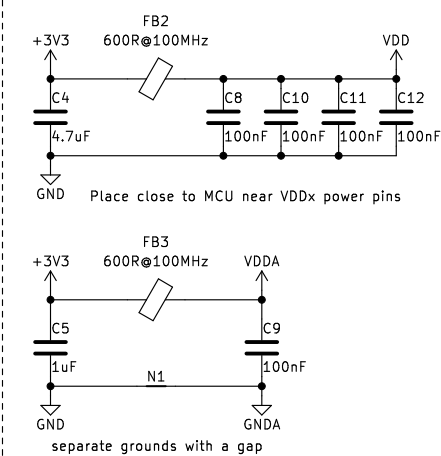
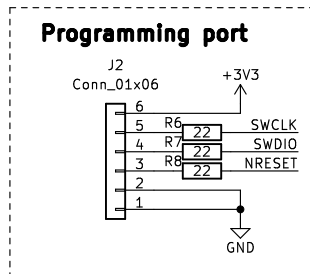
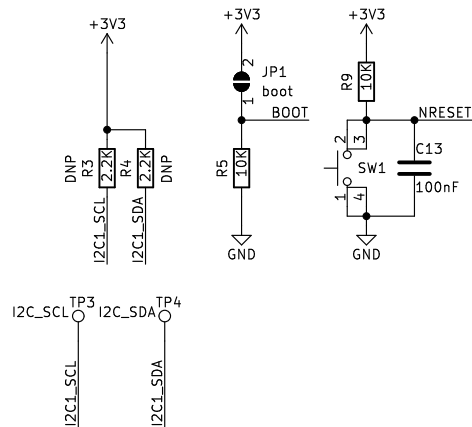


Power Filter



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Title: Reflow Controller		
Size: A4	Date:	Rev:
KiCad E.D.A. kicad (6.0.9)		Id: 2/6



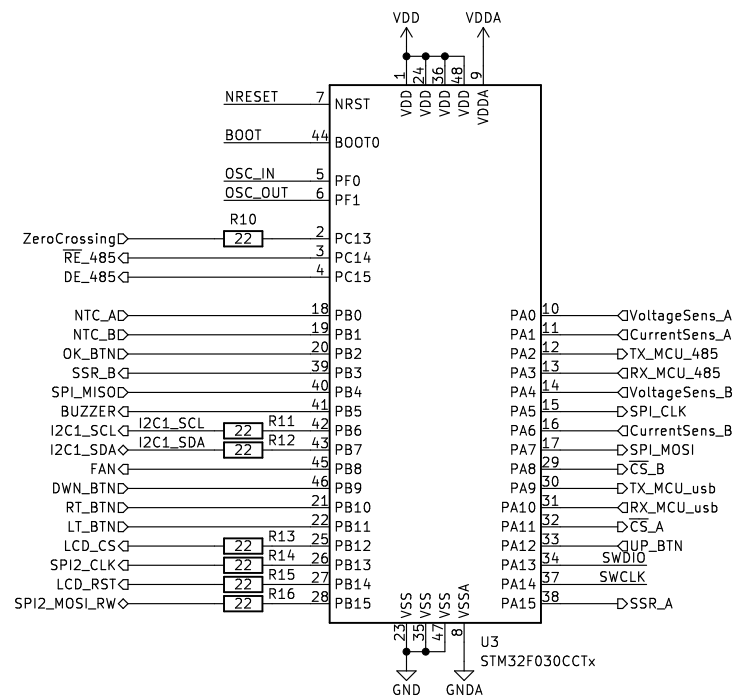
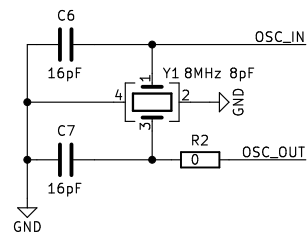
Non-standard connction

Oscillator

Load capacitance calc:

$$C = (C_x * C_y) / (C_x + C_y)$$

8pF from datasheet



Sheet: /MCU_User/
File: MCU_User.kicad_sch

Title: Reflow Controller

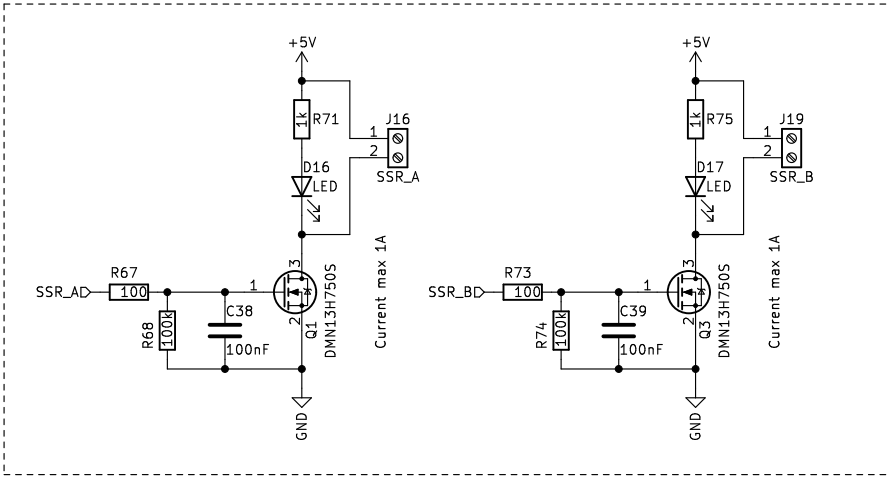
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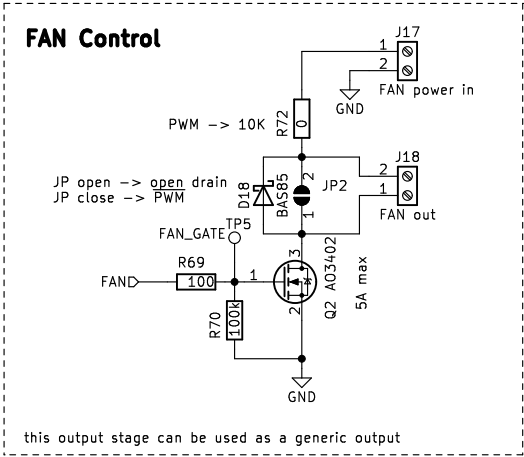
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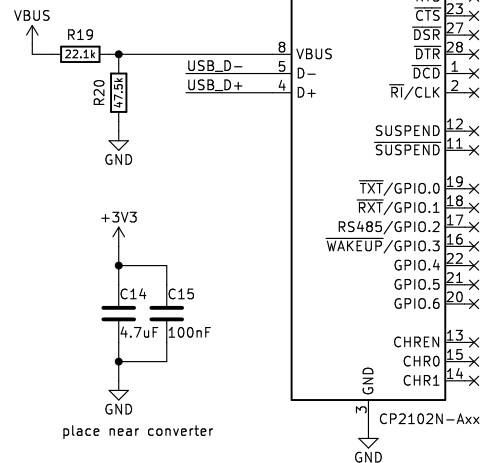
SSR Enable



FAN Control



The schematic diagram illustrates the electrical connections for the USB_C_Receptacle_USB2.0 interface. The USB Type-C receptacle (P1) is shown with its internal pins and external connections. The VBUS pin (A4) is connected to the VBUS line. The CC1 (A5) and CC2 (B5) pins are connected to GND through resistors R17 and R18, respectively. The D- pin (A7) is connected to the USB_D- line. The D+ pin (A6) is connected to the USB_D+ line. The SBU1 (A8) and SBU2 (B8) pins are connected to GND through resistors R19 and R20, respectively. The shield connection (S1) is connected to GND. The ground connection (A1) is connected to GND. The USB2.0 interface includes VBUS, GND, USB_D-, USB_D+, and three D+ pins connected to VBUS through 5V diodes (D4, D5, D6).



The schematic diagram illustrates the internal components and connections of the MAX485 module. At the top, the MCU interface shows four pins: RX_MCU_485, RE_485, DE_485, and TX_MCU_485. These are connected to the MAX485 chip (U5, MAX485E) through resistors R24, R26, R27, R28, and R29. The chip's VCC (pin 8) and GND (pin 5) are connected to the +3V3 and GND rails, respectively. The chip's control pins are connected to TP8 (pin 1, RO), TP9 (pin 4, DI), and TP10 (pin 7, B). The chip's data pins are connected to TP11 (pin 6, A) and TP10 (pin 7, B). The RS-485 bus is connected to the chip's data pins (pins 2 and 3) through resistors R26, R27, R28, and R29. The bus is terminated at both ends with 120Ω resistors (F3 and F4) connected to the +3V3 and GND rails. The bus is also connected to the DB9_Female_MountingHoles (J5) through a 100nF capacitor (C16) and a diode (D7, SM712_S0T23).

The diagram shows two pin headers, J3 and J4, with their respective pin connections. Header J3 is labeled 'USER BOARD DISPLAY' and has pins 1 through 10. Pins 1 and 2 are connected to +3V3. Pins 3, 4, 5, 6, 7, 8, 9, and 10 are connected to various signals: SPI2_CLKD, LCD_RSTD, I2C1_SCLD, SPI2_MOSI_RW, LCD_CS, and I2C1_SDA. Header J4 is labeled 'USER BOARD BUTTON' and has pins 1 through 10. Pins 1 and 2 are connected to +3V3. Pins 3, 4, 5, 6, 7, 8, 9, and 10 are connected to various signals: UP_BTN, DWN_BTN, OK_BTN, LT_BTN, RT_BTN, and BUZZER. All connections are shown with red lines.

J3: USER BOARD DISPLAY

Pin	Signal
1	+3V3
2	+3V3
3	SPI2_CLKD
4	SPI2_MOSI_RW
5	LCD_RSTD
6	LCD_CS
7	I2C1_SCLD
8	I2C1_SDA
9	GND
10	GND

J4: USER BOARD BUTTON

Pin	Signal
1	+3V3
2	+3V3
3	UP_BTN
4	LT_BTN
5	DWN_BTN
6	RT_BTN
7	OK_BTN
8	BUZZER
9	GND
10	GND

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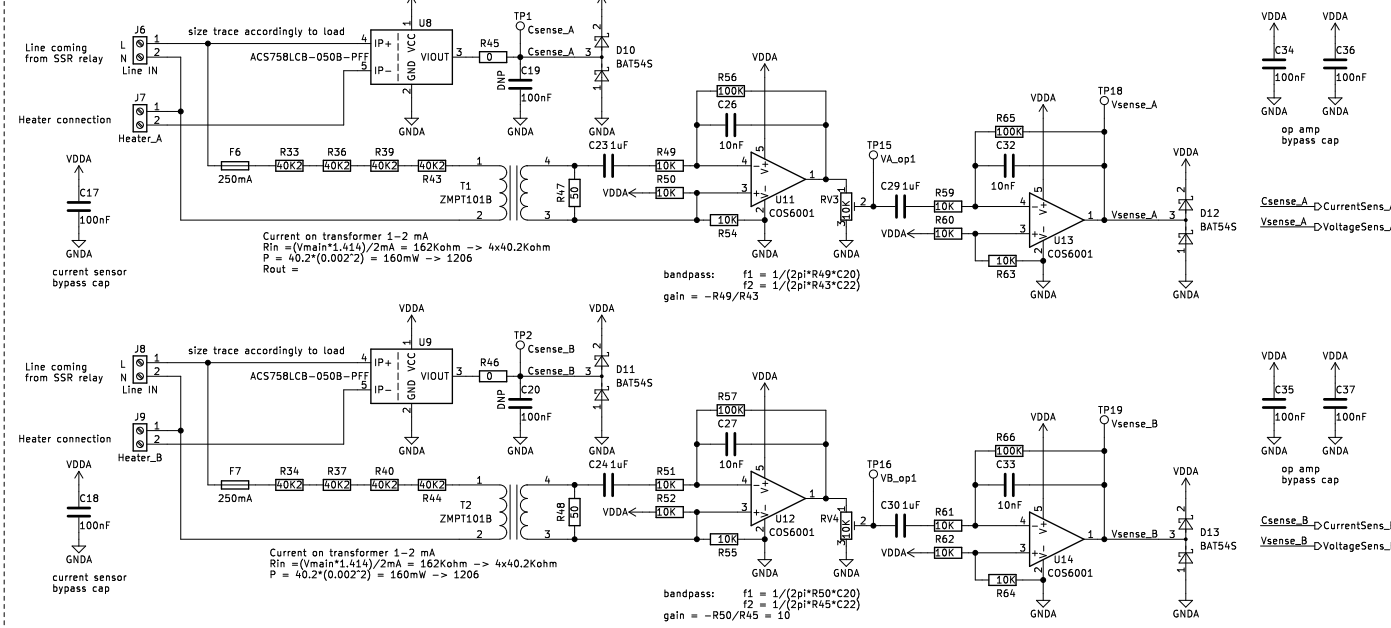
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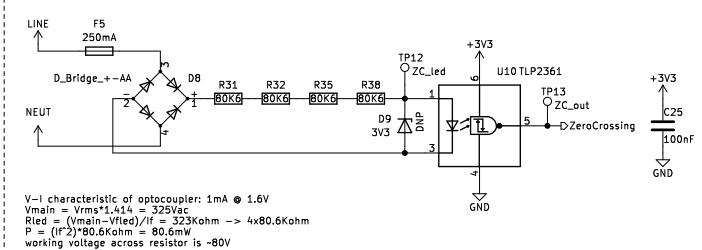
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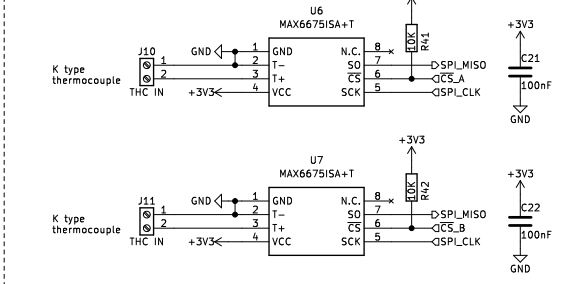
Voltage & Current Sensing



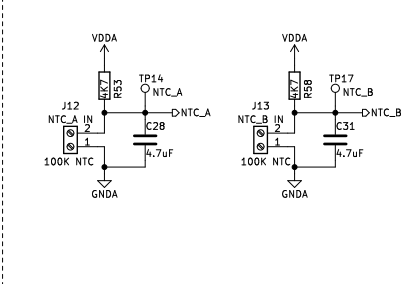
Zero Crossing Detector



Thermocouple Sensing



NTC Sensing



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