

Note 1.1: Possible alternative AUFR5305, SUD19P06-60, SPD30P06P or other with similar or lower input capacitance
 Note 1.2: WE 7447709330, WE 7443551331, Coilcraft MSS1210-333, Coilcraft XAL1510-333, Vishay IHL4040DZER470M11, etc.
 Note 1.3: Use 240K for 30 VAC main transformer
 Note 1.4: Install 0R only if 100% Duty cycle feature for Low Ripple mode is not needed
 Note 1.5: Use R020 for 0-3.12 A or R015 for 0-4.16 A range
 Note 1.6: Replace ZD1 and C3, C5, C6 if Vin is above 50 V

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 More info at <http://www.envox.hr/eez>
 Repository: <https://github.com/eez-open>



SMPS power pre-regulator with 100% duty cycle

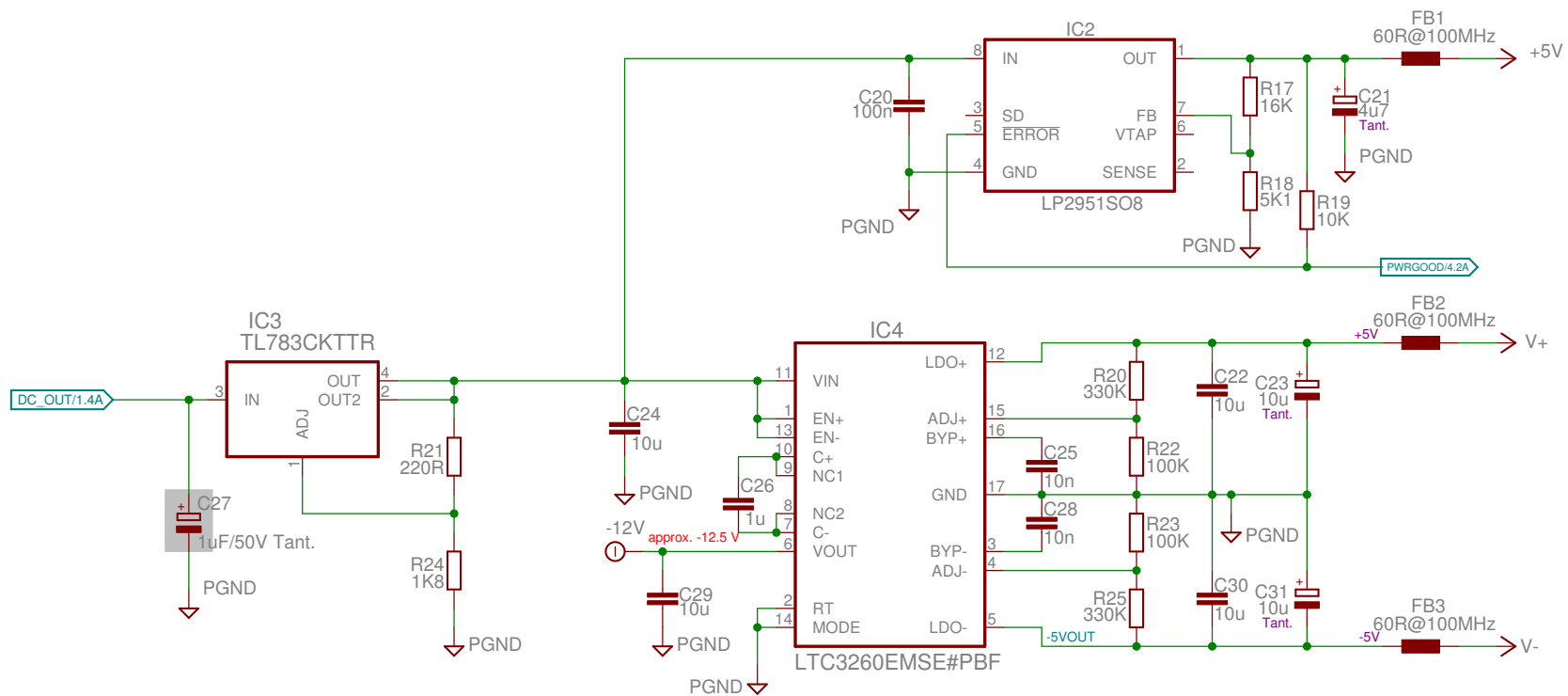
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Bias power supply (+/-5V, +5V, -12V)
Powergood signal

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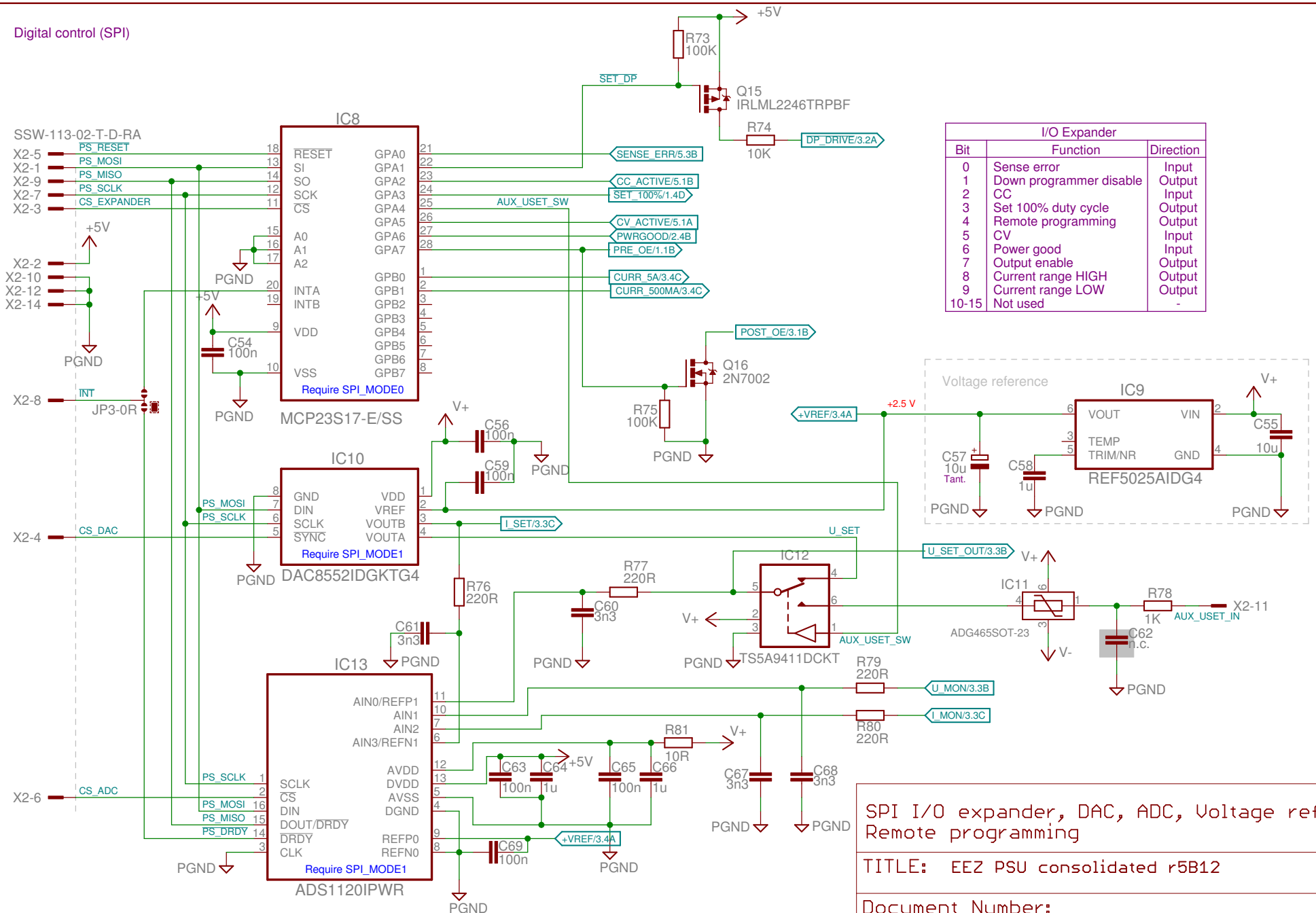
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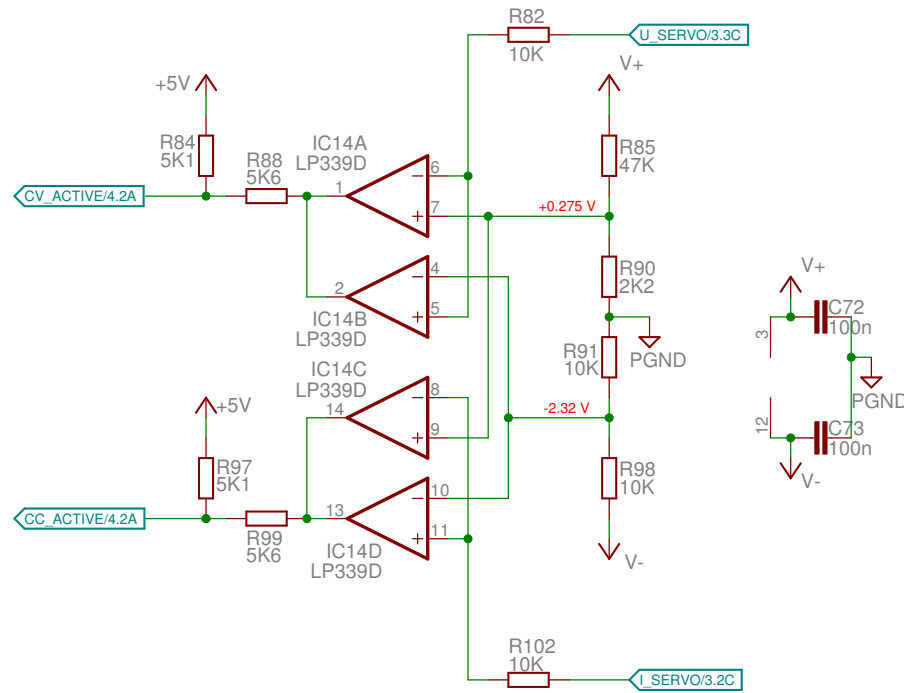
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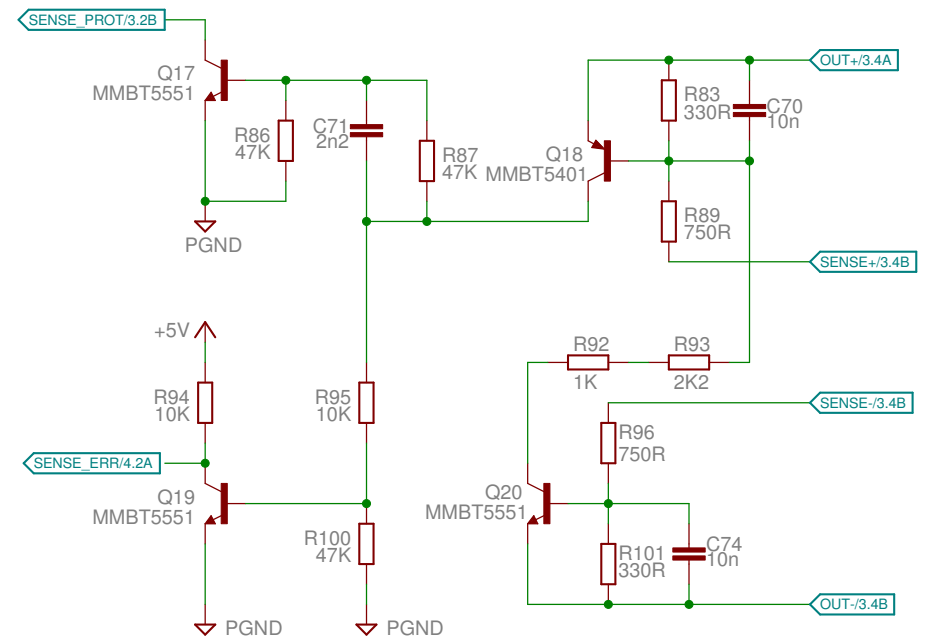
Digital control (SPI)



Constant Voltage (CV) and Constant Current (CC) mode indicator



Remote sense reverse polarity detection



CC/CV indicators, Sense error detection

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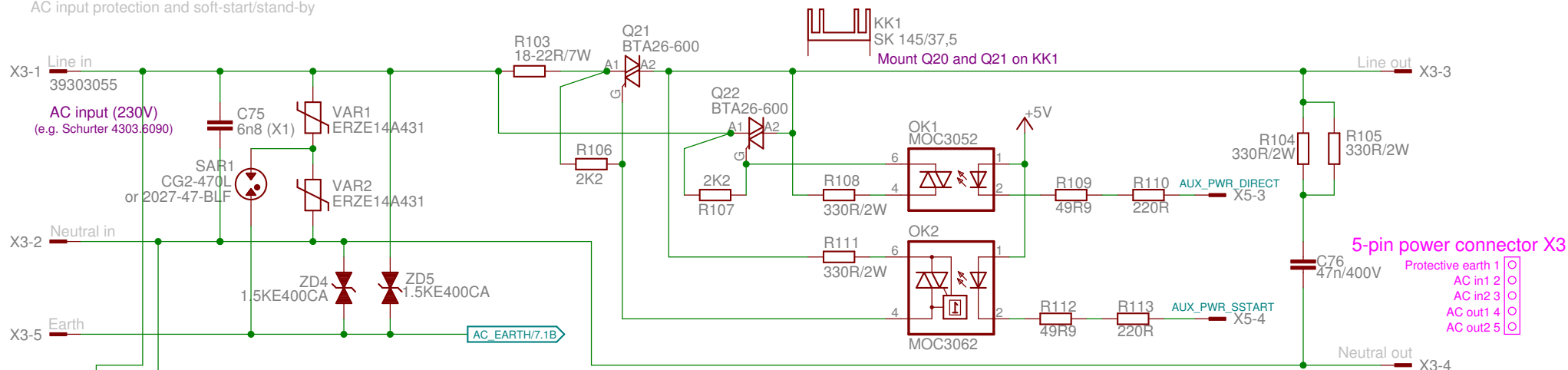
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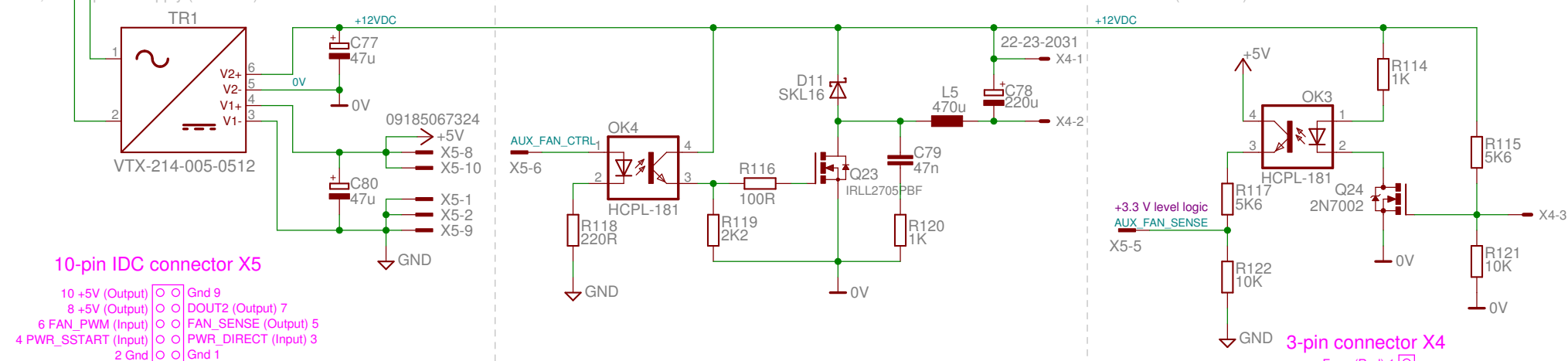
AC input protection and soft-start/stand-by



+5 V, +12 V power supply (max. 5W)

+12VDC fan control

Fan sense (tachometer out)



115VAC option:

Name	Value	Code
SAR1	2027-23-BLF	Farnell: 1780455, TME: CG2-230L
TR2	VPP24-210	Digikey: 237-1085-ND
		Mouser: 553-VPP24-210
		Newark: 93F8764
VAR1, VAR2	or AC/DC module	Farnell: 2469211
ZD1, ZD2	Myrra 47202	Farnell: 1004387, TME: SIOV-S20K140
	S20K140	Farnell: 1837117, TME: 1.5KE200CA
	1.5KE200CA	

AC input protection, in-rush current limiter
+5V/+12V 5W power supply, fan control

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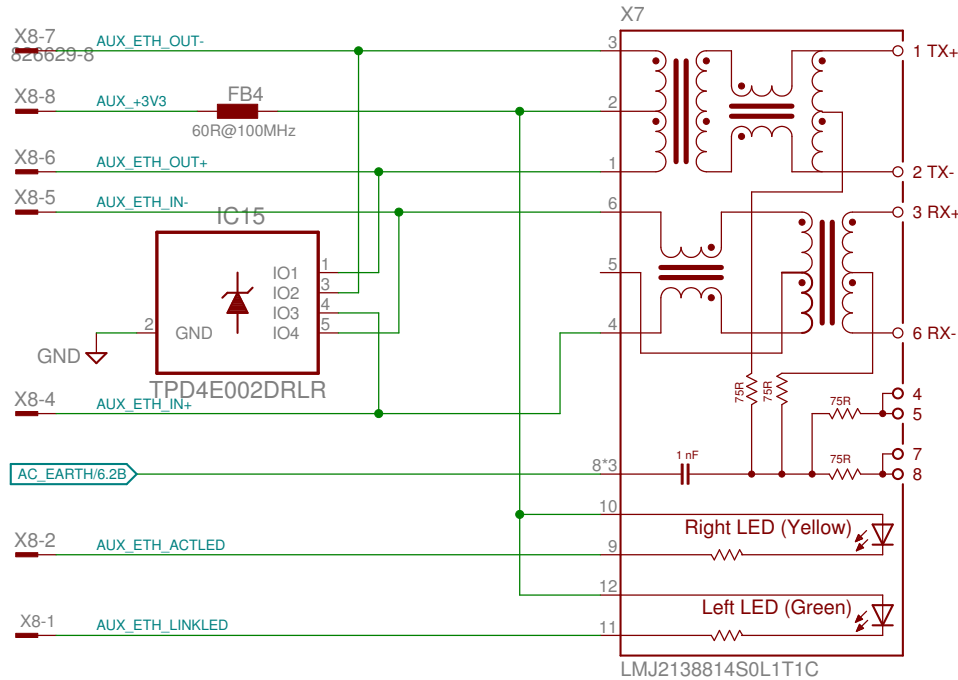
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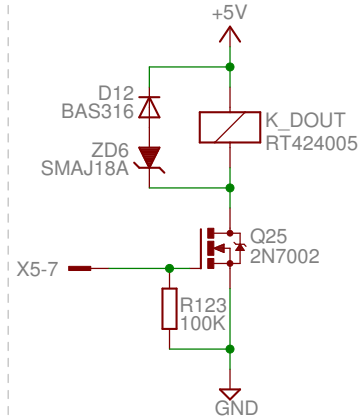
Ethernet connector with optional surge protection



8-pin connector X8

- LED Link (Input) 1
- LED Act (Input) 2
- Shield 3
- RX+ (Output) 4
- RX- (Output) 5
- TX+ (Input) 6
- TX- (Input) 7
- +3.3V (Input) 8

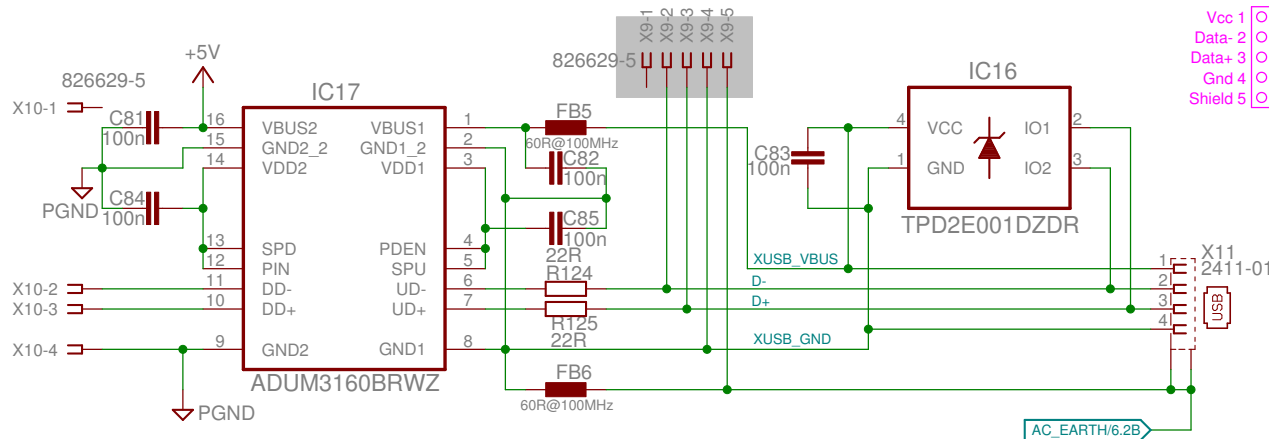
Digital OUT2 relay



3-pin connector X6

- NO contact 1
- Common 2
- NC contact 3

USB connector with optional isolator and surge protection



5-pin connector X9, X10

- Vcc 1
- Data- 2
- Data+ 3
- Gnd 4
- Shield 5

Note 7.1: Mount X4 and X8 on the opposite (top) side of the PCB. Use 14 mm (e.g. Bossard B3X14/BN3320) for enclosure with 3 mm rear panel

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Ethernet and USB PCB connectors

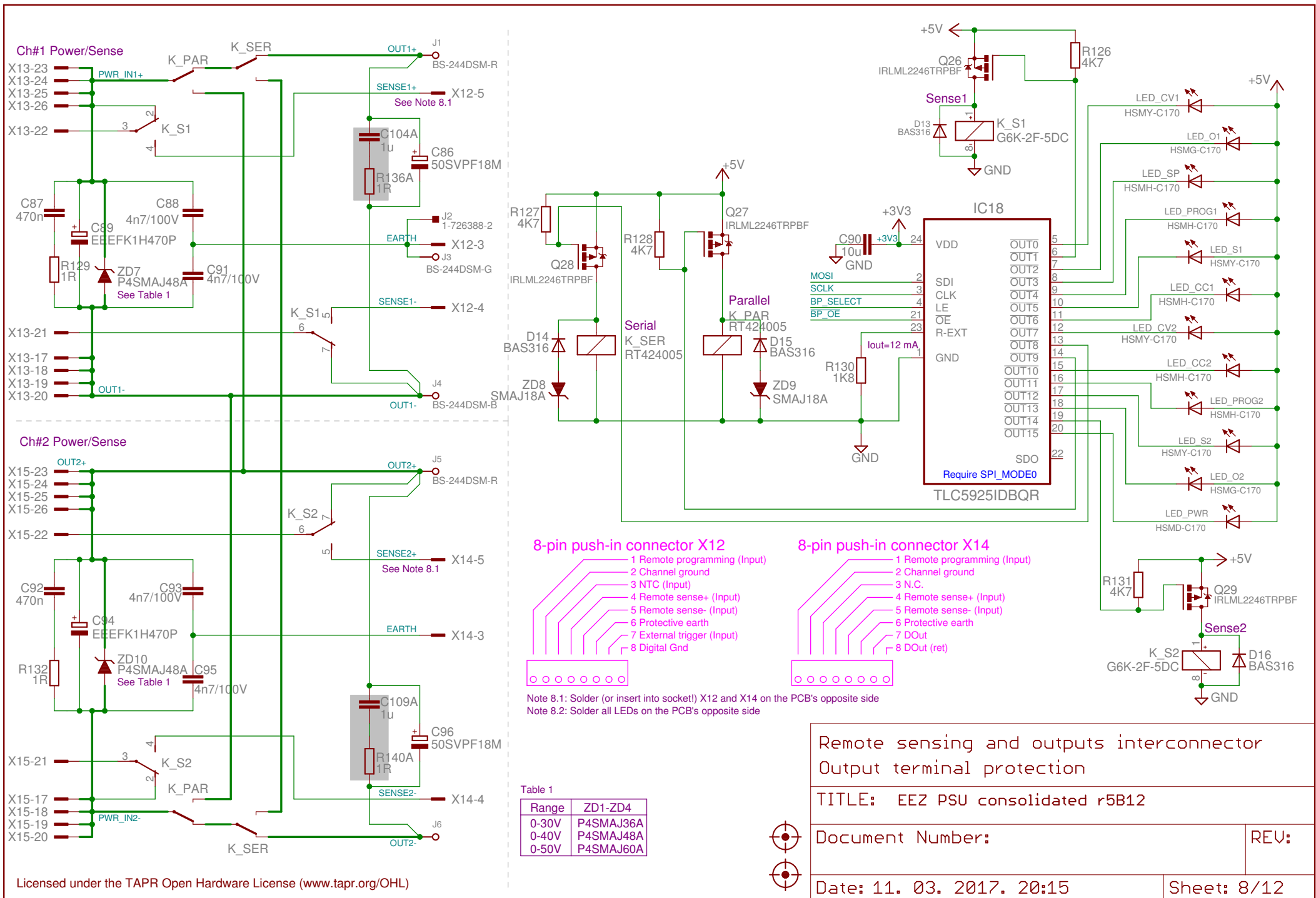
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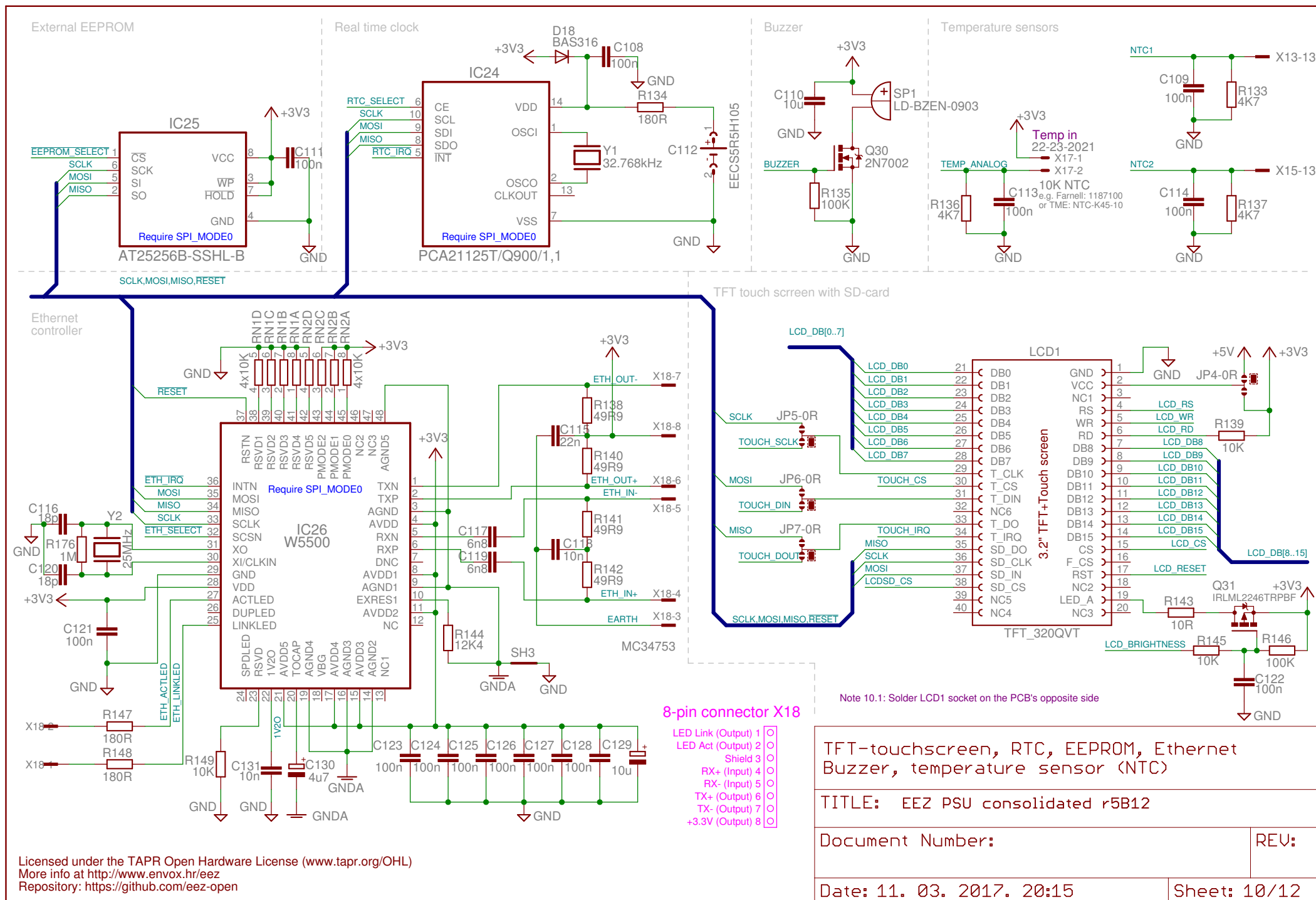
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[illegible]

ENC_A

ENC_B

ENC_SW

+3V3

R156 4K7

R159 4K7

R165 10K

C135 10n

C137 10n

C138 10n

SW2-1

SW2-2

GND

EC12E20-24P24C-SW

Possible alternatives:
PEC11R-4220F-S0024 or EN12-HS22AF20

IC29B

4 RST_OUT

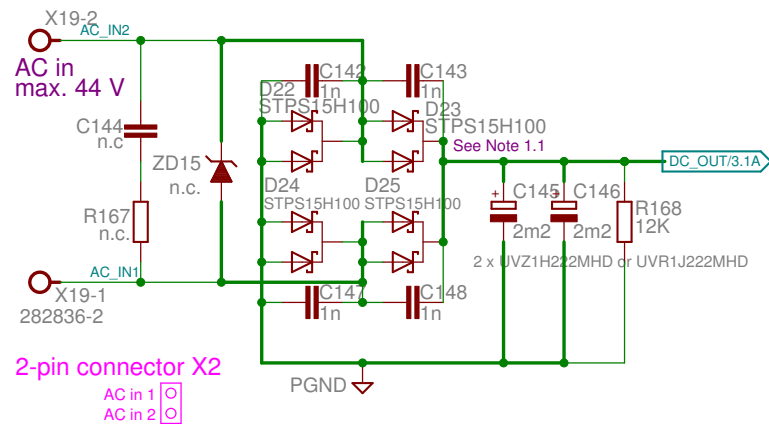
5 DOUT2

6 X16-7

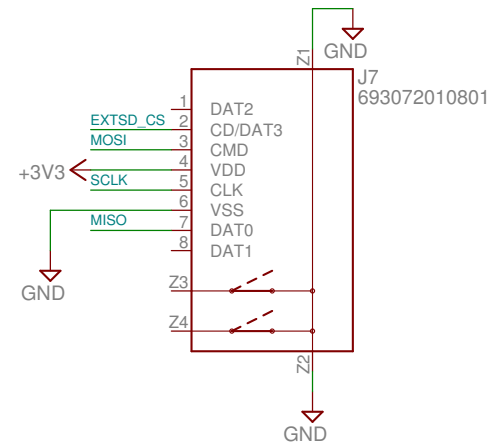
SN74LVC08APWR

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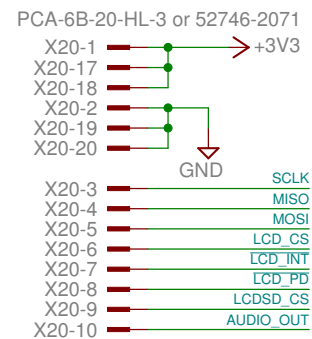
AC input option



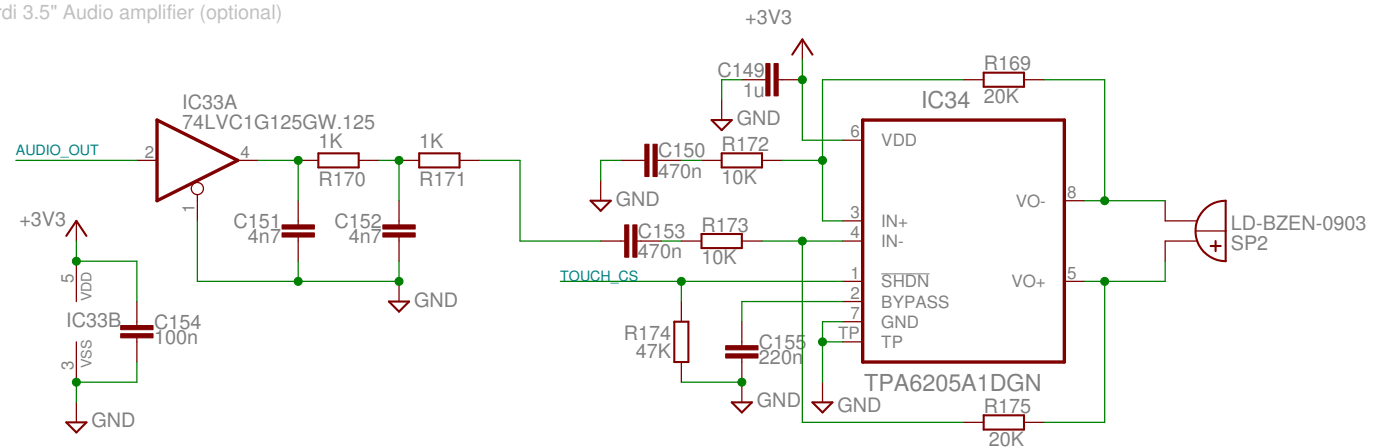
Micro SD card (optional)



Riverdi 3.5" LCD (optional)



Riverdi 3.5" Audio amplifier (optional)



Optional sections: AC input, 20-pin 3.5" TFT display
Audio amplifier for 3.5" TFT display, Micro SD card

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