DIB interface

File: DIB_interface.kicad_sch

MCU

File: MCU.kicad_sch

Voltage_current DACs

File: Voltage_current_DACs.kicad_sch

Voltage DAC, Digital outputs

File: Voltage_DAC_Digital_outputs.kicad_sch

Digital inputs

File: Digital_inputs.kicad_sch

ADIB, PWM, AFE connectors

File: ADIB_PWM.kicad_sch

KK1
PCB-MB

KK2
PCB-MB

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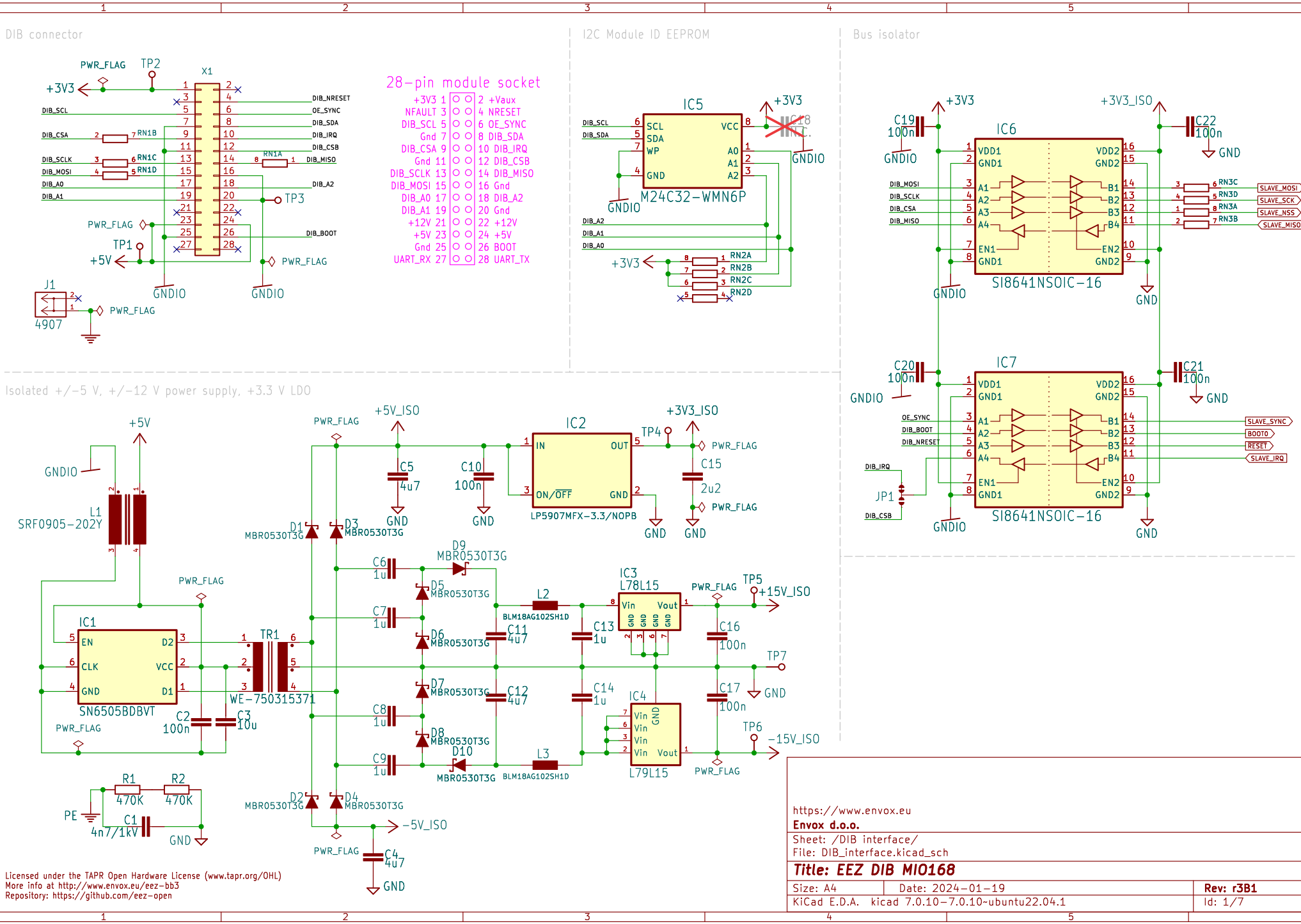
Sheet: /
File: EEZ DIB MIO168.kicad_sch

Title: EEZ DIB MIO168

Size: A4	Date: 2024-01-19	**Rev: r3B1**
KiCad E.D.A. kicad 7.0.10-7.0.10~ubuntu22.04.1		Id: 1/7


DIB connector
I2C Module ID EEPROM
Bus isolator
Isolated +/-5 V, +/-12 V power supply, +3.3 V LDO
28-pin module socket
+3V3 1
2 +Vaux
NFAULT 3
4 NRESET
DIB_SCL 5
6 OE_SYNC
Gnd 7
8 DIB_SDA
DIB_CSA 9
10 DIB_IRQ
Gnd 11
12 DIB_CSB
DIB_SCLK 13
14 DIB_MISO
DIB_MOSI 15
16 Gnd
DIB_A0 17
18 DIB_A2
DIB_A1 19
20 Gnd
+12V 21
22 +12V
+5V 23
24 +5V
Gnd 25
26 BOOT
UART_RX 27
28 UART_TX
M24C32-WMN6P
SI8641NSOIC-16
LP5907MFX-3.3/NOPB
L78L15
L79L15
SN6505BDBVT
WE-750315371
SRF0905-202Y
BLM18AG102SH1D
MBR0530T3G
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Sheet: /DIB interface/
File: DIB_interface.kicad_sch
Title: EEZ DIB MIO168
Size: A4
Date: 2024-01-19
Rev: r3B1
KiCad E.D.A. kicad 7.0.10-7.0.10~ubuntu22.04.1
Id: 1/7
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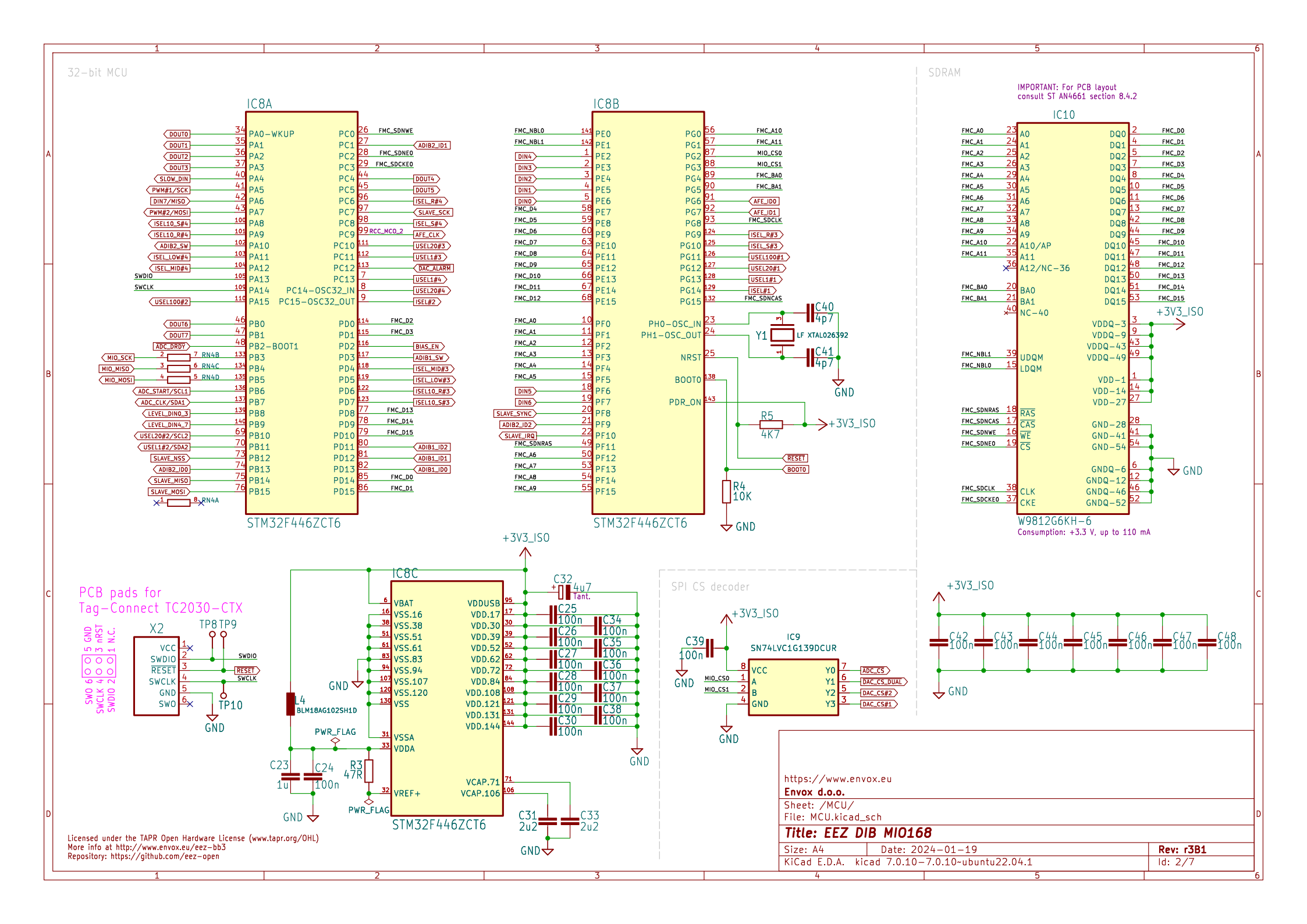
More info at http://www.envox.eu/eez-bb3
Repository: https://github.com/eez-open


32-bit MCU
IC8A
STM32F446ZCT6
IC8B
STM32F446ZCT6
SDRAM
IMPORTANT: For PCB layout
consult ST AN4661 section 8.4.2
IC10
W9812G6KH-6
Consumption: +3.3 V, up to 110 mA
PCB pads for
Tag-Connect TC2030-CTX
X2
TP8
TP9
TP10
IC8C
STM32F446ZCT6
SPI CS decoder
IC9
SN74LVC1G139DCUR
+3V3_ISO
GND
Y1
LF XTAL026392
R4
10K
R5
4K7
L4
BLM18AG102SH1D
PWR_FLAG
https://www.envox.eu
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Sheet: /MCU/
File: MCU.kicad_sch
Title: EEZ DIB MIO168
Size: A4
Date: 2024-01-19
Rev: r3B1
KiCad E.D.A. kicad 7.0.10-7.0.10~ubuntu22.04.1
Id: 2/7
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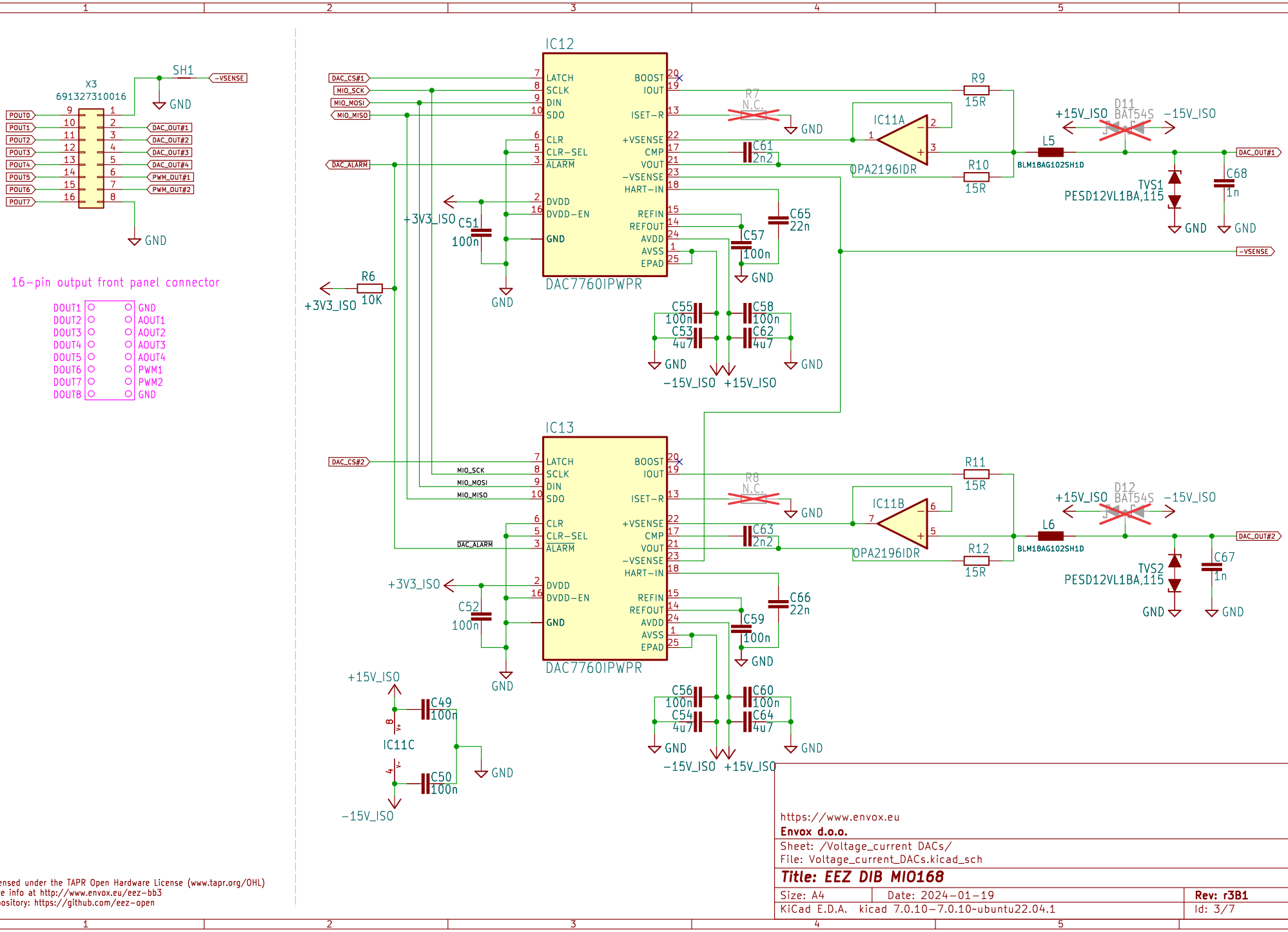
More info at http://www.envox.eu/eez-bb3
Repository: https://github.com/eez-open



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More info at http://www.envox.eu/eez-bb3
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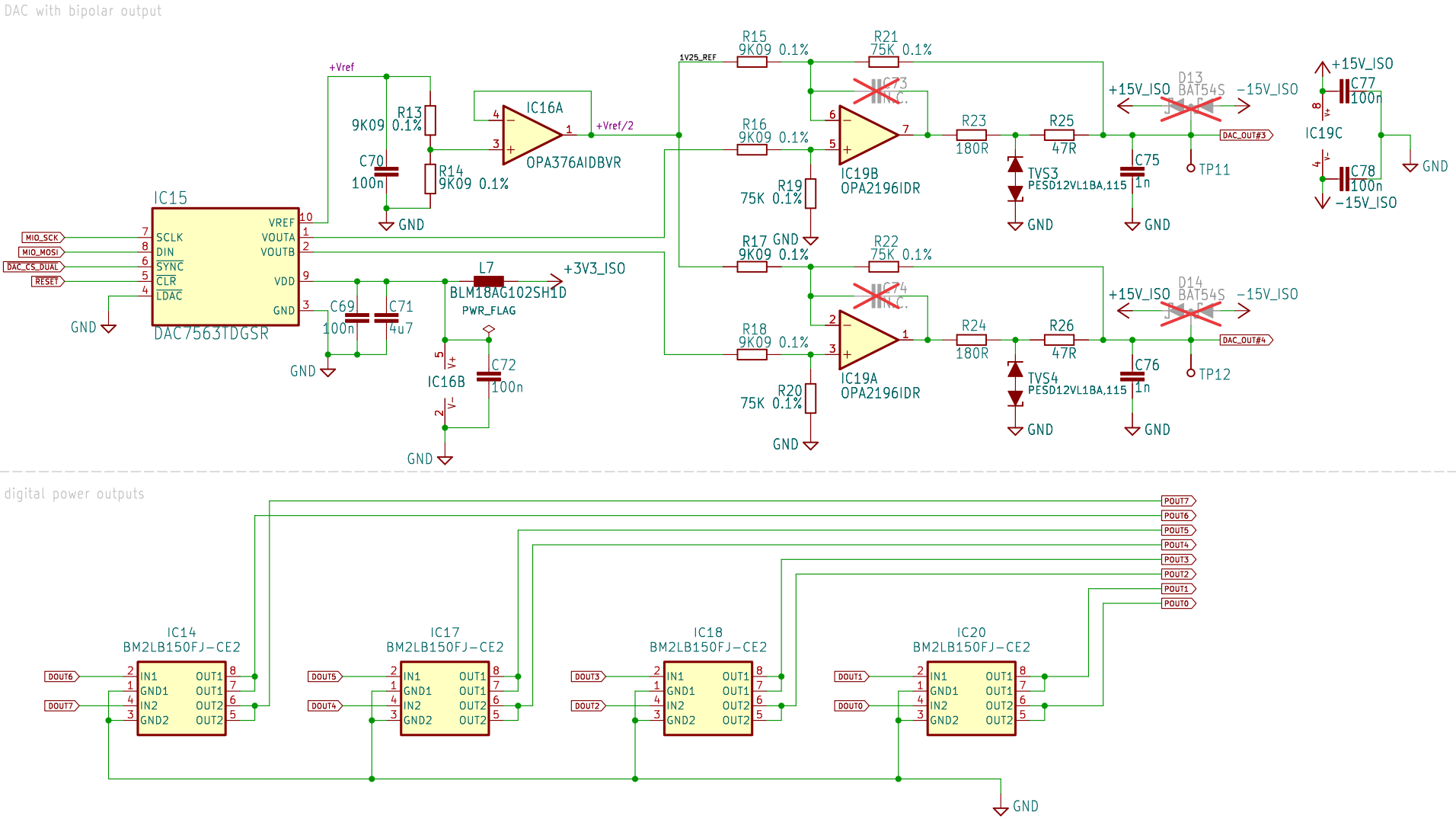
Sheet: /Voltage_current DACs/
File: Voltage_current_DACs.kicad_sch

Title: EEZ DIB MIO168

Size: A4	Date: 2024-01-19	**Rev: r3B1**
KiCad E.D.A. kicad 7.0.10-7.0.10~ubuntu22.04.1		Id: 3/7



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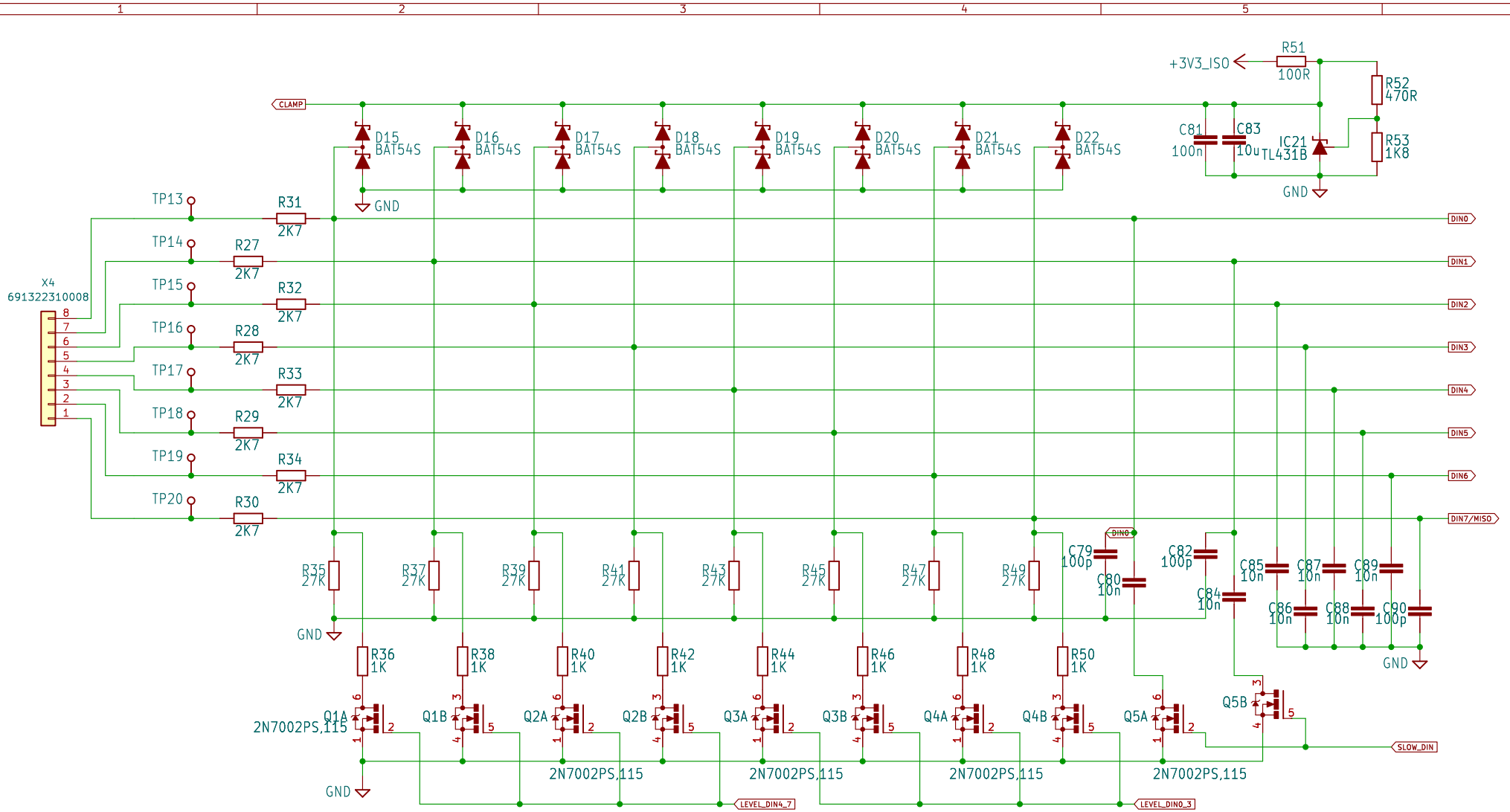
Sheet: /Voltage DAC, Digital outputs/
File: Voltage_DAC_Digital_outputs.kicad_sch

Title: EEZ DIB MIO168

Size: A4	Date: 2024-01-19	**Rev: r3B1**
KiCad E.D.A. kicad 7.0.10-7.0.10~ubuntu22.04.1		Id: 4/7



16-pin input front panel connector

DIN1	○ | ○	AIN1+
DIN2	○ | ○	AIN1-/GND
DIN3	○ | ○	AIN2+
DIN4	○ | ○	AIN2-/GND
DIN5	○ | ○	AIN3+
DIN6	○ | ○	AIN3-/GND
DIN7	○ | ○	AIN4+
DIN8	○ | ○	AIN4-/GND

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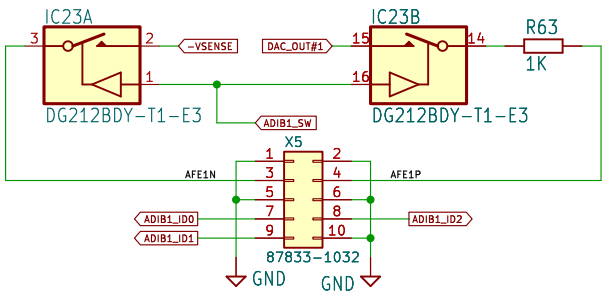
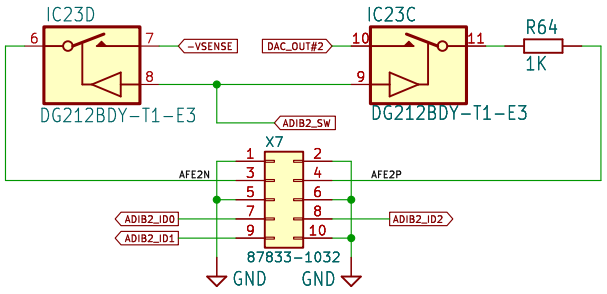
Sheet: /Digital inputs/
File: Digital_inputs.kicad_sch

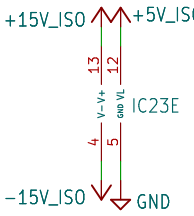
Title: EEZ DIB MIO168

Size: A4	Date: 2024-01-19	**Rev: r3B1**
KiCad E.D.A. kicad 7.0.10-7.0.10~ubuntu22.04.1		Id: 5/7

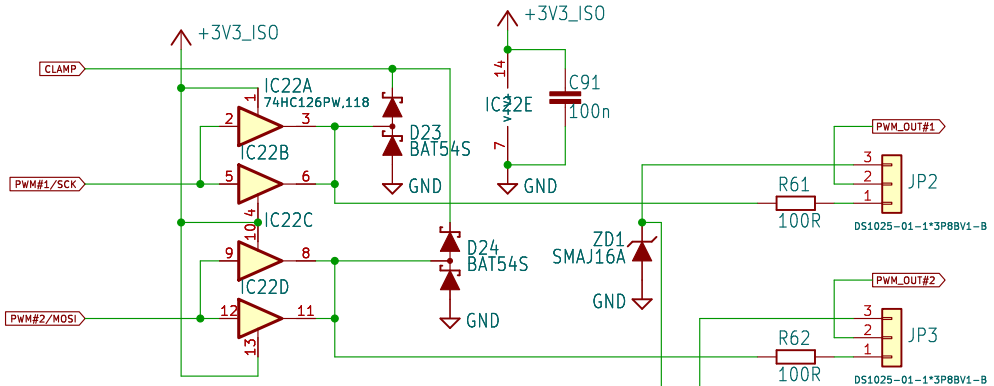
ADIB signal switching



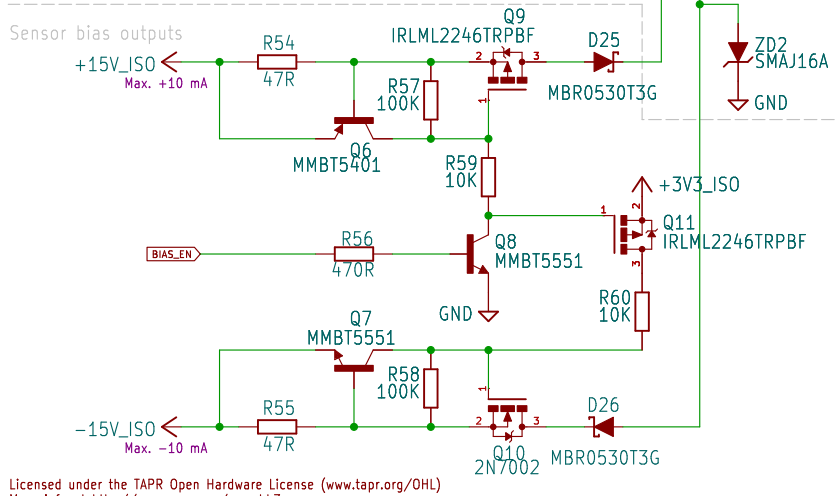




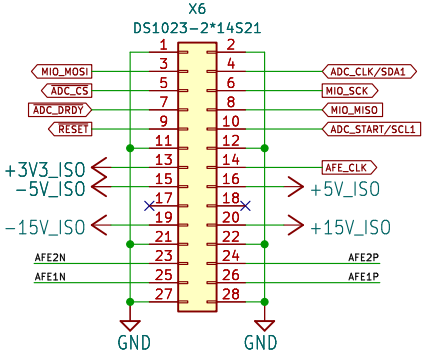
PWM outputs

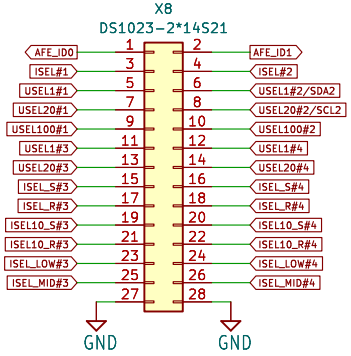


Sensor bias outputs



AFE connectors





28-pin AFE socket (upper)

Gnd	1	2 Gnd
SPI_MOSI	3	4 ADC CLK SEL / I2C_SCL1
CS	5	6 SPI_CLK
DRDY	7	8 ADC_START / I2C_SDA1
RESET	9	10 SPI_MISO
Gnd	11	12 Gnd
+3V3	13	14 AFE EXT CLK
+5V	15	16 -5V
N.C.	17	18 N.C.
-15V	19	20 +15V
Gnd	21	22 Gnd
ADIB2N	23	24 ADIB2P
ADIB1N	25	26 ADIB1P
Gnd	27	28 Gnd

28-pin AFE socket (lower)

AFE_ID0	1	2 AFE_ID1
ISEL#1	3	4 ISEL#2
USEL1#1	5	6 USEL1#2 / I2C_SDA2
USEL20#1	7	8 USEL20#2 / I2C_SCL2
USEL100#1	9	10 USEL100#2
USEL1#3	11	12 USEL1#4
USEL20#3	13	14 USEL20#4
ISEL_S#3	15	16 ISEL_S#4
ISEL_R#3	17	18 ISEL_R#4
ISEL10_S#3	19	20 ISEL10_S#4
ISEL10_R#3	21	22 ISEL10_R#4
ISEL_LOW#3	23	24 ISEL_LOW#4
ISEL_MID#3	25	26 ISEL_MID#4
Gnd	27	28 Gnd

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Sheet: /ADIB, PWM, AFE connectors/
File: ADIB_PWM.kicad_sch

Title: EEZ DIB MIO168

Size: A4	Date: 2024-01-19	**Rev: r3B1**
KiCad E.D.A. kicad 7.0.10-7.0.10~ubuntu22.04.1		Id: 6/7