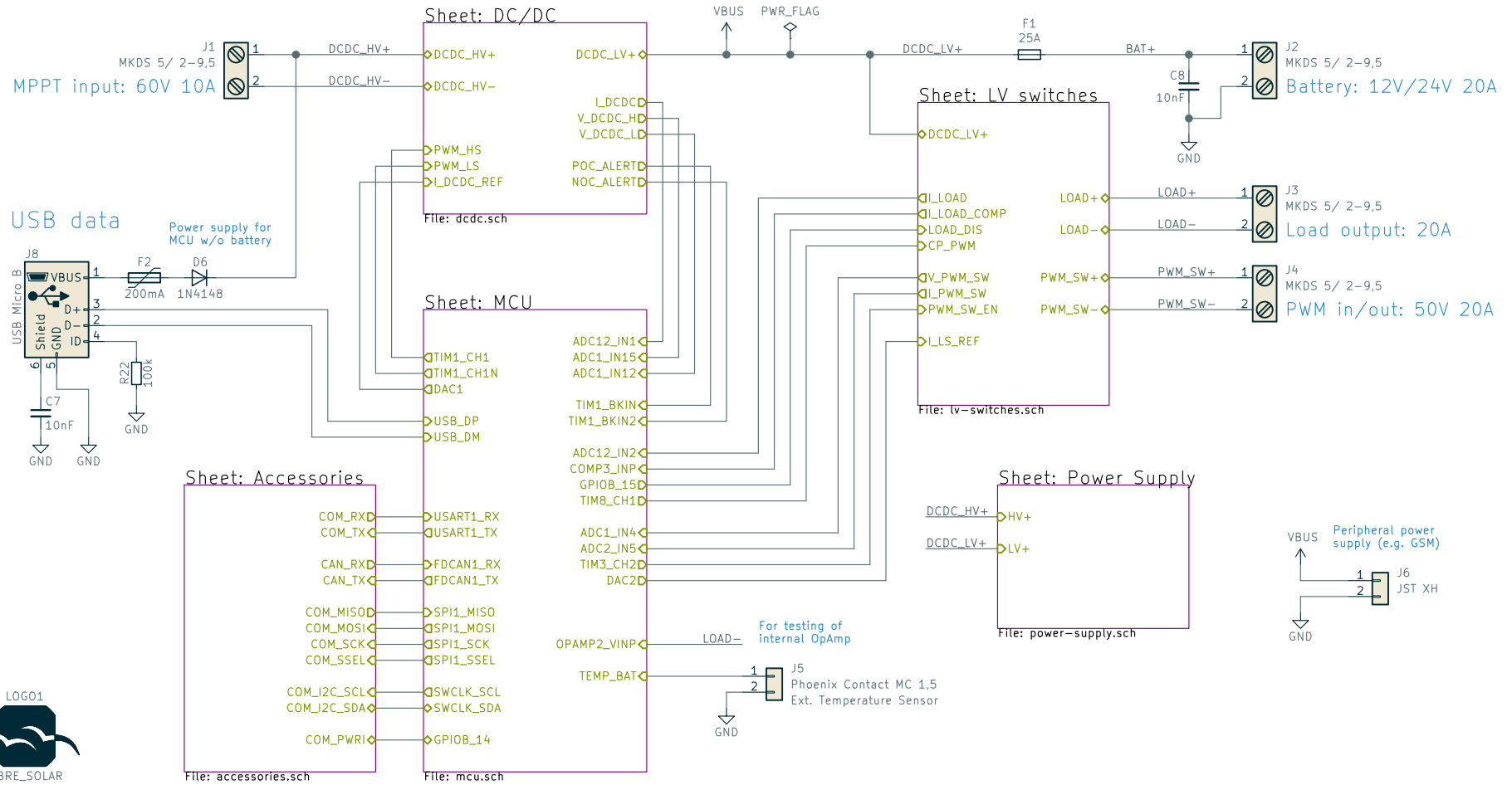


Hybrid MPPT / PWM charge controller



MPPT 2420 HPX

Libre Solar Technologies GmbH
Website: <http://libre.solar>

Sheet: /
File: mppt-2420-hpx.sch

Author: Martin Jäger

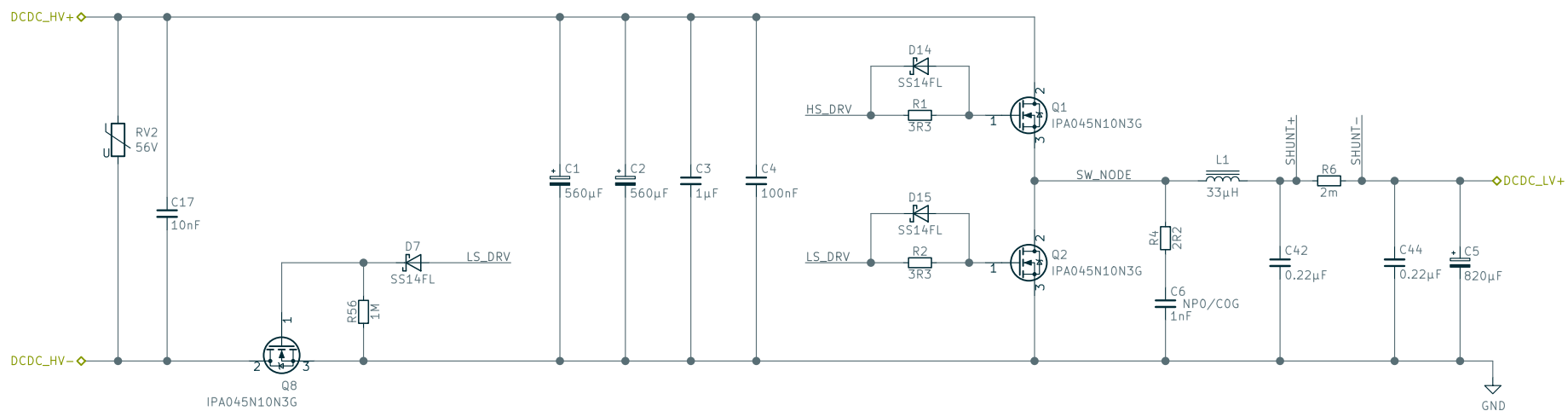
Size: A4 Date: 2019-10-08

KiCad E.D.A. kicad 5.1.4

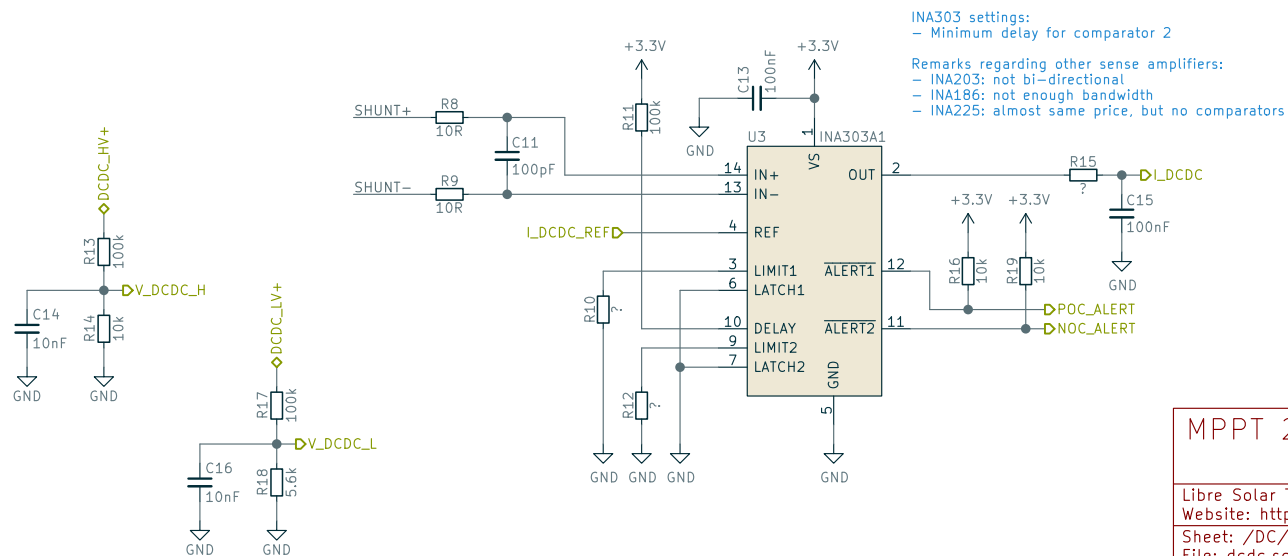


Rev: 0.1
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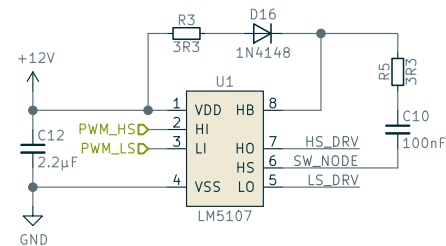
DC/DC power stage



PV reverse current and
rev. polarity protection



MOSFET driver



If not stated otherwise, all MLCC 50V X7R

MPPT 2420 HPX

Libre Solar Technologies GmbH
Website: <http://libre.solar>

Sheet: /DC/DC/
File: dcdc.sch

Author: Martin Jäger

Size: A4	Date: 2019-11-28
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KiCad E.D.A. kicad 5.1.4

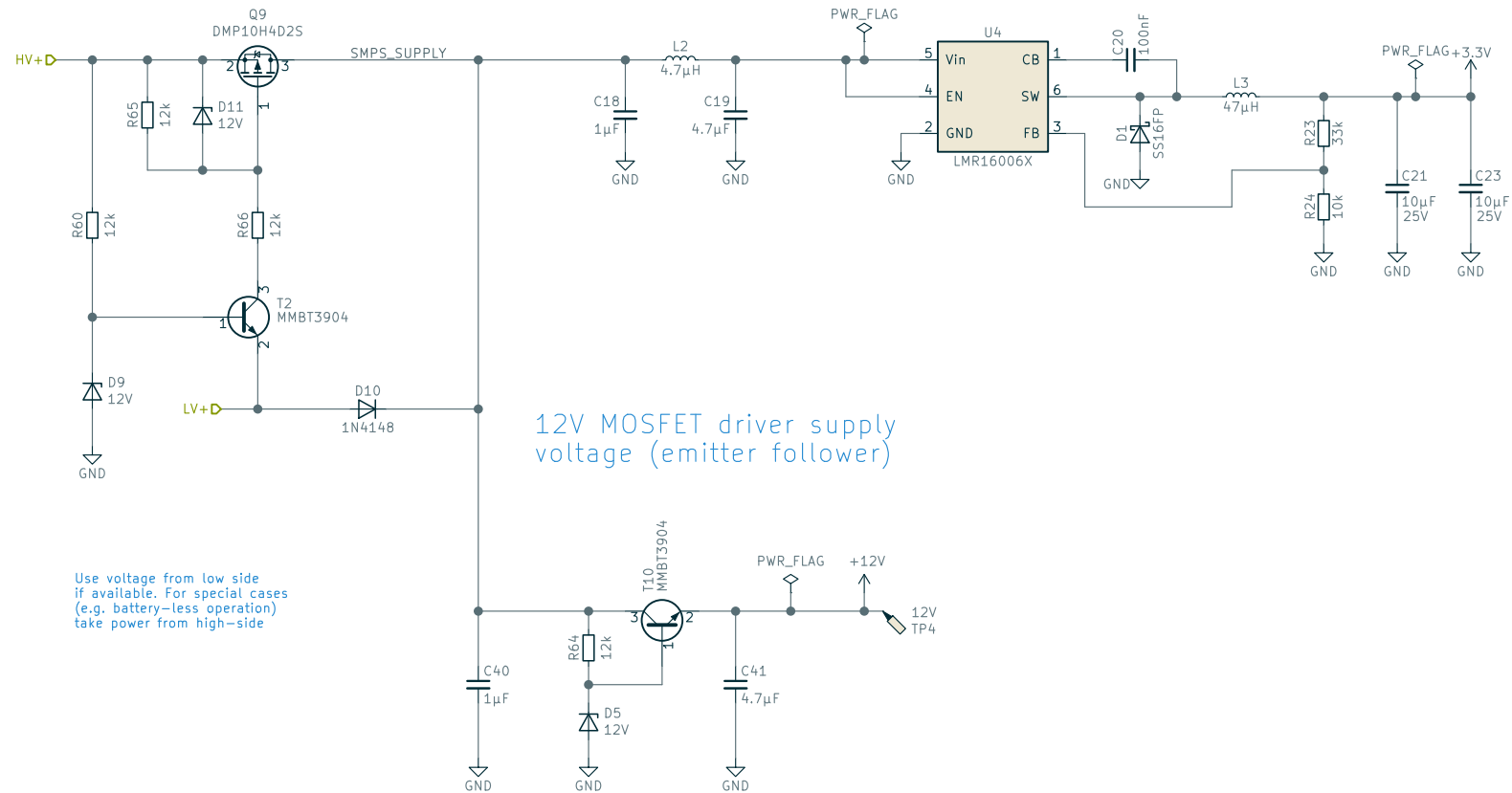


LIBRESOLAR

Rev: 0.1

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HV/LV side to 3.3V (SMPS)



MPPT 2420 HPX

Libre Solar Technologies GmbH
Website: <http://libre.solar>

Sheet: /Power Supply/
File: power-supply.sch

Author: Martin Jäger

Size: A4 Date: 2019-10-08

KiCad E.D.A. kicad 5.1.4

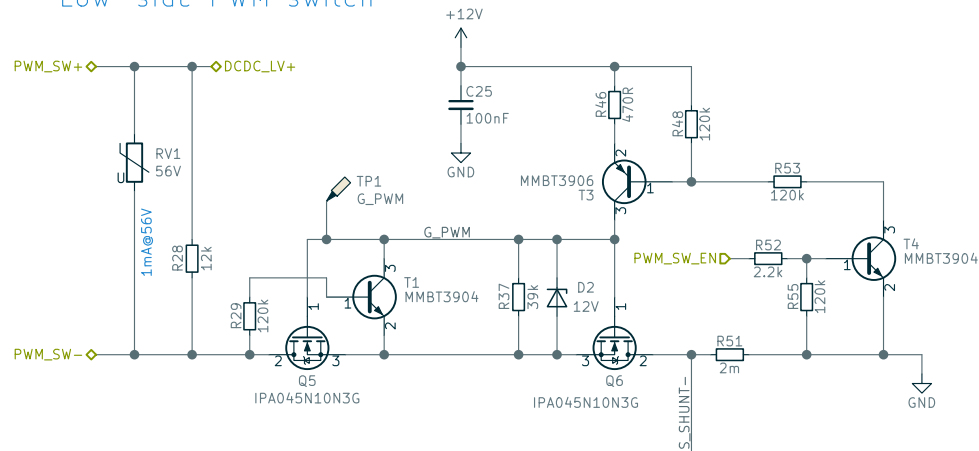


Rev: 0.1

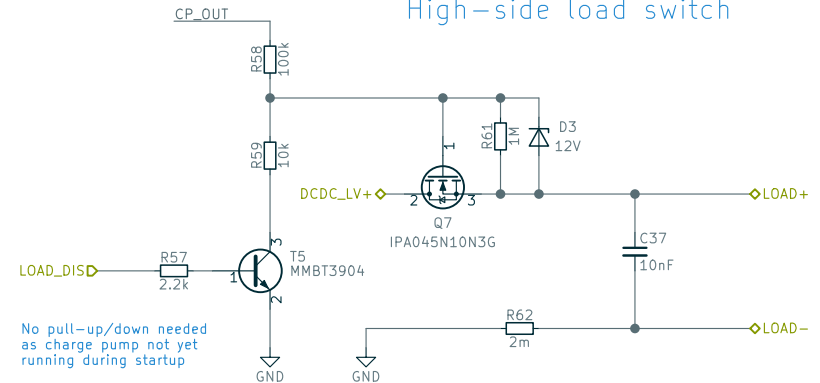
Page: 3/6

If not stated otherwise, all MLCC 50V X7R

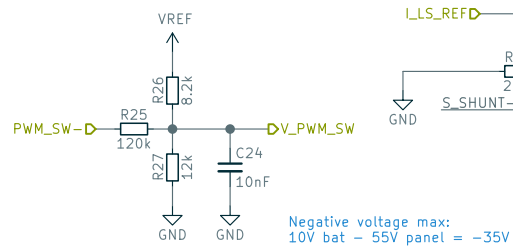
Low-side PWM switch



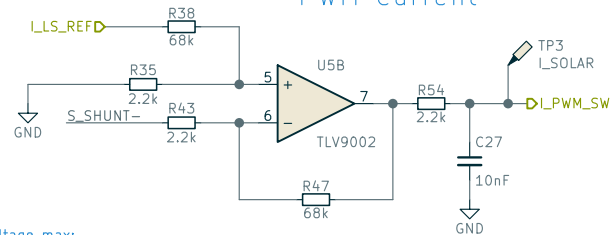
High-side load switch



PWM voltage

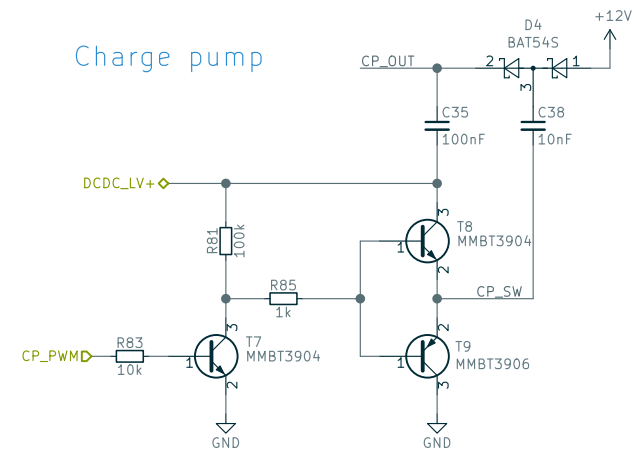


PWM current

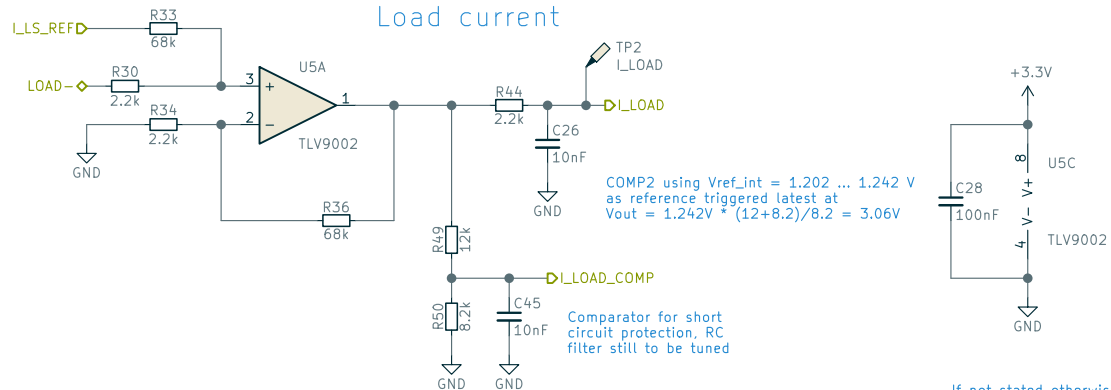


Optional: PWM switch

Charge pump



Load current



MPPT 2420 HPX

Libre Solar Technologies GmbH

Sheet: /LV switches/
File: lv-switches.sch

Size: A4

Date: 2019-10-08

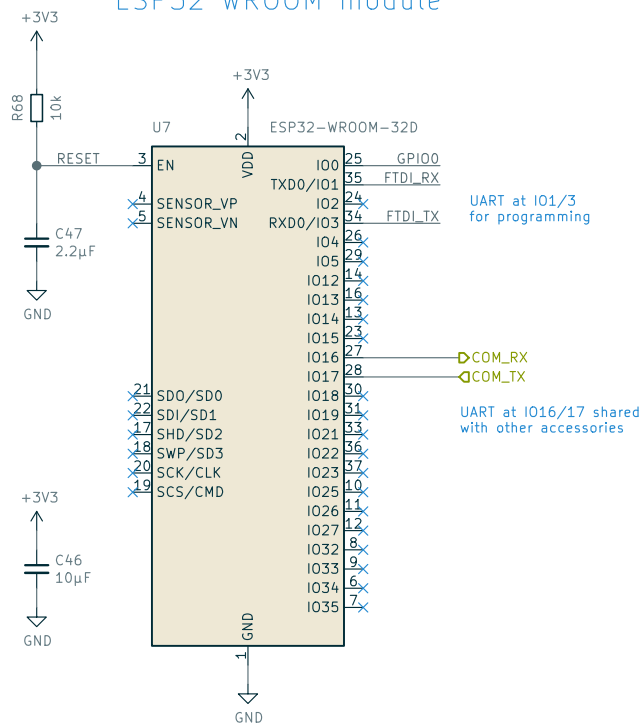
KiCad E.D.A. kicad 5.1.4



Rev: 0.1

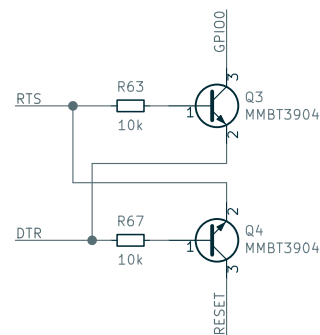
Page: 4/6

ESP32 WROOM module

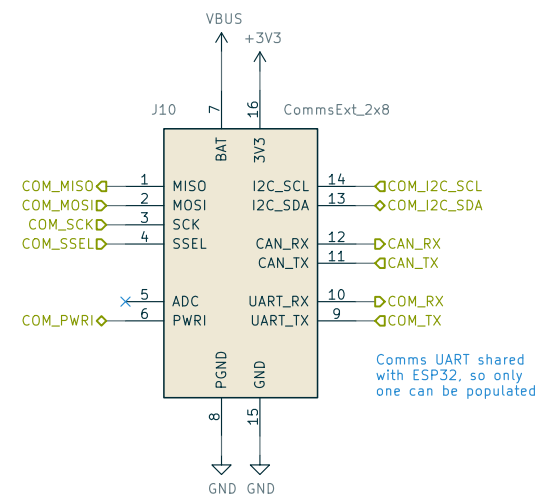


Reset and boot circuit

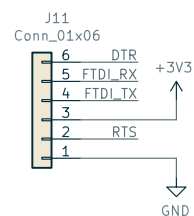
See Sparkfun / Adafruit boards



Comms Extension Connector



FTDI for programming



MPPT 2420 HPX

Libre Solar



Sheet: /Accessories/
File: accessories.sch

Author: Martin Jäger

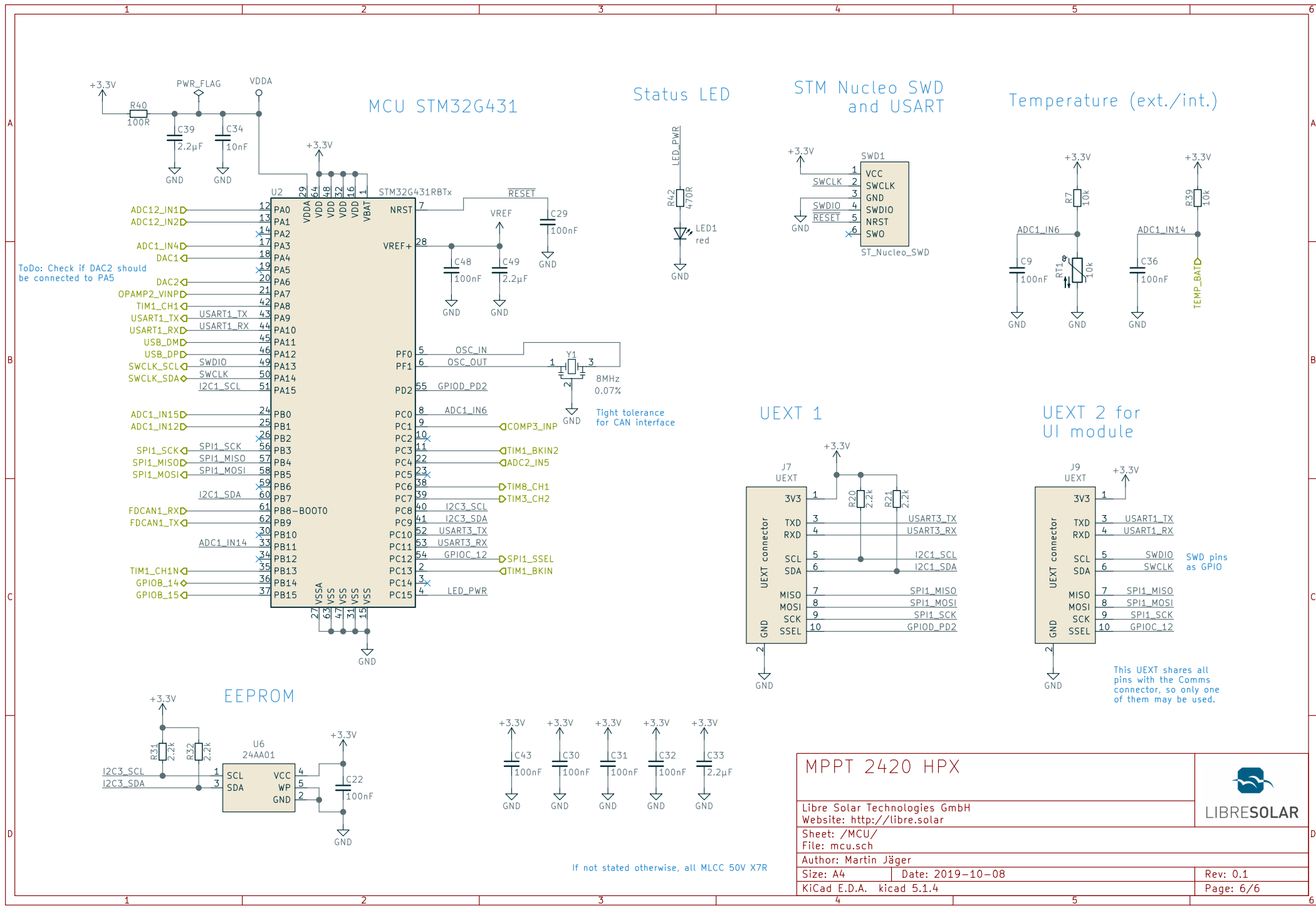
Size: A4

Date: 2019-03-07

Rev: 0.2

KiCad E.D.A. kicad 5.1.4

Page: 5/6



Status LED

STM Nucleo SWD and USART

Temperature (ext./int.)

UEXT 1

UEXT 2 for UI module

EEPROM

MPPT 2420 HPX

Libre Solar Technologies GmbH
Website: <http://libre.solar>

Sheet: /MCU/
File: mcu.sch

Author: Martin Jäger

Size: A4 Date: 2019-10-08

KiCad E.D.A. kicad 5.1.4



Rev: 0.1

Page: 6/6

If not stated otherwise, all MLCC 50V X7R