attention to the orientation of the following components*

- D1: USB LED

## 4.3 Soldering

Solder the components.

### Recommended Order

1. X1: X1 Description

## 4.4 Quality Assurance

# 5 Battery Monitor

### 5.1 Materials

Begin by retrieving the components in TODO.

Part No.	Description	Silkscreen No(s).	Quantity
USB4140-GF-0070-C	USB-C Port	J1	1

Figure 9: Required Components for USB-C Subsystem

## 5.2 Layout

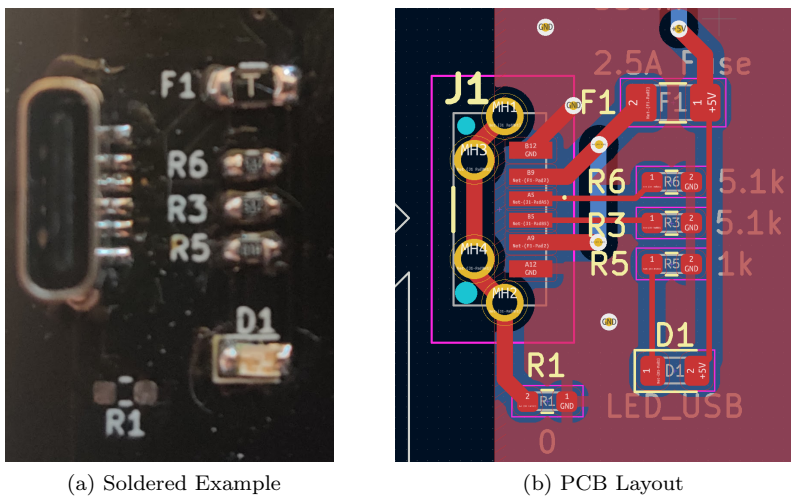


Figure 10: TODO Subsystem Layout Reference

## Polarity Notes

*Pay special attention to the orientation of the following components*

- D1: USB LED

## 5.3 Soldering

Solder the components.

## Recommended Order

1. X1: X1 Description

## 5.4 Quality Assurance