

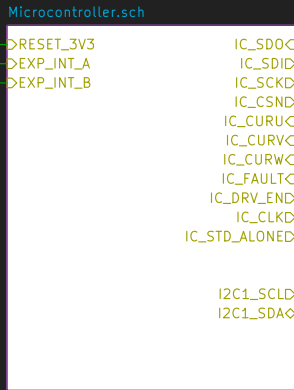
TMC2590 Evaluation Board

BUCK CONVERTER



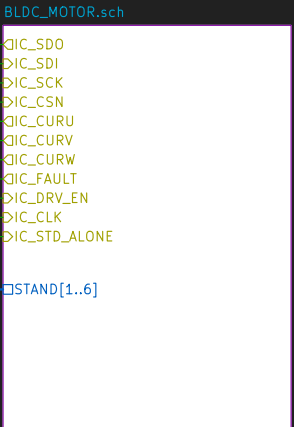
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STM32



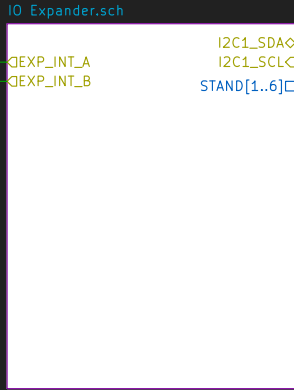
File: Microcontroller.kicad_sch

TMC6200



File: BLDC_MOTOR.kicad_sch

IO EXPANDER



File: IO_Expander.kicad_sch

+48 731-375-090
patryk58111@gmail.com
Patryk Rzonca
Quasi Peak

Sheet: /
File: eval_board_tmc6200-ta.kicad_sch

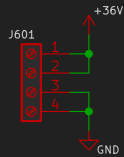
Title: TMC6200-TA-T Eval Board

Size: A4	Date: 2021-09-03
KiCad: E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu20.04.1	Rev: ED A0

Id: 1/8

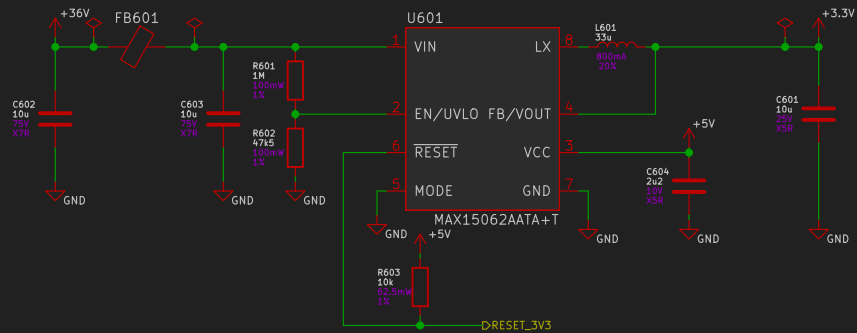
INPUT POWER SECTION

Input connector

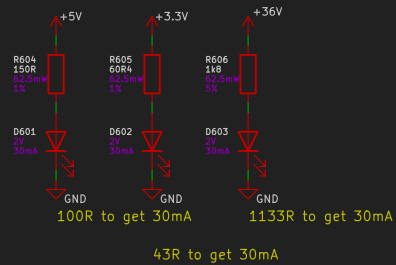


Main DC BUCK circuit

Add fuse and reverse polarity protection



Power indication



Design notes

Quasi Peak

Sheet: /BUCK_Converter.sch/
File: BUCK_Converter.kicad_sch

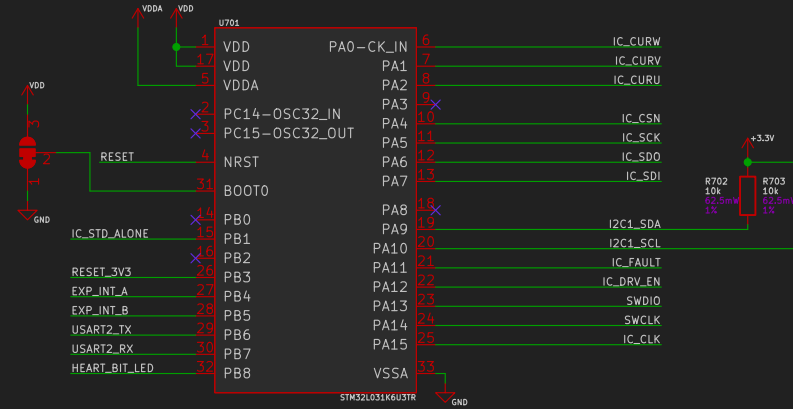
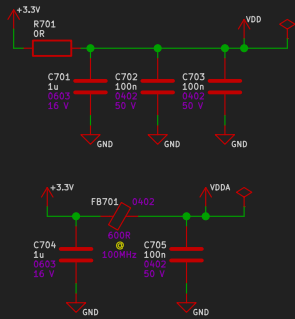
Title: TMC6200-TA-T Eval Board

Size: A4 Date: 2021-09-03
KiCad: E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu20.04.1

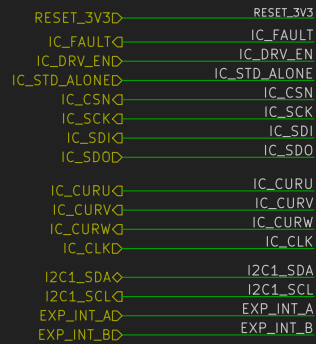
Rev: ED A0
Id: 2/8

MICROCONTROLLER, OLED DISPLAY

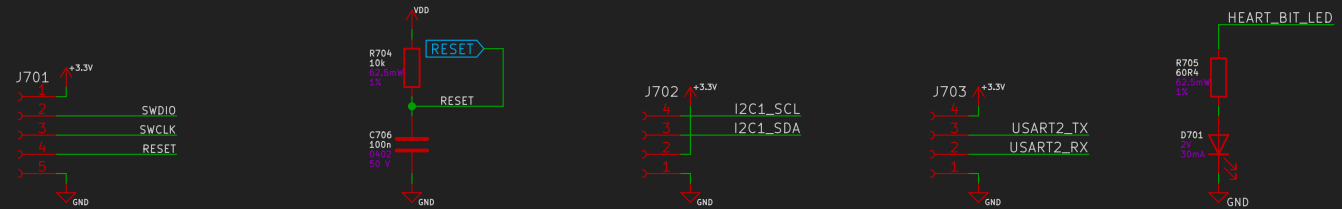
Decaupling capacitors



Hierarchical Nets



Reset Circuit with Programming Connector



Mounting Holes



Patryk Rzońca

Quasi Peak

Sheet: /Microcontroller.sch/

File: Microcontroller.kicad_sch

Title: TMC6200-TA-T Eval Board

Size: A4

Date: 2021-09-03

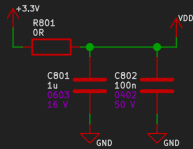
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Rev: ED A0

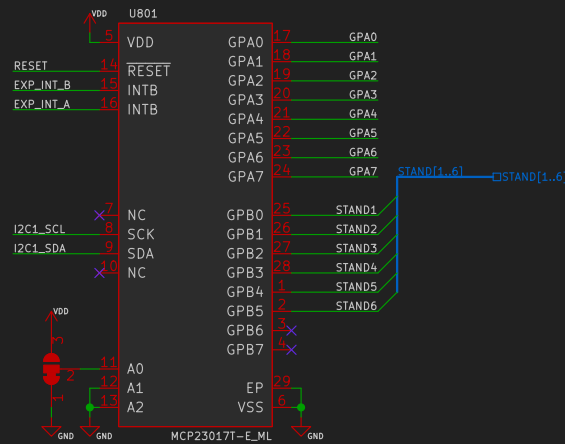
Id: 3/8

IO EXPANDER

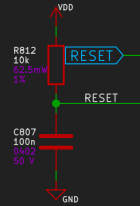
Decaupling capacitors



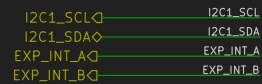
IO Expander



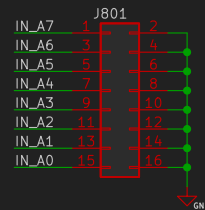
Reset circuit



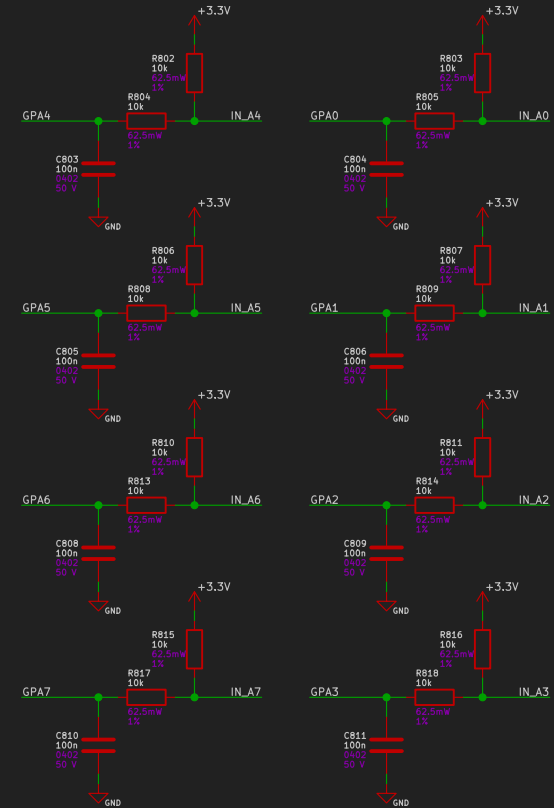
Output harness



Output connector



Input filter with pull-up resistors



Quasi Peak

Sheet: /IO_Expander.sch/
File: IO_Expander.kicad_sch

Title: TMC6200-TA-T Eval Board

Size: A4 Date: 2021-09-03
KiCad: E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu20.04.1

Rev: ED A0
Id: 4/8

BLDC MOTOR DRIVER

Main IC with base configuration

Phase motor sheets

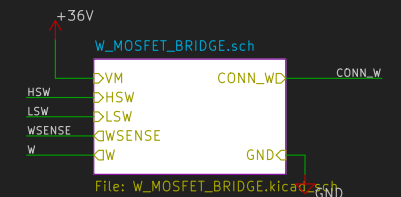
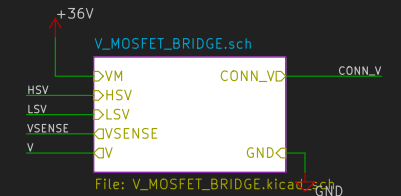
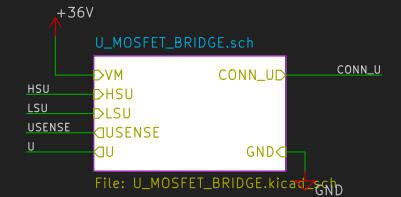
Output harness

Change mod circuit

Design notes

Quasi Peak
Sheet: /BLDC_MOTOR.sch/
File: BLDC_MOTOR.kicad_sch
Title: TMC6200-TA-T Eval Board
Size: A4 Date: 2021-09-03 Rev: ED A0
KiCad E.D.A. KiCad 6.0.4-6f826c9f35-116-ubuntu20.04.1 Id: 5/8

Phase motor sheets

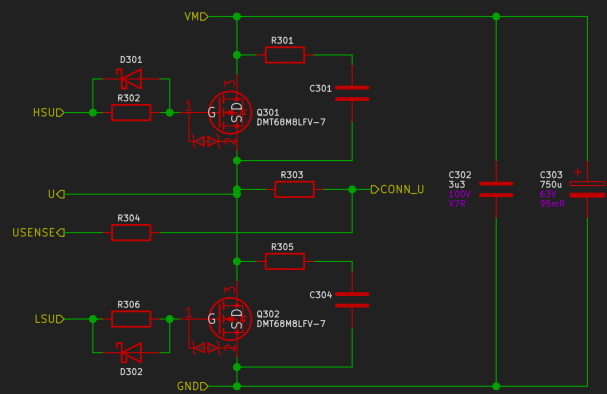


Change mod circuit

Diagram illustrating the pin connections for the IC. The connections are as follows:

- STAND1, STAND2, STAND3, STAND4, STAND5, STAND6 → STAND[1..6]
- IC_FAULTQ → IC_FAULT
- IC_DRV_END → IC_DRV_EN
- IC_CSND → IC_CSND
- IC_SCKD → IC_SCK
- IC_SDID → IC_SDI
- IC_SDOQ → IC_SDO
- IC_CLKD → IC_CLK
- IC_CURUQ → IC_CURU
- IC_CURVQ → IC_CURV
- IC_CURVQ → IC_CURV
- IC_STD_ALONE → IC_STD_ALONE
- IC_STD_ALONE → IC_STD_ALONE

PHASE U



Quasi Peak

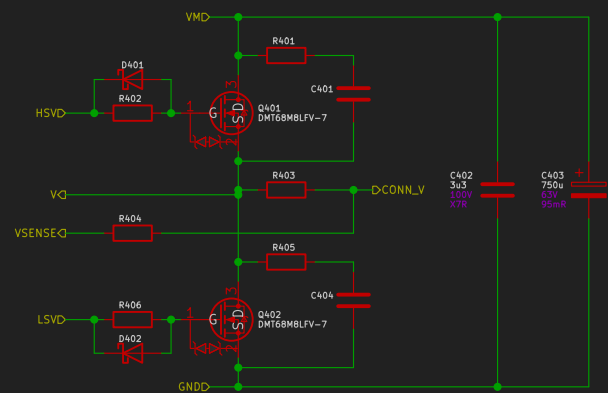
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Title: TMC6200-TA-T Eval Board

Size: A4 Date: 2021-09-03
KiCad: E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu20.04.1

Rev: ED A0
Id: 6/8

PHASE V



Quasi Peak

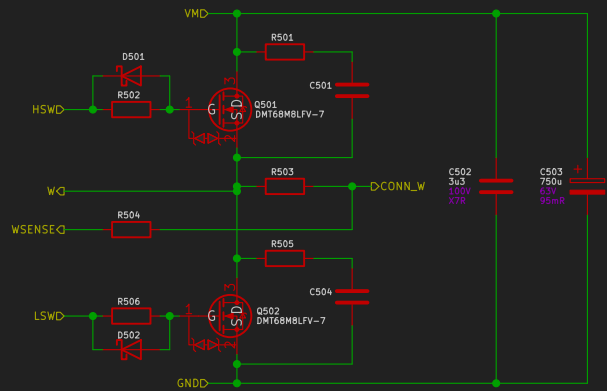
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Size: A4 | Date: 2021-09-03
KiCad: E.D.A. | kicad: 6.0.4-6f826c9f35-116-ubuntu20.04.1

Rev: ED A0
Id: 7/8

PHASE W



Quasi Peak

Sheet: /BLDC_MOTOR.sch/W_MOSFET_BRIDGE.sch/
File: W_MOSFET_BRIDGE.kicad_sch

Title: TMC6200-TA-T Eval Board

Size: A4 Date: 2021-09-03
KiCad: E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu20.04.1

Rev: ED A0
Id: 8/8