

IvimeyCom

Sheet: /MPPT/
File: mppt.kicad_sch

Title: SolarPump v3

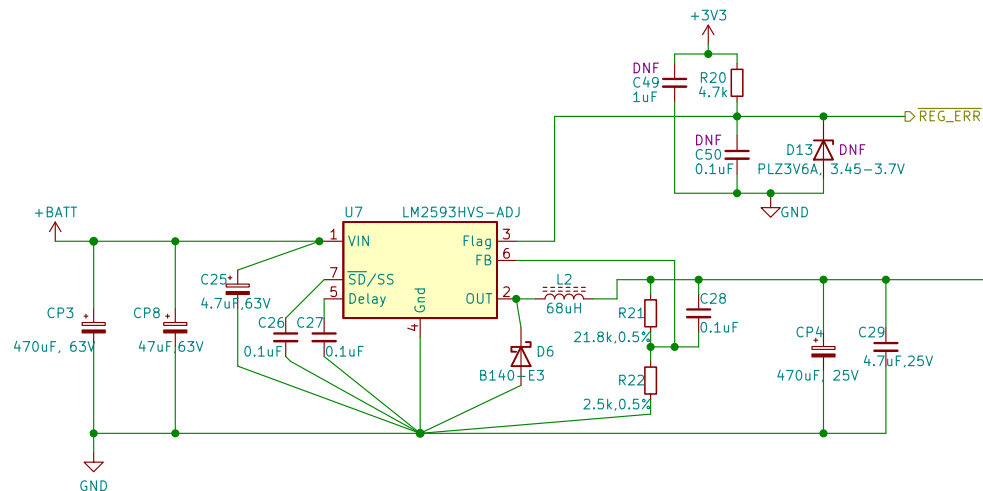
Size: A4 Date: 2022-05-18

KiCad E.D.A. kicad (6.0.4-0)

Rev: 1.1

Id: 3/7

12V, 2A HV switch reg. (Logic,FET Drive)



R21 value: [c.f. 1.235V internal Vreference]
 $V_r = (V \cdot R_2) / (R_1 + R_2)$
 $R_1 = (V \cdot R_2) / V_r - R_2$

12V:
 factor = $2.5 / (21.8 + 2.5) = 0.1029$
 $0.1029 \cdot 12V \Rightarrow 1.234V$
 use 21K8, KOA Speer Pno

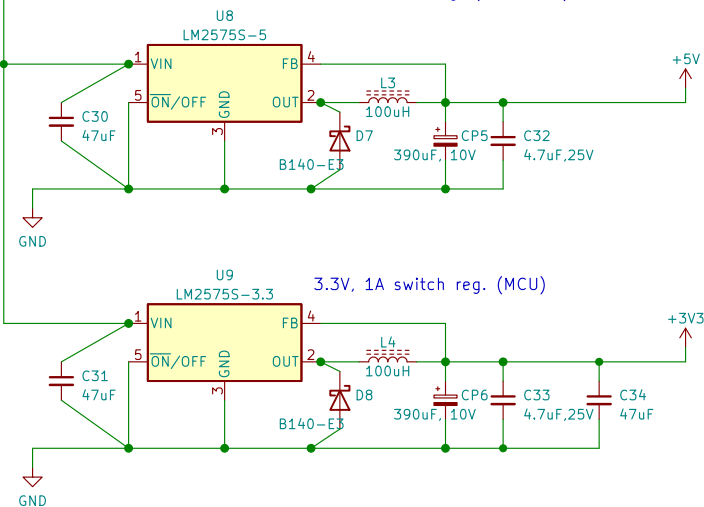
11.6V:
 use 21K, Yageo RT0603DRE0721KL

FLAG output is open-collector, <1V means fault.

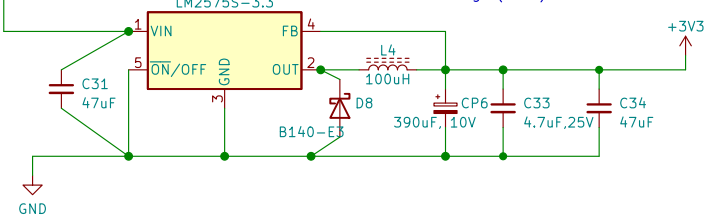
Protection circuit for MCU.
 1uF decoup. cap in pullup;
 0.1uF smoothing cap on line;
 Zener on line to clip transients.

... needed?

5V, 1A switch reg. (MCU/USB)



3.3V, 1A switch reg. (MCU)



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Sheet: /PSU/
 File: psu.kicad_sch

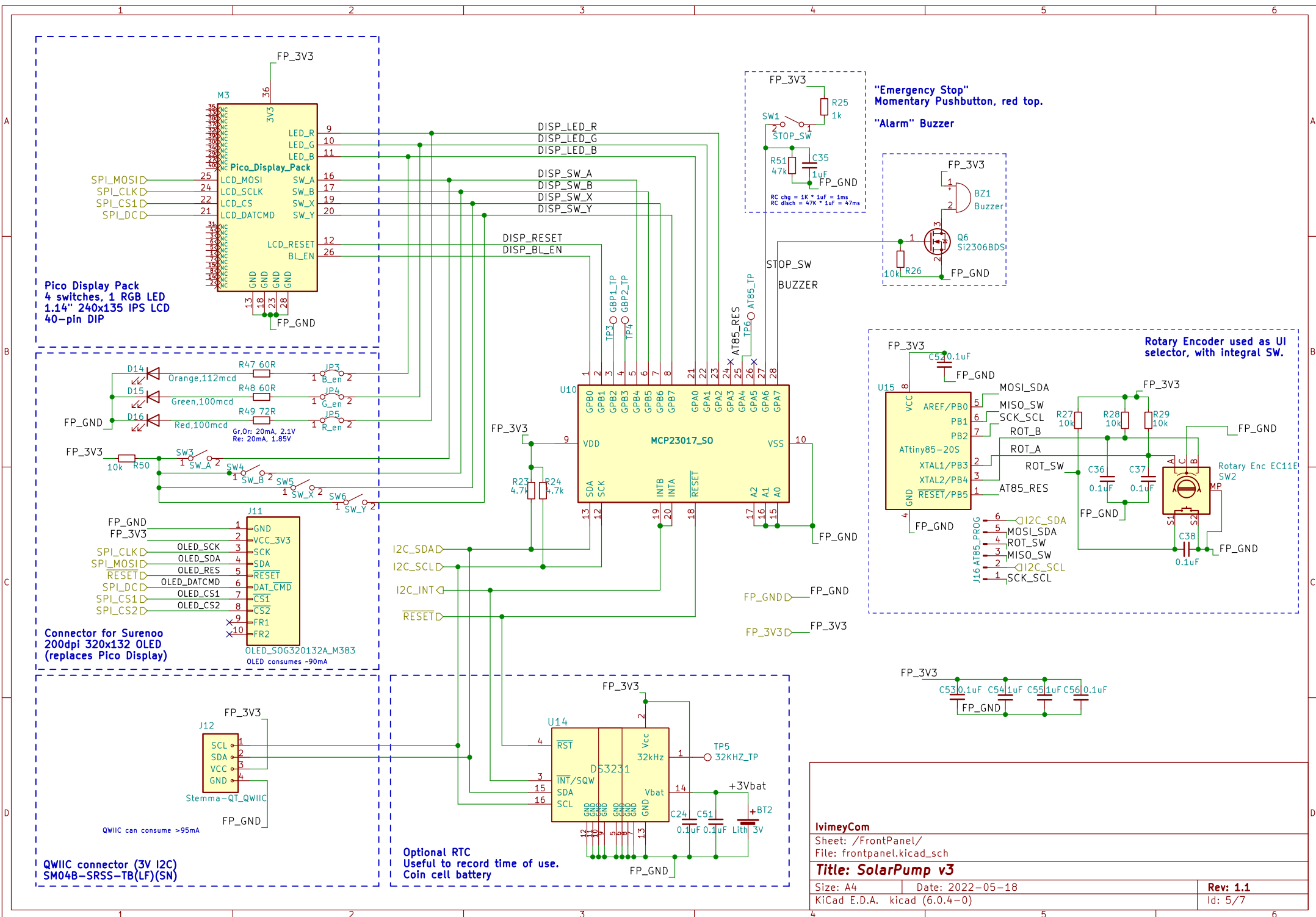
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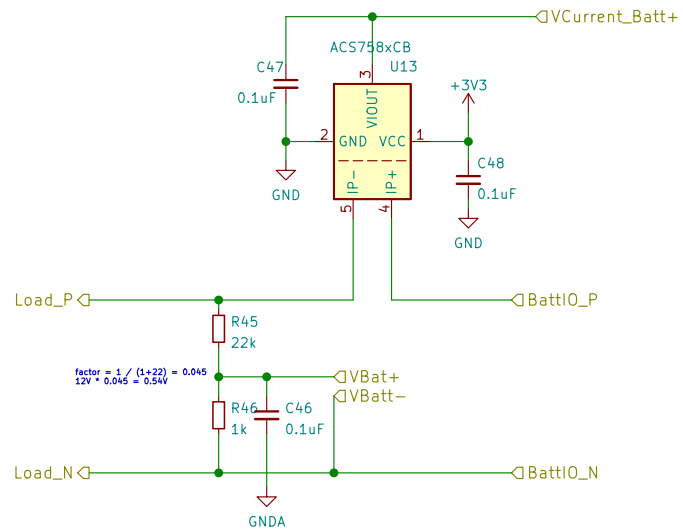
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Sheet: /FrontPanel/
File: frontpanel.kicad_sch

Title: SolarPump v3

Size: A4 Date: 2022-05-18
KiCad E.D.A. kicad (6.0.4-0)

Rev: 1.1
Id: 5/7



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Sheet: /BATTERY/

File: battery.kicad_sch

Title: SolarPump v3

Size: A4 Date: 2022-05-18

KiCad E.D.A. kicad (6.0.4-0)

Rev: 1.1

Id: 7/7