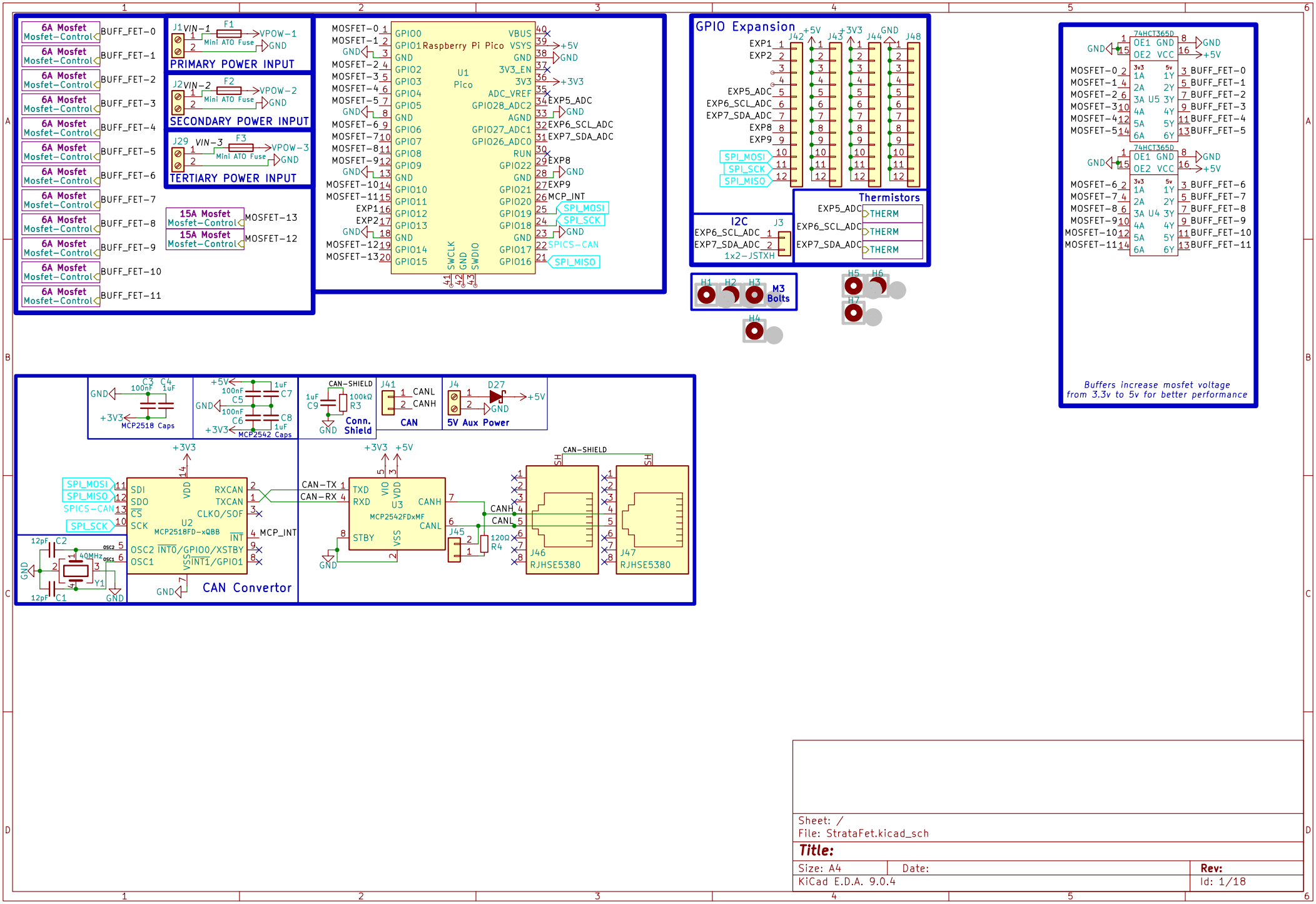
6A Mosfet Mosfet-Control BUFF_FET-0
6A Mosfet Mosfet-Control BUFF_FET-1
6A Mosfet Mosfet-Control BUFF_FET-2
6A Mosfet Mosfet-Control BUFF_FET-3
6A Mosfet Mosfet-Control BUFF_FET-4
6A Mosfet Mosfet-Control BUFF_FET-5
6A Mosfet Mosfet-Control BUFF_FET-6
6A Mosfet Mosfet-Control BUFF_FET-7
6A Mosfet Mosfet-Control BUFF_FET-8
6A Mosfet Mosfet-Control BUFF_FET-9
6A Mosfet Mosfet-Control BUFF_FET-10
6A Mosfet Mosfet-Control BUFF_FET-11
J1 VIN-1 F1 Mini ATO Fuse VPOW-1 GND
PRIMARY POWER INPUT
J2 VIN-2 F2 Mini ATO Fuse VPOW-2 GND
SECONDARY POWER INPUT
J29 VIN-3 F3 Mini ATO Fuse VPOW-3 GND
TERTIARY POWER INPUT
15A Mosfet Mosfet-Control MOSFET-13
15A Mosfet Mosfet-Control MOSFET-12
Raspberry Pi Pico
U1
GPIO0 GPIO1 GPIO2 GPIO3 GPIO4 GPIO5 GPIO6 GPIO7 GPIO8 GPIO9 GPIO10 GPIO11 GPIO12 GPIO13 GPIO14 GPIO15
VBUS VSYS GND 3V3_EN 3V3 ADC_VREF GPIO28_ADC2 AGND GPIO27_ADC1 GPIO26_ADC0 RUN GPIO22 GPIO21 GPIO20 GPIO19 GPIO18 GPIO17 GPIO16
SWCLK GND SWDIO
MOSFET-0 MOSFET-1 MOSFET-2 MOSFET-3 MOSFET-4 MOSFET-5 MOSFET-6 MOSFET-7 MOSFET-8 MOSFET-9 MOSFET-10 MOSFET-11 MOSFET-12 MOSFET-13
EXP1 EXP2 EXP5_ADC EXP6_SCL_ADC EXP7_SDA_ADC EXP8 EXP9 MCP_INT SPI_MOSI SPI_SCK SPICS-CAN SPI_MISO
GPIO Expansion
J42 J43 J44 J48
+5V +3V3 GND
SPI_MOSI SPI_SCK SPI_MISO
I2C
J3
EXP6_SCL_ADC EXP7_SDA_ADC
1x2-JSTXH
Thermistors
EXP5_ADC EXP6_SCL_ADC EXP7_SDA_ADC
THERM
H1 H2 H3 M3 Bolts
H4 H5 H6 H7
74HCT365D
MOSFET-0 MOSFET-1 MOSFET-2 MOSFET-3 MOSFET-4 MOSFET-5 MOSFET-6 MOSFET-7 MOSFET-8 MOSFET-9 MOSFET-10 MOSFET-11
BUFF_FET-0 BUFF_FET-1 BUFF_FET-2 BUFF_FET-3 BUFF_FET-4 BUFF_FET-5 BUFF_FET-6 BUFF_FET-7 BUFF_FET-8 BUFF_FET-9 BUFF_FET-10 BUFF_FET-11
Buffers increase mosfet voltage from 3.3v to 5v for better performance
MCP2518 Caps
MCP2542 Caps
Conn. Shield
CAN
5V Aux Power
CAN Convertor
MCP2518FD-xQBB
MCP2542FDxMF
RJHSE5380
CAN-TX CAN-RX CANH CANL
SPI_MOSI SPI_MISO SPICS-CAN SPI_SCK MCP_INT
40MHz
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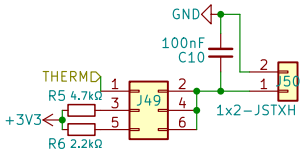
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. 9.0.4
Id: 1/18



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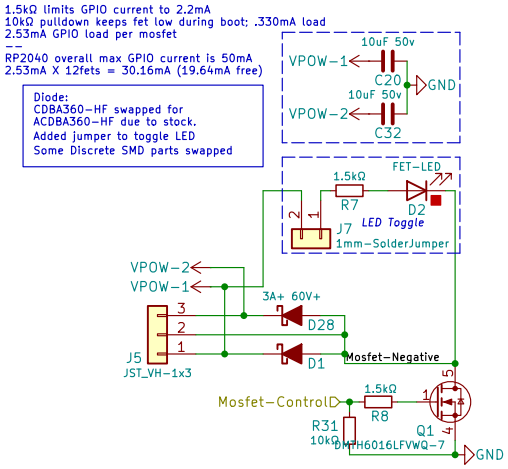
KiCad E.D.A. 9.0.4		Id: 2/18



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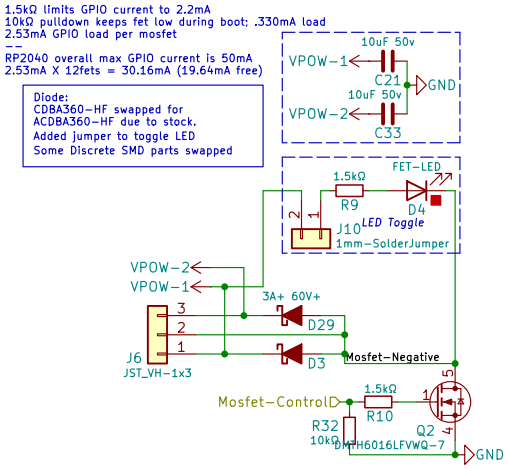
KiCad E.D.A. 9.0.4		Id: 3/18



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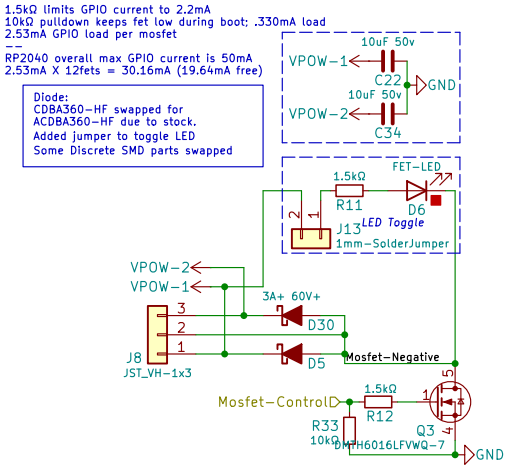
KiCad E.D.A. 9.0.4		Id: 4/18



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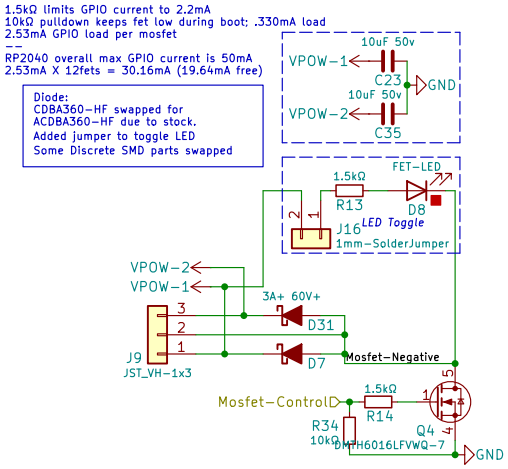
KiCad E.D.A. 9.0.4		Id: 5/18



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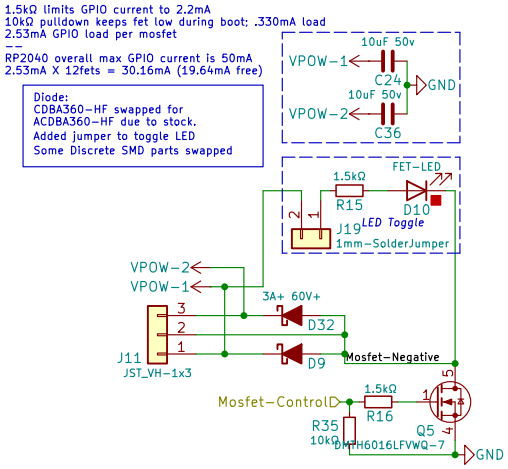
KiCad E.D.A. 9.0.4		Id: 6/18



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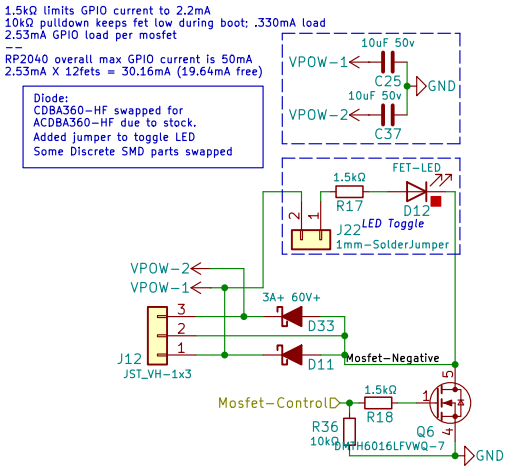
KiCad E.D.A. 9.0.4		Id: 7/18



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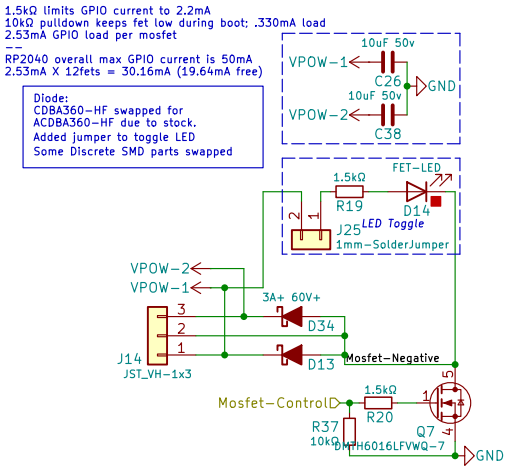
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.4		Id: 8/18



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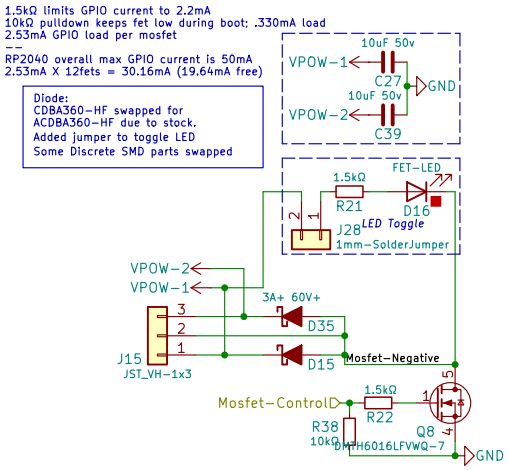
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.4		Id: 9/18



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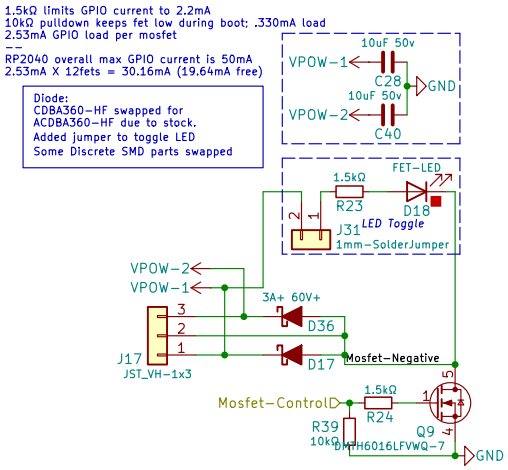
KiCad E.D.A. 9.0.4		Id: 10/18



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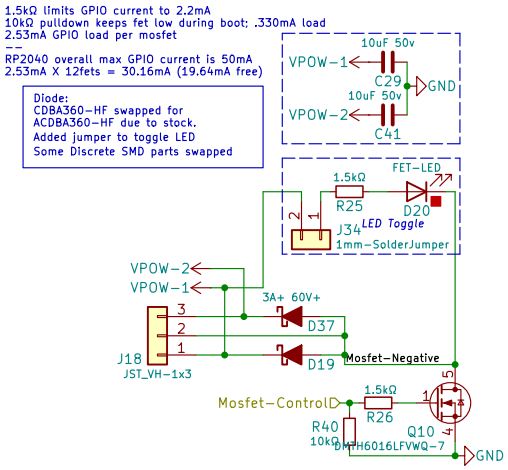
KiCad E.D.A. 9.0.4		Id: 11/18



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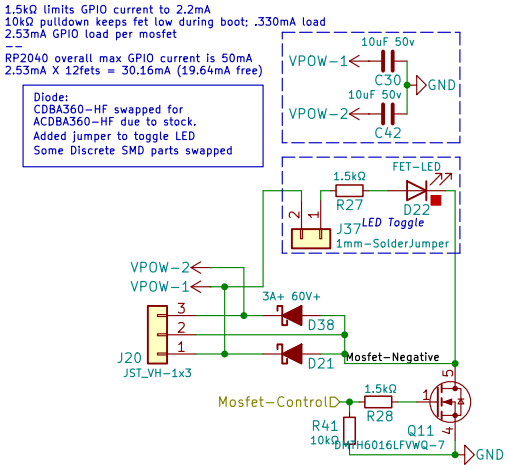
KiCad E.D.A. 9.0.4		Id: 12/18



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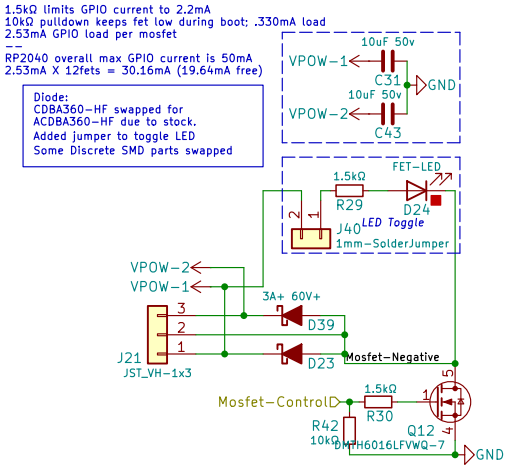
KiCad E.D.A. 9.0.4		Id: 13/18



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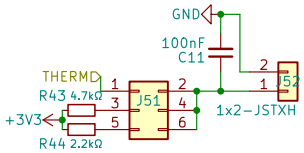
KiCad E.D.A. 9.0.4		Id: 14/18



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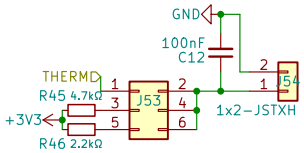
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.4		Id: 14/18



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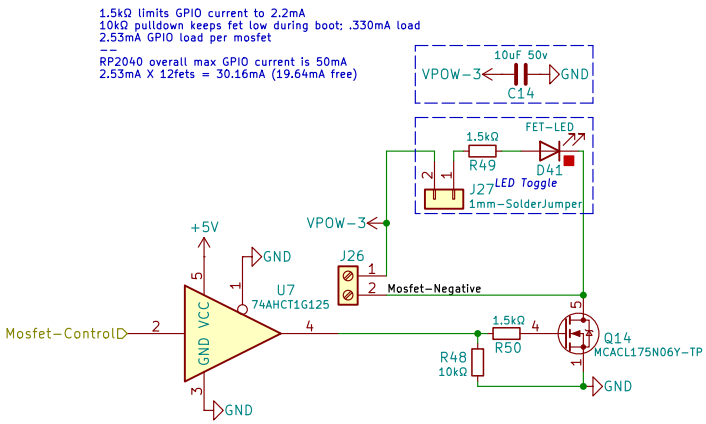
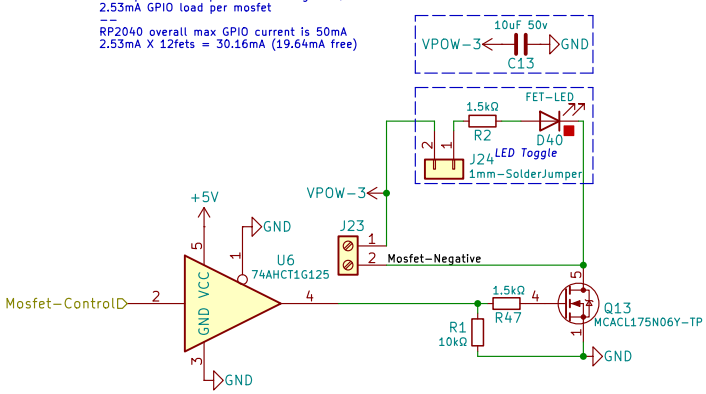
KiCad E.D.A. 9.0.4		Id: 15/18



Sheet: /Mosfet-Big1/		
File: Mosfet-Big.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.4		Id: 16/18

1.5kΩ limits GPIO current to 2.2mA
10kΩ pulldown keeps fet low during boot; .330mA load
2.53mA GPIO load per mosfet
--
RP2040 overall max GPIO current is 50mA
2.53mA X 12fets = 30.16mA (19.64mA free)



Sheet: /Mosfet-Big/		
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Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.4		Id: 17/18