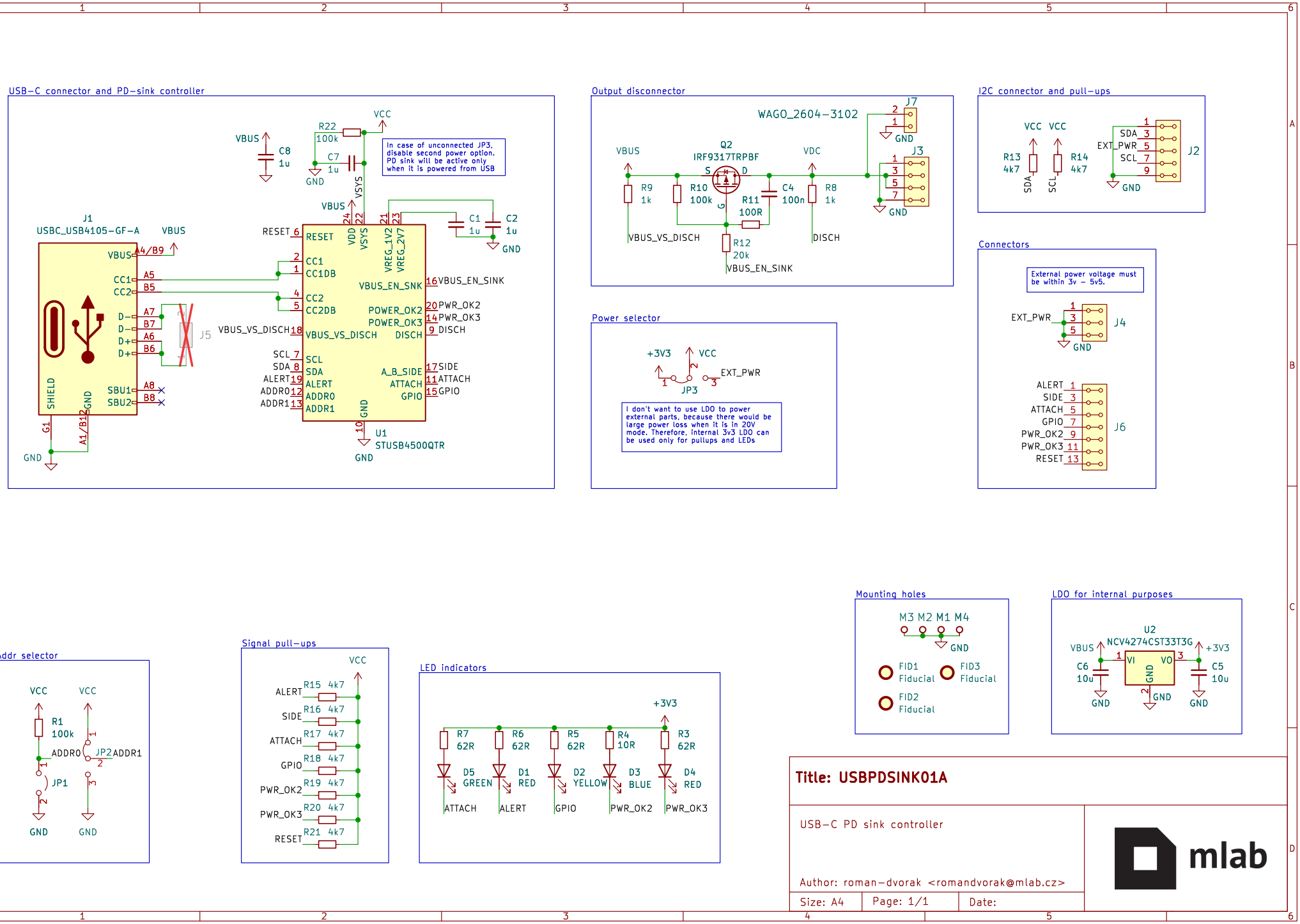
USB-C connector and PD-sink controller
J1
USBC_USB4105-GF-A
VBUS
CC1
CC2
D-
D+
SBU1
SBU2
SHIELD
GND
J5
R22
100k
C7
1u
C8
1u
VCC
In case of unconnected JP3, disable second power option. PD sink will be active only when it is powered from USB
VSYS
C1
1u
C2
1u
U1
STUSB4500QTR
RESET
CC1
CC1DB
CC2
CC2DB
VBUS_VS_DISCH
SCL
SDA
ALERT
ADDR0
ADDR1
VDD
VREG_1V2
VREG_2V7
VBUS_EN_SNK
POWER_OK2
POWER_OK3
DISCH
A_B_SIDE
ATTACH
GPIO
VBUS_EN_SINK
PWR_OK2
PWR_OK3
Output disconnector
WAGO_2604-3102
J7
J3
Q2
IRF9317TRPBF
VDC
R9
1k
R10
100k
R11
100R
C4
100n
R8
1k
R12
20k
VBUS_VS_DISCH
DISCH
VBUS_EN_SINK
I2C connector and pull-ups
R13
4k7
R14
4k7
SDA
SCL
EXT_PWR
J2
Connectors
External power voltage must be within 3v – 5v5.
J4
J6
Power selector
+3V3
VCC
EXT_PWR
JP3
I don't want to use LDO to power external parts, because there would be large power loss when it is in 20V mode. Therefore, internal 3v3 LDO can be used only for pullups and LEDs
Addr selector
R1
100k
ADDR0
JP2
ADDR1
JP1
Signal pull-ups
R15 4k7
R16 4k7
R17 4k7
R18 4k7
R19 4k7
R20 4k7
R21 4k7
LED indicators
R7
62R
R6
62R
R5
62R
R4
10R
R3
62R
D5
GREEN
D1
RED
D2
YELLOW
D3
BLUE
D4
RED
Mounting holes
M3 M2 M1 M4
FID1
Fiducial
FID2
Fiducial
FID3
Fiducial
LDO for internal purposes
U2
NCV4274CST33T3G
C6
10u
C5
10u
Title: USBPDSINK01A
USB-C PD sink controller
Author: roman-dvorak <romandvorak@mlab.cz>
Size: A4
Page: 1/1
Date:
mlab