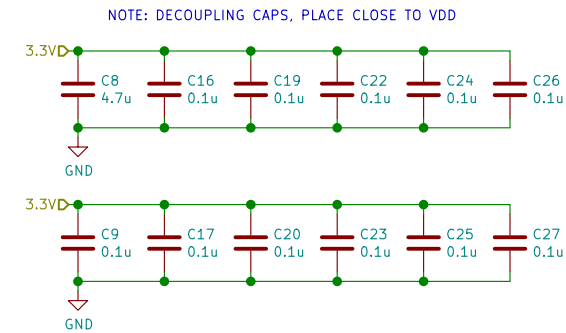


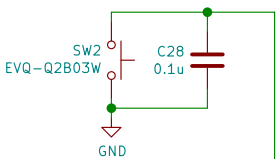
STM32H7 MICROCONTROLLER

TP61 ○ IO_1_OUT TP69 ○ IO_1_TRIS TP77 ○ IO_1_PU TP104 ○ IO_1_PD
TP62 ○ IO_2_OUT TP70 ○ IO_2_TRIS TP78 ○ IO_2_PU TP105 ○ IO_2_PD
TP63 ○ IO_3_OUT TP71 ○ IO_3_TRIS TP79 ○ IO_3_PU TP106 ○ IO_3_PD
TP64 ○ IO_4_OUT TP72 ○ IO_4_TRIS TP80 ○ IO_4_PU TP107 ○ IO_4_PD

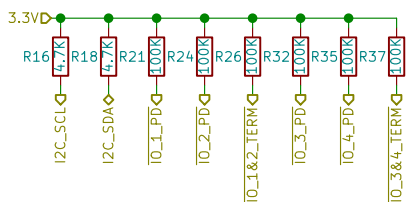
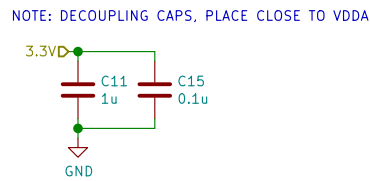
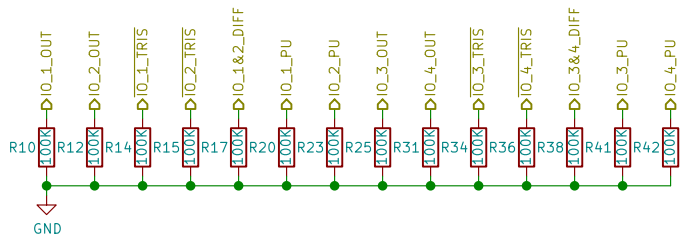
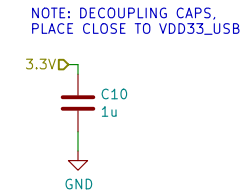
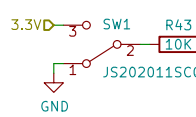
USB 2.0 HIGH SPEED PHY



RESET BUTTON

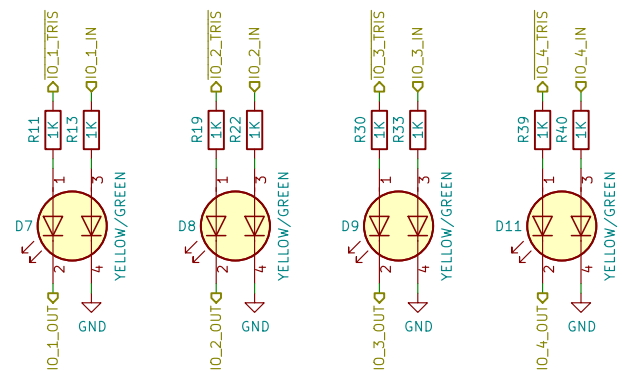
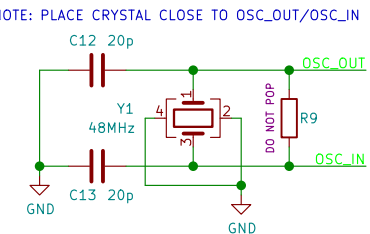


BOOT SWITCH

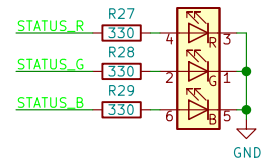
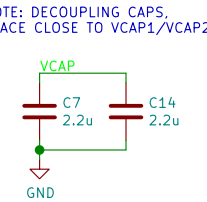


OSC_OUT 23
OSC_IN 24

TP20 ○ IO_5_PU 56 PG0
TP21 ○ IO_5_PD 57 PG1
IO_1&2_DIFF 87 PG2
IO_1&2_TERM 88 PG3
IO_2_PD 89 PG4
IO_2_PU 90 PG5
IO_3_PU 91 PG6
IO_3_PD 92 PG7
IO_3_TERM 93 PG8
TP28 ○ 124 PG9
TP29 ○ 125 PG10
TP30 ○ 126 PG11
TP31 ○ 127 PG12
TP32 ○ 128 PG13
TP33 ○ 129 PG14
TP34 ○ 132 PG15



STATUS_B 10 PF0
STATUS_R 11 PF1
STATUS_G 12 PF2
TP36 ○ 13 PF3
TP37 ○ 14 PF4
TP38 ○ 15 PF5
TP39 ○ 18 PF6
TP40 ○ 19 PF7
TP41 ○ 20 PF8
TP42 ○ 21 PF9
TP43 ○ 22 PF10
TP44 ○ 49 PF11
TP45 ○ 50 PF12
TP46 ○ 53 PF13
TP47 ○ 54 PF14
TP48 ○ 55 PF15

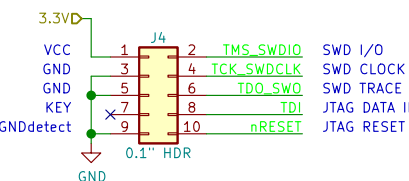


MCU ALTERNATE PIN FUNCTIONS:

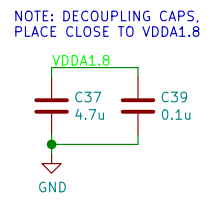
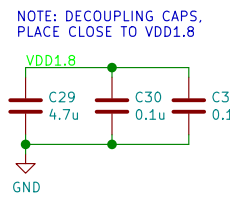
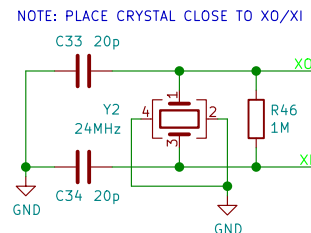
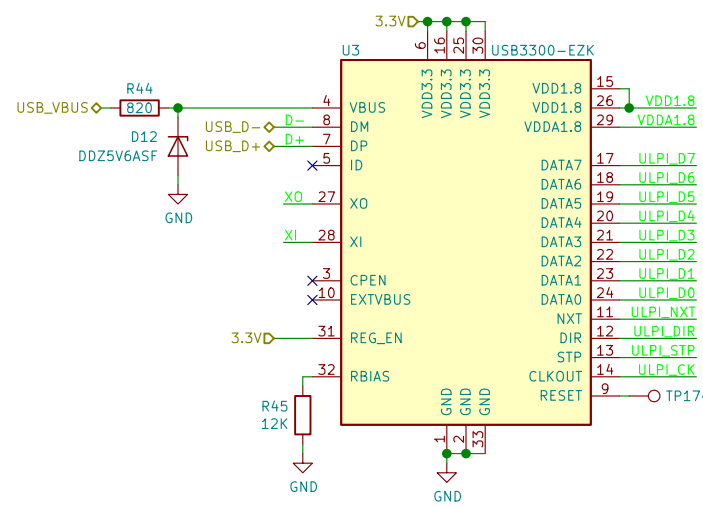
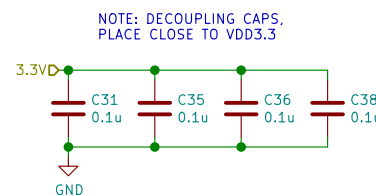
- PA0: TIM2_CH1
- PA1: TIM5_CH2
- PA2: TIM15_CH1
- PA4: DAC_OUT1
- PA7: TIM14_CH1
- PA8: I2C1_SCL
- PA9: USART1_TX
- PA10: USART1_RX
- PB7: TIM4_CH2
- PB8: TIM16_CH1
- PB9: TIM17_CH1
- PC6: TIM3_CH1
- PC9: I2C1_SDA

TP49 ○ 141 PE0
TP50 ○ 142 PE1
TP51 ○ 1 PE2
TP52 ○ 2 PE3
TP53 ○ 3 PE4
TP54 ○ 4 PE5
TP55 ○ 5 PE6
TP56 ○ 58 PE7
IO_1_IN 59 PE8
IO_2_IN 60 PE9
IO_3_IN 63 PE10
IO_4_IN 64 PE11
TP57 ○ IO_5_IN 65 PE12
TP58 ○ IO_6_IN 66 PE13
TP59 ○ IO_7_IN 67 PE14
TP60 ○ IO_8_IN 68 PE15

JTAG/SERIAL WIRE DEBUG



TP65 ○ IO_1_IN TP73 ○ IO_1&2_DIFF TP101 ○ I2C_SCL
TP66 ○ IO_2_IN TP74 ○ IO_1&2_TERM TP102 ○ I2C_SDA
TP67 ○ IO_3_IN TP75 ○ IO_3&4_DIFF TP103 ○ Vout_SETPOINT
TP68 ○ IO_4_IN TP76 ○ IO_3&4_TERM

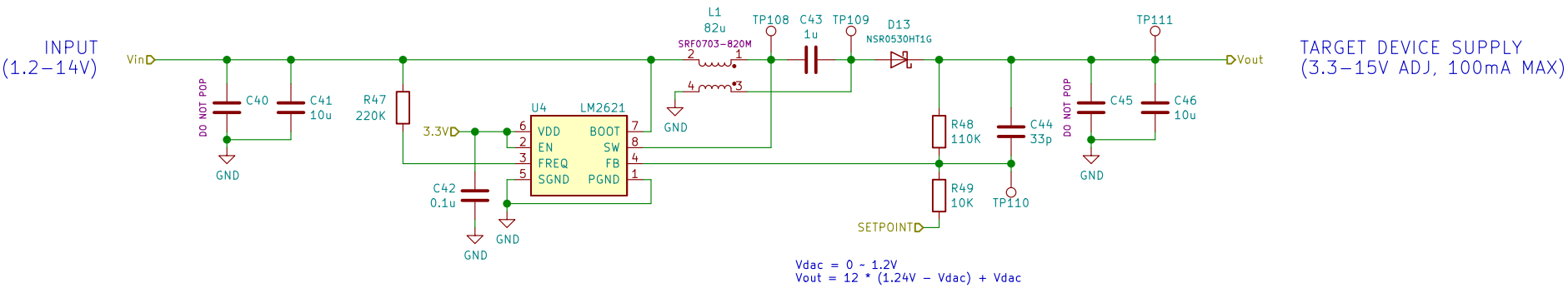


DT18 - I/O MASTER
THE UNIVERSITY OF AKRON
Sheet: /Microcontroller/
File: Microcontroller.sch

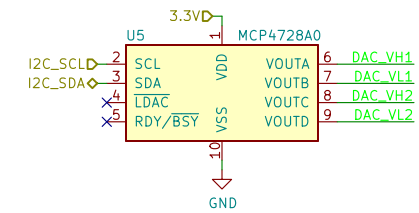
Title: MICROCONTROLLER SUBSYSTEM

Size: B Date: 2020-02-13 Rev: A
KiCad E.D.A. kicad 5.1.5 Id: 2/10

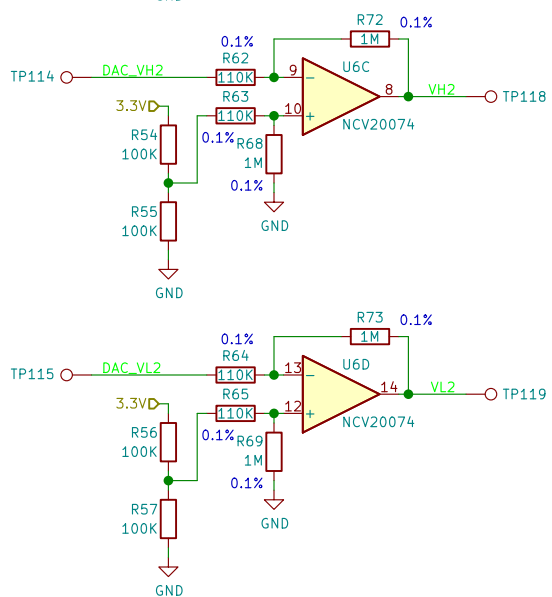
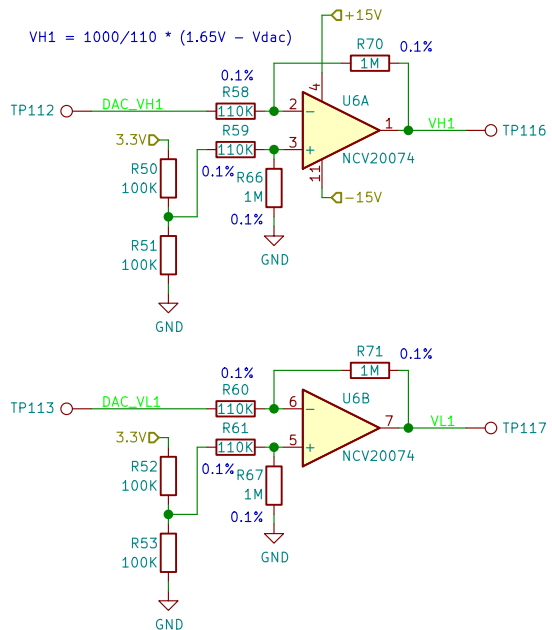
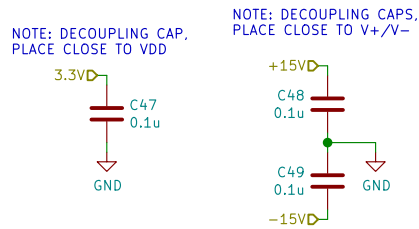
3.3–15V ADJUSTABLE REGULATOR



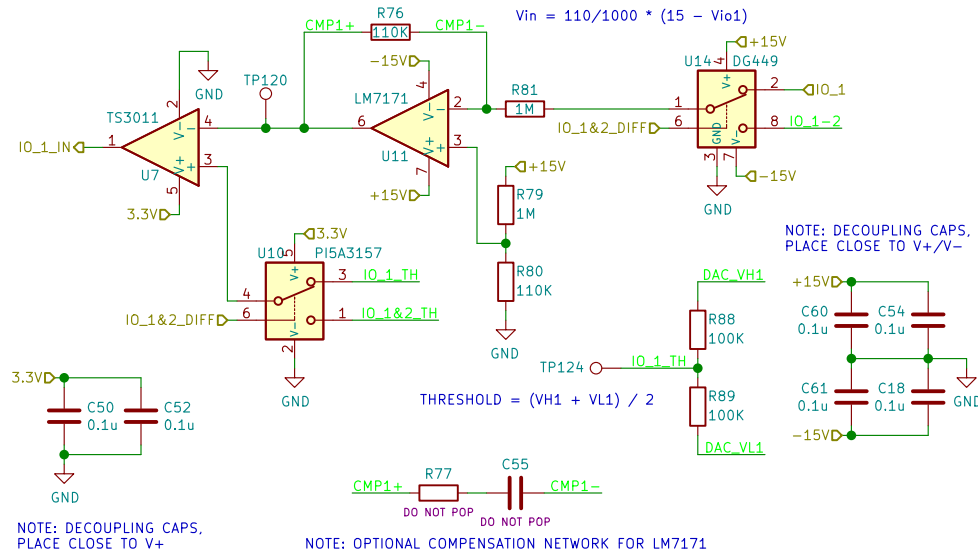
LOGIC LEVEL GENERATOR



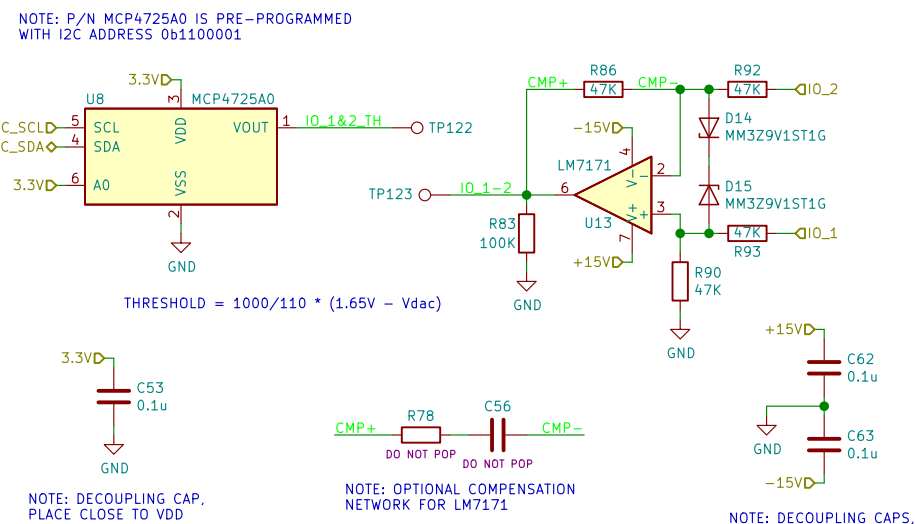
NOTE: P/N MCP4728A0 IS PRE-PROGRAMMED WITH I2C ADDRESS 0b1100000



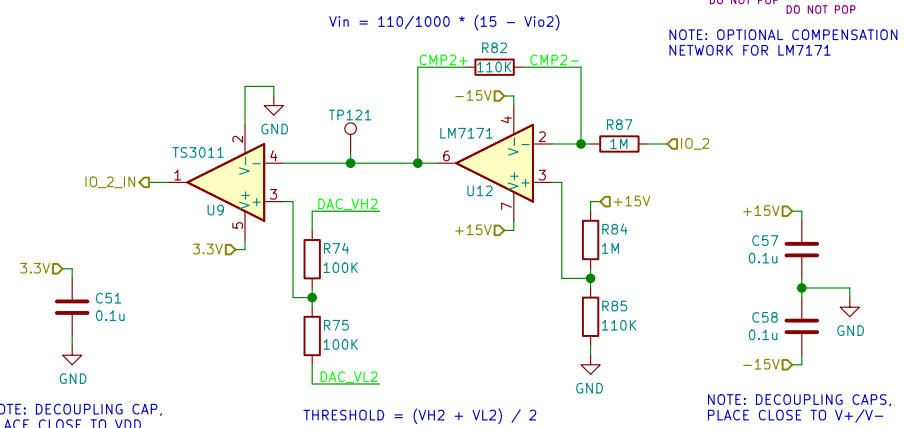
SINGLE-ENDED RECEIVER (I/O PIN 1)



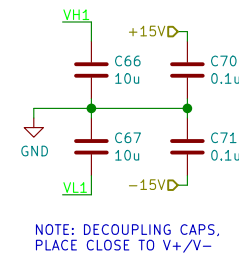
DIFFERENTIAL RECEIVER (I/O PIN 1 - I/O PIN 2)



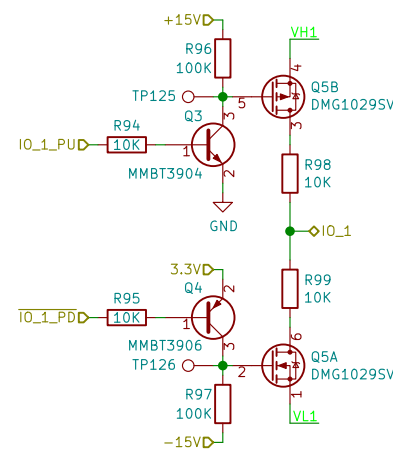
SINGLE-ENDED RECEIVER (I/O PIN 2)



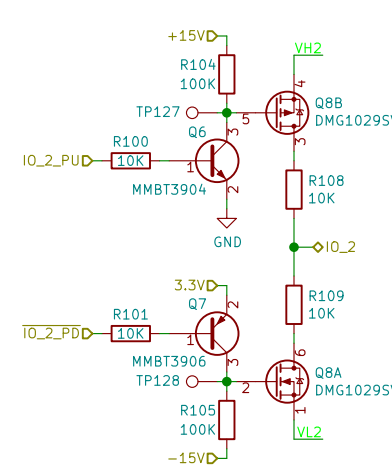
OUTPUT DRIVER (I/O PIN 1)



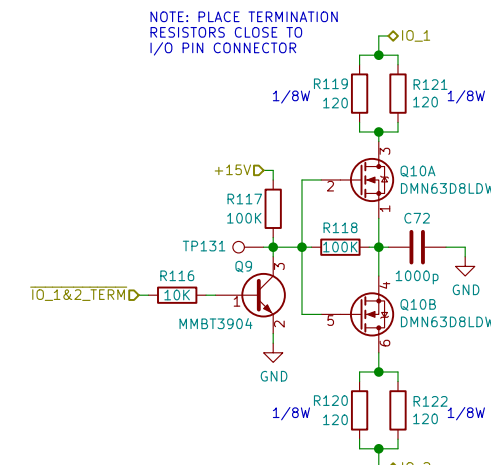
CONFIGURABLE RESISTORS



I/O PIN 1
10KΩ PULL-UP/DOWN

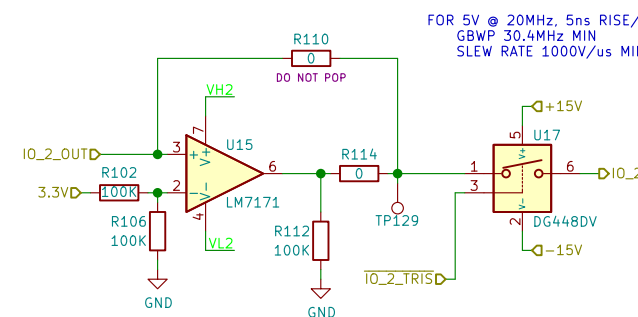
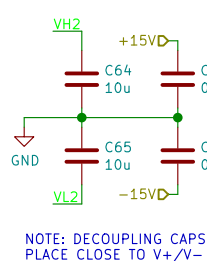


I/O PIN 2
10KΩ PULL-UP/DOWN



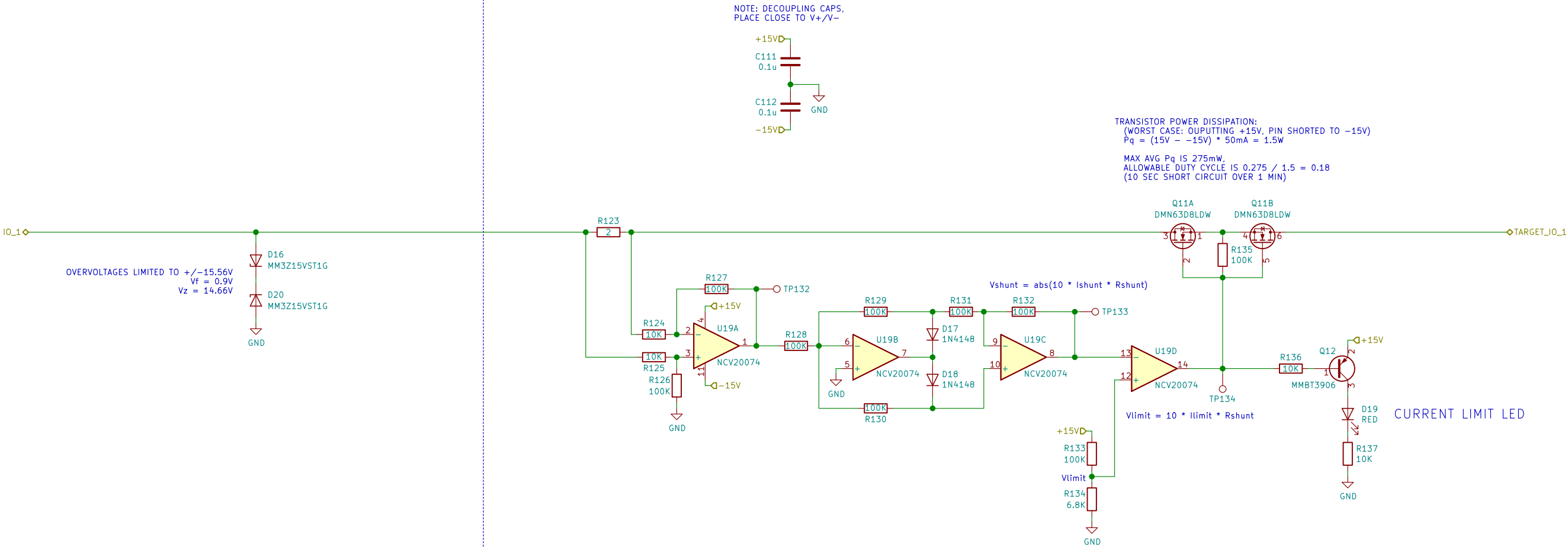
120Ω TERMINATION
BETWEEN I/O PINS 1 & 2

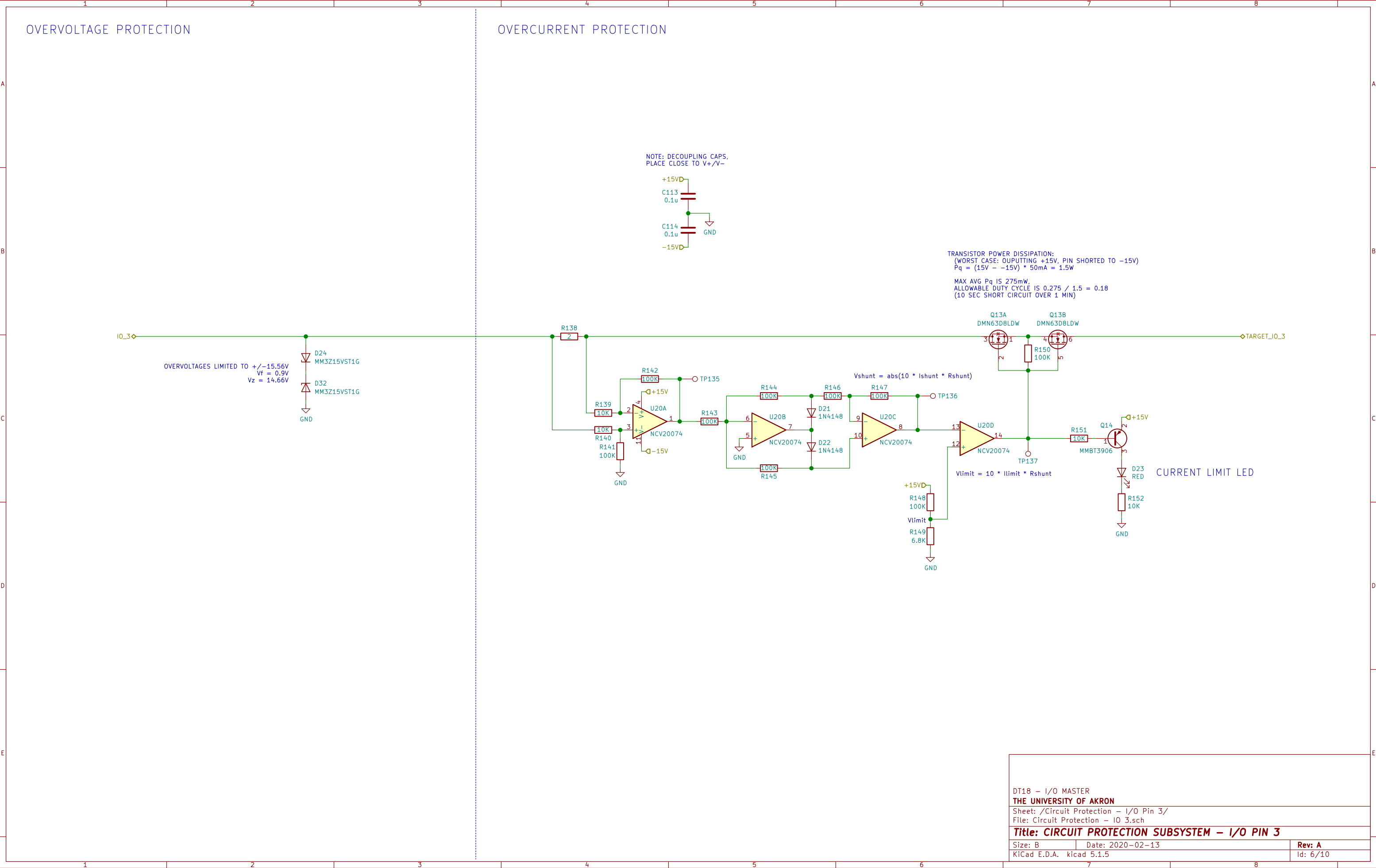
OUTPUT DRIVER (I/O PIN 2)

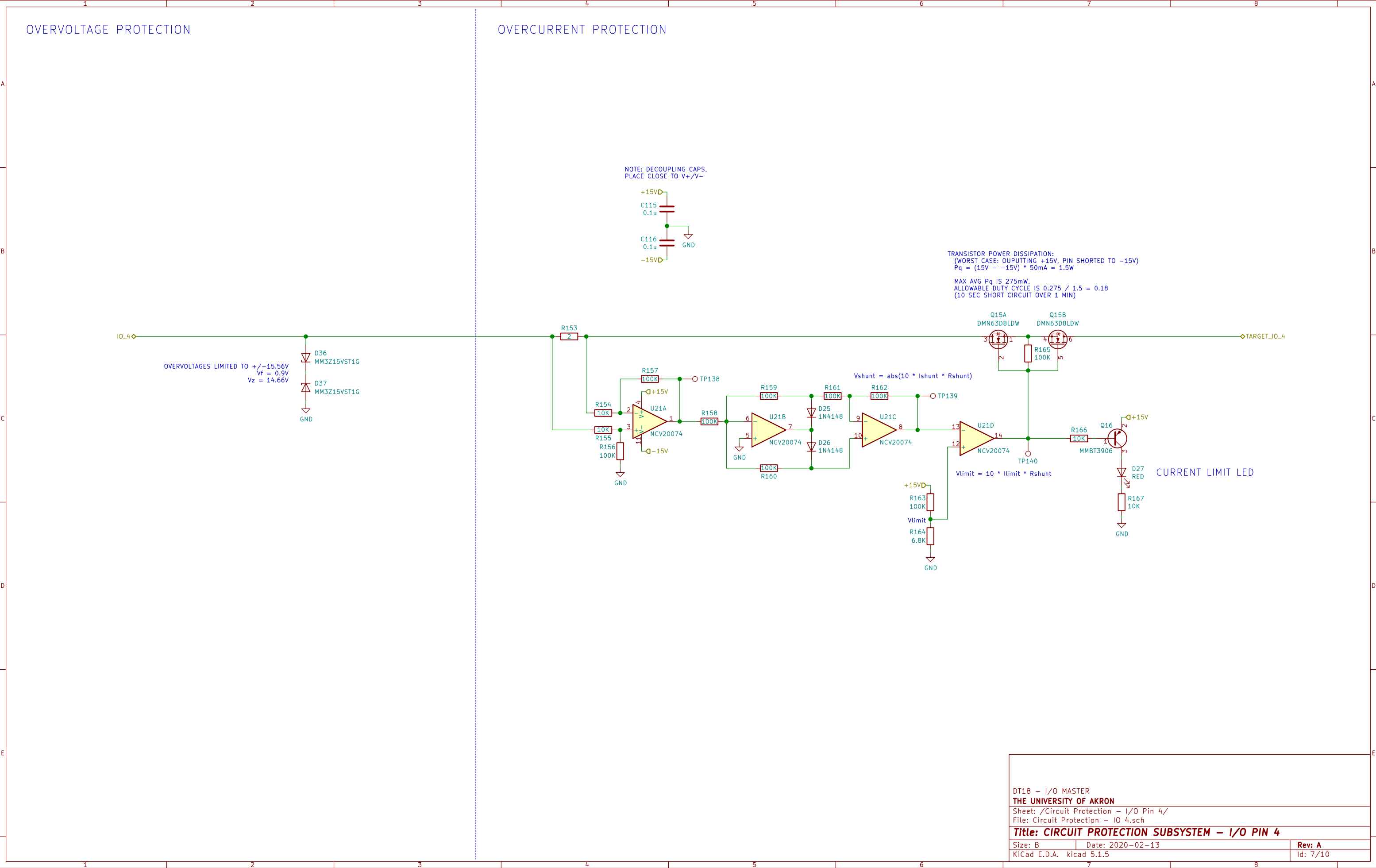


OVERVOLTAGE PROTECTION

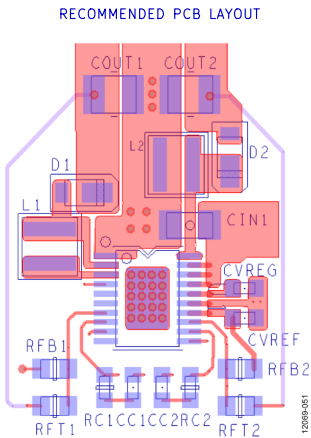
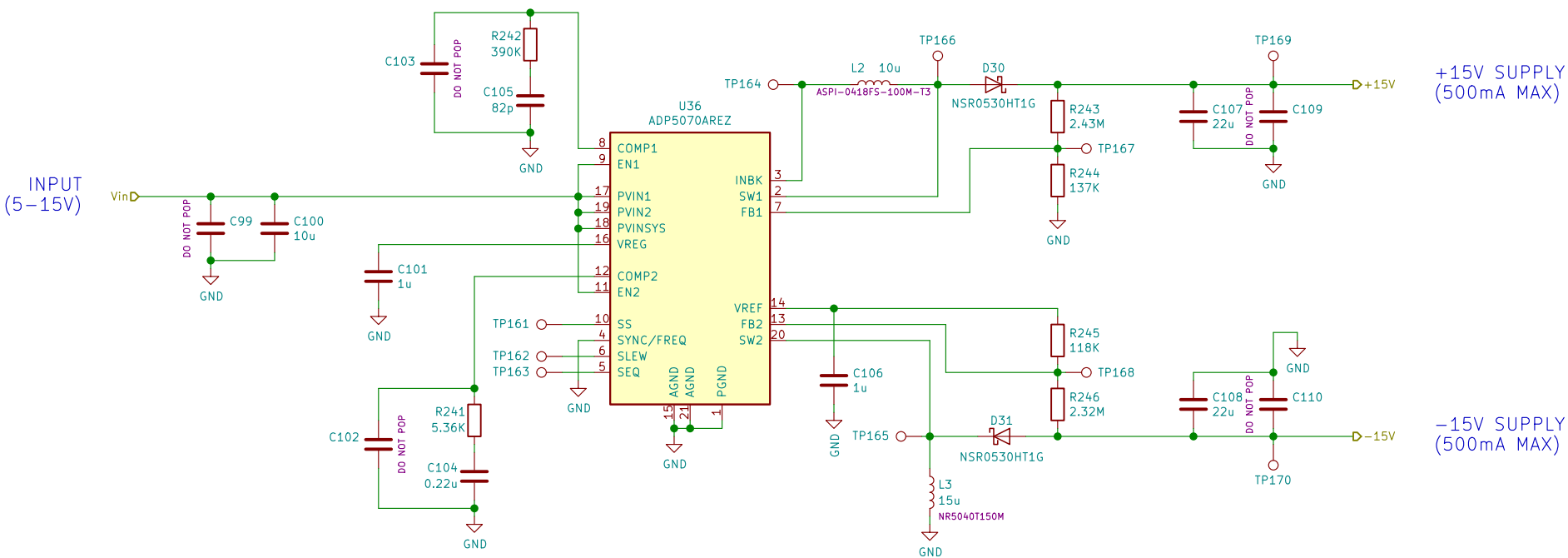
OVERCURRENT PROTECTION







+/-15V REGULATOR



OVERVOLTAGE PROTECTION

OVERCURRENT PROTECTION

