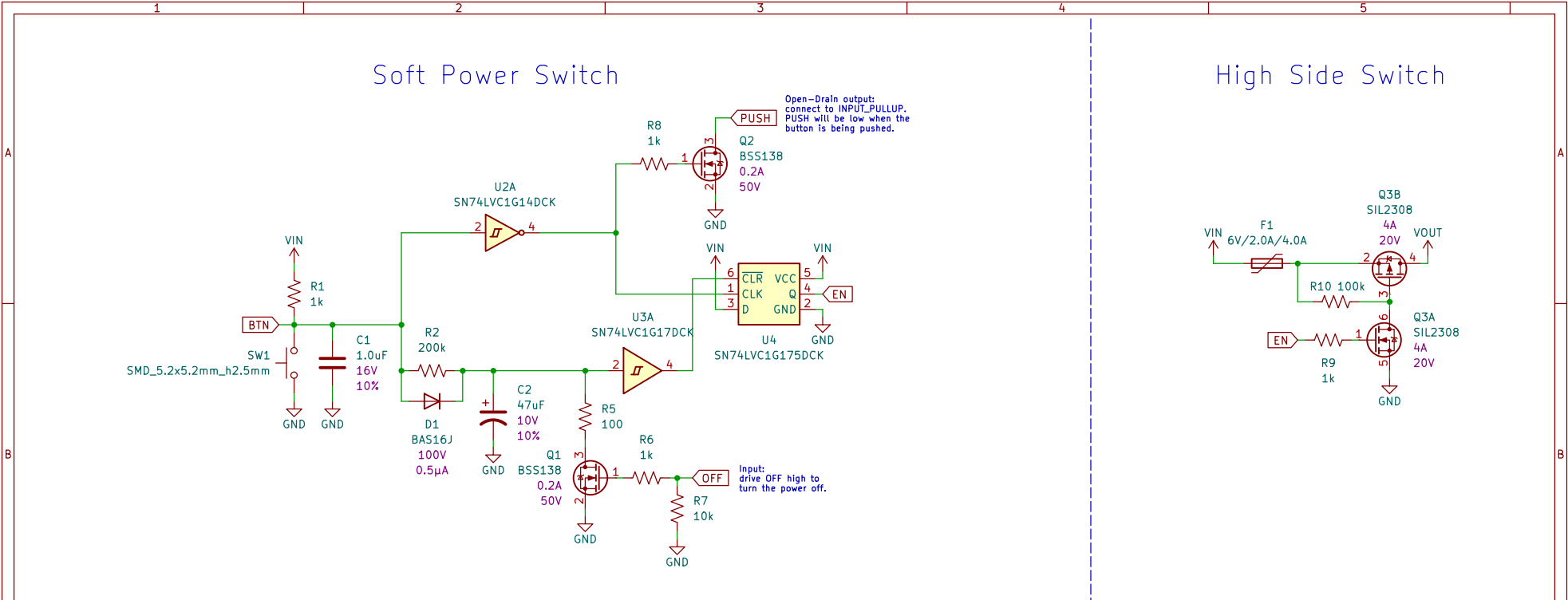


[illegible]

This image contains two circuit diagrams: a "Soft Power Switch" and a "High Side Switch".

Soft Power Switch

Components:

- Buttons: **BTN**, **PUSH**
- Resistors: **R1** (1k), **R2** (200k), **R5** (100), **R6** (1k), **R7** (10k), **R8** (1k)
- Capacitors: **C1** (1.0uF, 16V, 10%), **C2** (47uF, 10V, 10%)
- Diodes: **D1** (BAS16J, 100V, 0.5uA)
- Transistors: **Q1** (BSS138, 0.2A, 50V), **Q2** (BSS138, 0.2A, 50V)
- ICs: **U2A** (SN74LVC1G14DCK), **U3A** (SN74LVC1G17DCK), **U4** (U4, SN74LVC1G175DCK)

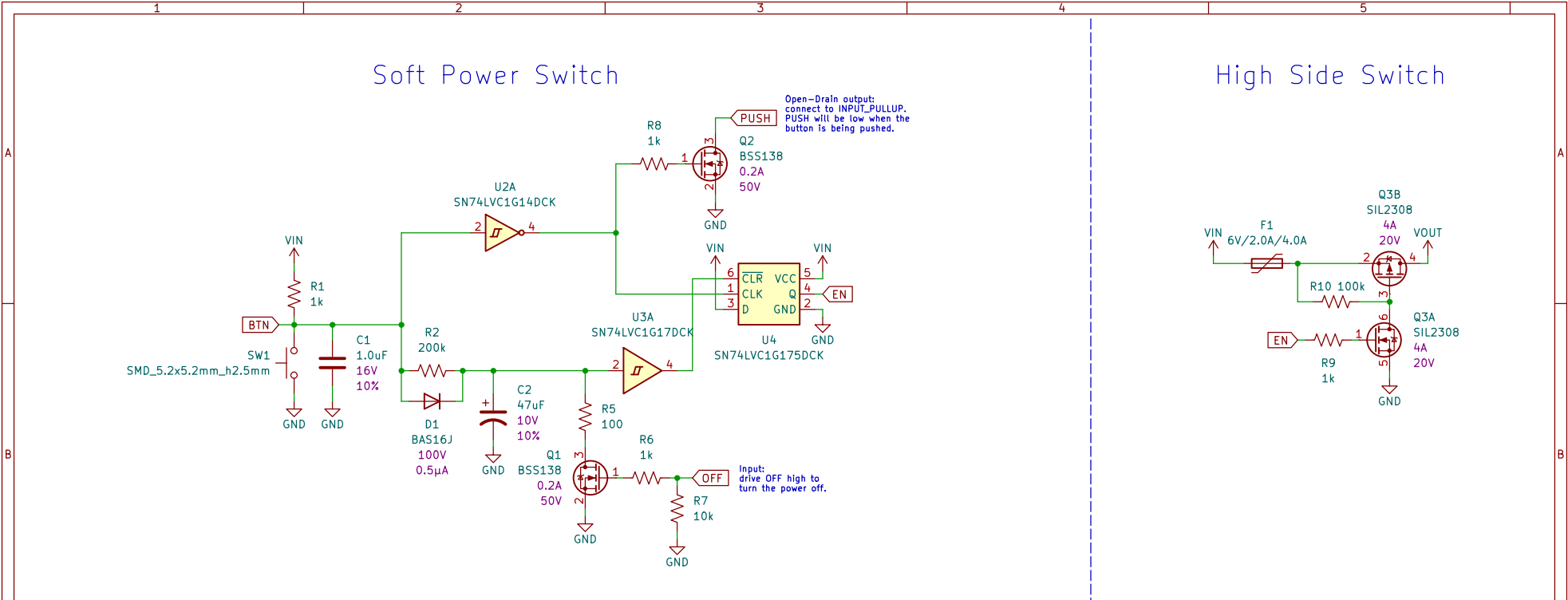
Notes:

- Open-Drain output; connect to INPUT_PULLUP. PUSH will be low when the button is being pushed.
- Input: drive OFF high to turn the power off.

High Side Switch

Components:

- Buttons: **EN**
- Fuses: **F1** (6V/2.0A/4.0A)
- Resistors: **R9** (1k), **R10** (100k)
- Diodes: **D1** (BAS16J, 100V, 0.5uA)
- Transistors: **Q3A** (SIL2308, 4A, 20V), **Q3B** (SIL2308, 4A, 20V)



LEDs

VIN VOUT

JP1 JP2

R3 10k R4 10k

D2 Red D3 Red

GND GND

Open jumpers to disable LEDs.

Breakouts

VIN VOUT

OFF PUSH BTN

J3 Conn_01x06

GND

Connect an external momentary push switch between BTN and GND if desired.

USB-C

J1 USB_C_Receptacle J2 USB_C_Receptacle

VBUS+ VBUS- VBUS+ VBUS-

D+ A6 A7 D+ A6 A7 D-

CC1 A5 B5 CC1 A5 B5 CC2

R11 5.1k R12 5.1k

SHIELD SHIELD

S S

GND GND GND GND GND GND GND GND

Max input voltage: 5.5V Max load current: 2.0A

Power

VIN VIN

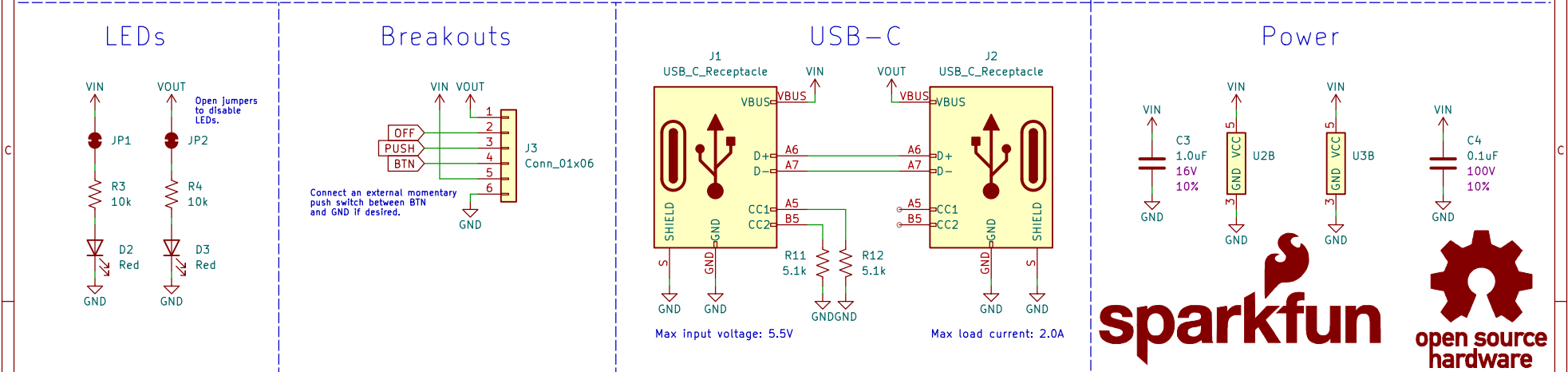
C3 1.0uF 16V 10% C4 0.1uF 100V 10%

GND GND

U2B U3B

GND GND

sparkfun



LEDs

VIN VOUT

JP1 JP2

R3 10k R4 10k

D2 Red D3 Red

GND GND

Open jumpers to disable LEDs.

Breakouts

VIN VOUT

OFF PUSH BTN

J3 Conn_01x06

GND

Connect an external momentary push switch between BTN and GND if desired.

USB-C

J1 USB_C_Receptacle J2 USB_C_Receptacle

VBUS+ VBUS- VBUS+ VBUS-

D+ A6 A7 D+ A6 A7 D-

CC1 A5 B5 CC1 A5 B5 CC2

R11 5.1k R12 5.1k

SHIELD SHIELD

S S

GND GND GND GND GND GND GND GND

Max input voltage: 5.5V Max load current: 2.0A

Power

VIN VOUT

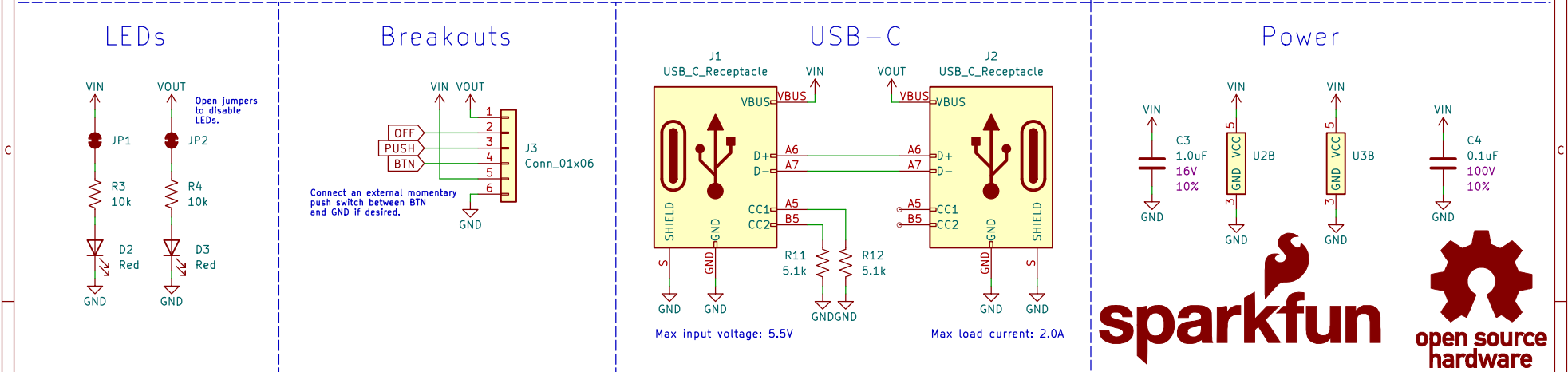
C3 1.0uF 16V 10% C4 0.1uF 100V 10%

GND GND

U2B U3B

GND GND

sparkfun



LEDs

VIN VOUT

JP1 JP2

R3 10k R4 10k

D2 Red D3 Red

GND GND

Open jumpers to disable LEDs.

Breakouts

VIN VOUT

OFF PUSH BTN

J3 Conn_01x06

GND

Connect an external momentary push switch between BTN and GND if desired.

USB-C

J1 USB_C_Receptacle J2 USB_C_Receptacle

VBUS+ VBUS- VBUS+ VBUS-

D+ A6 A7 D+ A6 A7 D-

CC1 A5 B5 CC1 A5 B5 CC2

R11 5.1k R12 5.1k

SHIELD SHIELD

S S

GND GND GND GND GND GND GND GND

Max input voltage: 5.5V Max load current: 2.0A

Power

VIN VOUT

C3 1.0uF 16V 10% C4 0.1uF 100V 10%

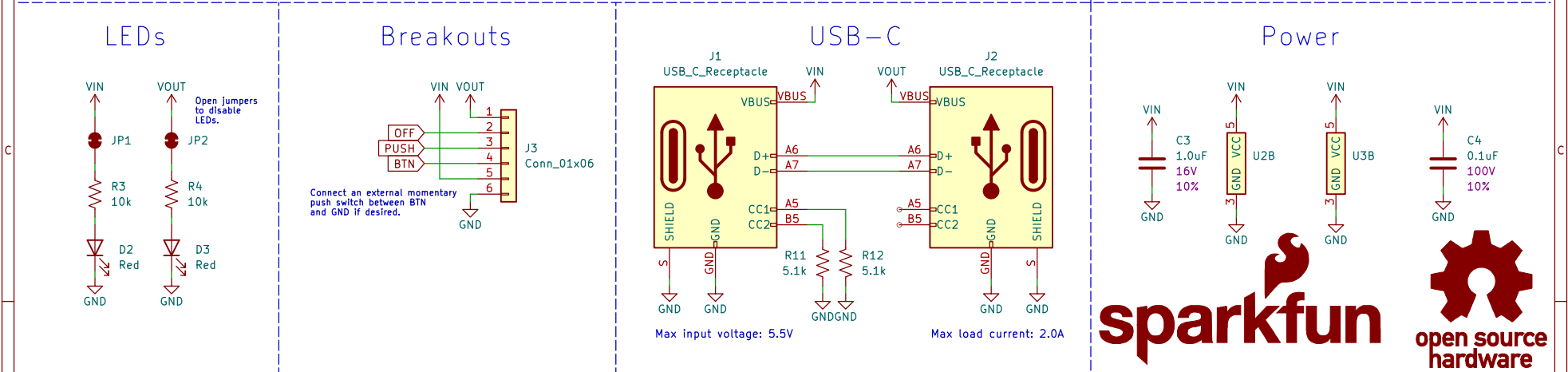
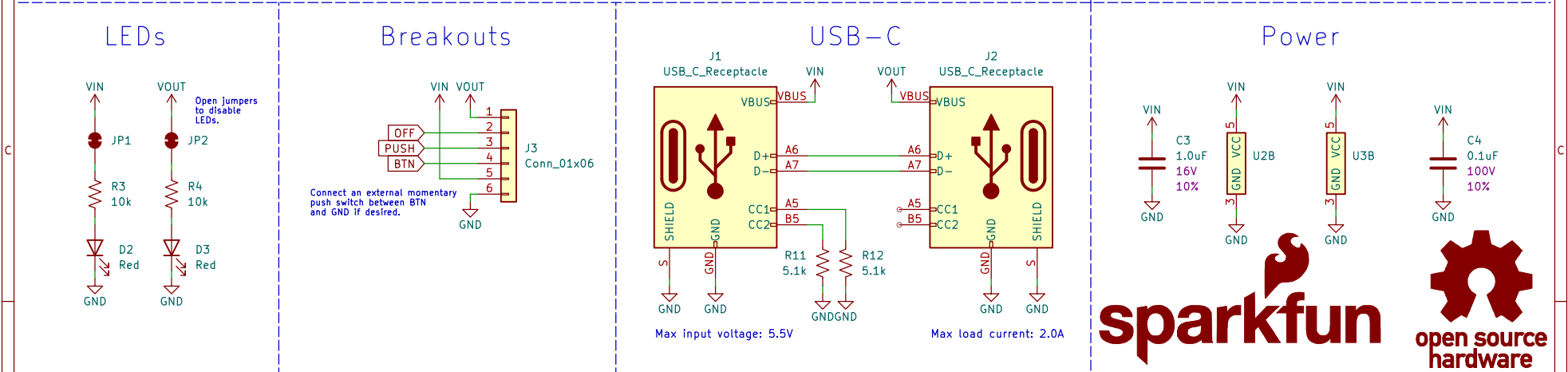
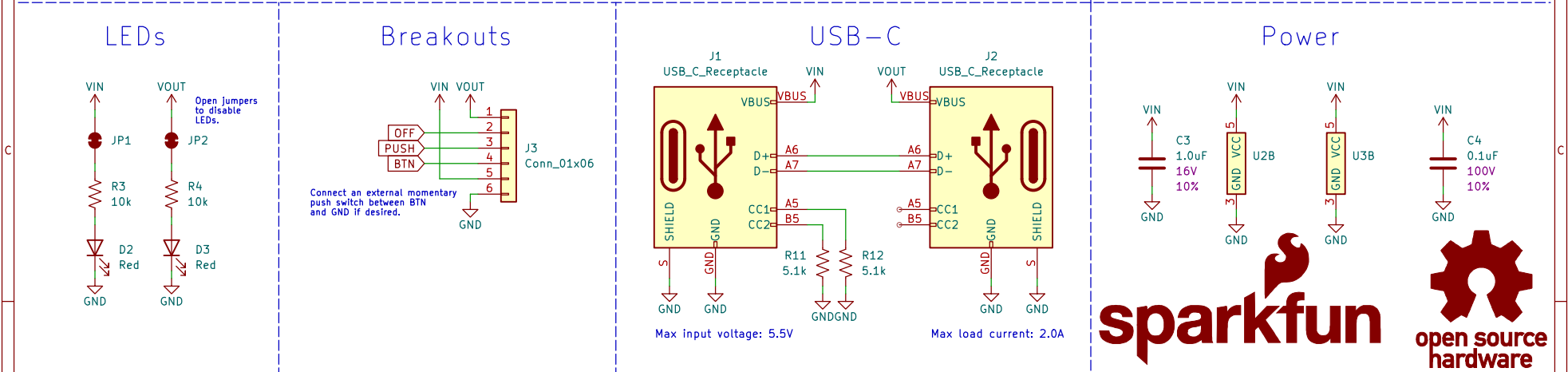
GND GND

U2B U3B

GND GND

sparkfun

open source hardware

[illegible]

Based on: https://www.ti.com/lit/pdf/scea048	<div> </div> <p>Designed by: Paul Clark</p> <p>Sheet: / File: Soft_Power_Switch_USB-C.kicad_sch</p> <p>Title: SparkFun Soft Power Switch Mk2 USB-C</p> <table border="1"> <tr> <td>Size: USLetter</td><td>Date: 2024-09-30</td><td>Rev: v10</td></tr> <tr> <td>KiCad E.D.A. 8.0.5</td><td></td><td>Id: 1/1</td></tr> </table>	Size: USLetter	Date: 2024-09-30	Rev: v10	KiCad E.D.A. 8.0.5		Id: 1/1
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