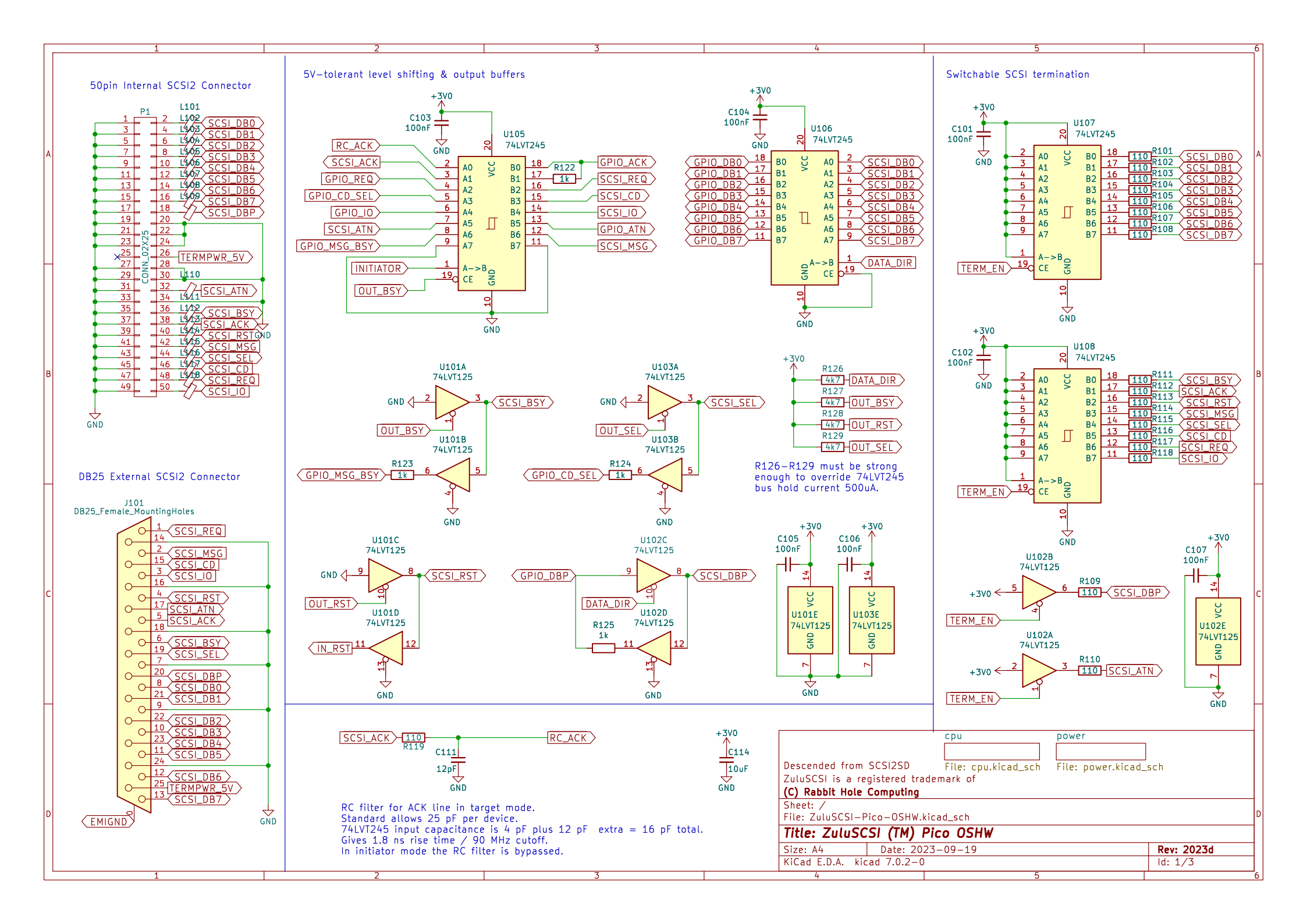
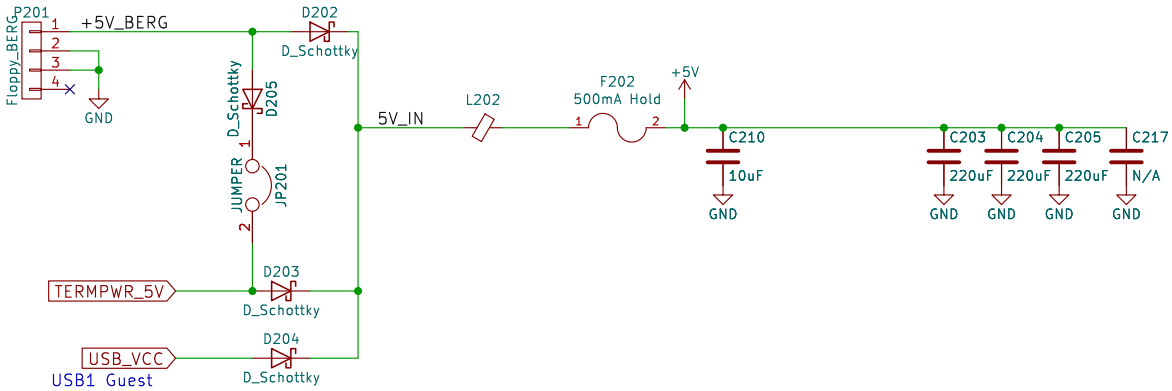
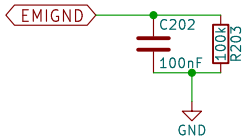
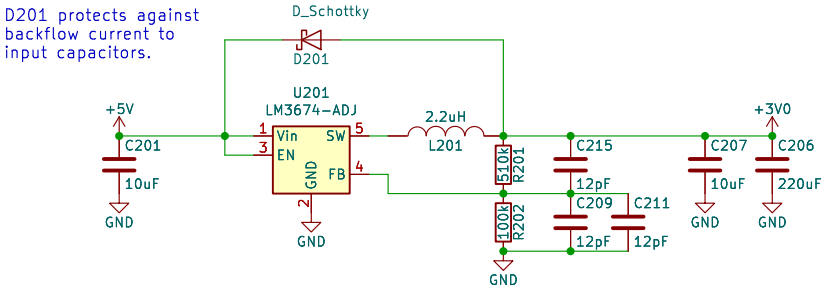

50pin Internal SCSI2 Connector
P1
L101
CONN_02X25
SCSI_DB0
SCSI_DB1
SCSI_DB2
SCSI_DB3
SCSI_DB4
SCSI_DB5
SCSI_DB6
SCSI_DB7
SCSI_DBP
TERMPWR_5V
L110
SCSI_ATN
L111
SCSI_BSY
SCSI_ACK
SCSI_RST
SCSI_MSG
SCSI_SEL
SCSI_CD
SCSI_REQ
SCSI_IO
GND
DB25 External SCSI2 Connector
J101
DB25_Female_MountingHoles
EMIGND
5V-tolerant level shifting & output buffers
U105
74LVT245
U106
74LVT245
C103
100nF
C104
100nF
+3V0
GND
RC_ACK
SCSI_ACK
GPIO_REQ
GPIO_CD_SEL
GPIO_IO
SCSI_ATN
GPIO_MSG_BSY
INITIATOR
OUT_BSY
R122
1k
GPIO_ACK
SCSI_REQ
SCSI_CD
SCSI_IO
GPIO_ATN
SCSI_MSG
GPIO_DB0
GPIO_DB1
GPIO_DB2
GPIO_DB3
GPIO_DB4
GPIO_DB5
GPIO_DB6
GPIO_DB7
DATA_DIR
U101A
74LVT125
U101B
74LVT125
U103A
74LVT125
U103B
74LVT125
R123
1k
R124
1k
R126
4k7
R127
4k7
R128
4k7
R129
4k7
R126–R129 must be strong enough to override 74LVT245 bus hold current 500uA.
U101C
74LVT125
U101D
74LVT125
U102C
74LVT125
U102D
74LVT125
R125
1k
C105
100nF
C106
100nF
U101E
74LVT125
U103E
74LVT125
Switchable SCSI termination
U107
74LVT245
U108
74LVT245
C101
100nF
C102
100nF
C107
100nF
TERM_EN
R101
R102
R103
R104
R105
R106
R107
R108
R111
R112
R113
R114
R115
R116
R117
R118
U102B
74LVT125
U102A
74LVT125
U102E
74LVT125
R109
110
R110
110
SCSI_DBP
SCSI_ATN
SCSI_ACK
R119
110
C111
12pF
C114
10uF
RC filter for ACK line in target mode.
Standard allows 25 pF per device.
74LVT245 input capacitance is 4 pF plus 12 pF extra = 16 pF total.
Gives 1.8 ns rise time / 90 MHz cutoff.
In initiator mode the RC filter is bypassed.
cpu
power
File: cpu.kicad_sch
File: power.kicad_sch
Descended from SCSI2SD
ZuluSCSI is a registered trademark of
(C) Rabbit Hole Computing
Sheet: /
File: ZuluSCSI-Pico-OSHW.kicad_sch
Title: ZuluSCSI (TM) Pico OSHW
Size: A4
Date: 2023-09-19
Rev: 2023d
KiCad E.D.A. kicad 7.0.2-0
Id: 1/3

Floppy connector uses 0.1" headers,
which takes less space than molex
and can be repurposed.





D201 protects against
backflow current to
input capacitors.



Ziptie holes for
power conn

H301
MountingHole

H302
MountingHole

Descended from SCSI2SD, with special thanks to Michael McMaster
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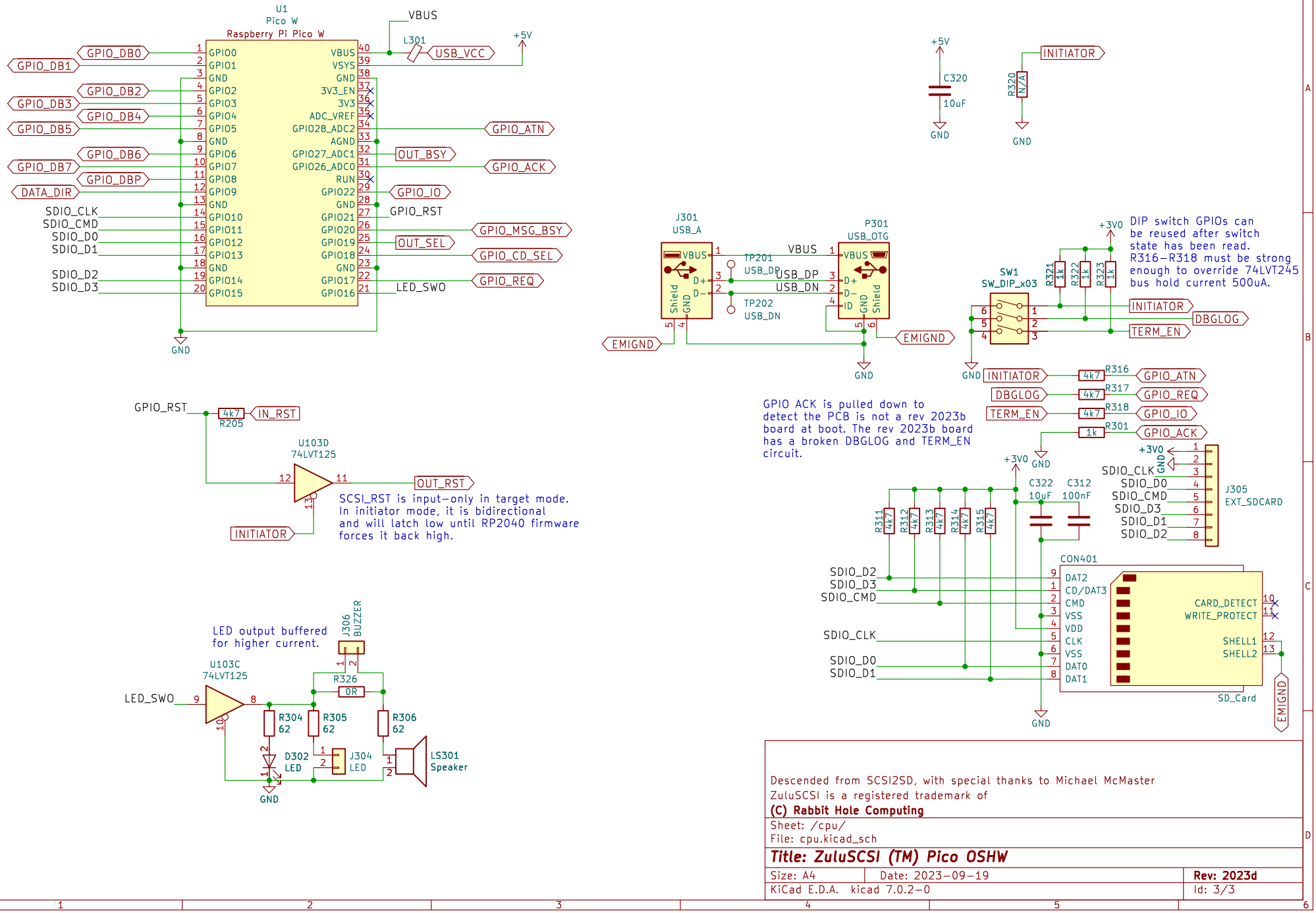
Sheet: /power/
File: power.kicad_sch

Title: ZuluSCSI (TM) Pico OSHW

Size: A4	Date: 2023-09-19	**Rev: 2023d**
KiCad E.D.A. kicad 7.0.2-0		Id: 2/3


U1
Pico W
Raspberry Pi Pico W
GPIO_DB0
GPIO_DB1
GPIO_DB2
GPIO_DB3
GPIO_DB4
GPIO_DB5
GPIO_DB6
GPIO_DB7
GPIO_DBP
DATA_DIR
SDIO_CLK
SDIO_CMD
SDIO_D0
SDIO_D1
SDIO_D2
SDIO_D3
VBUS
L301
USB_VCC
+5V
GPIO_ATN
OUT_BSY
GPIO_ACK
GPIO_IO
GPIO_RST
GPIO_MSG_BSY
OUT_SEL
GPIO_CD_SEL
GPIO_REQ
LED_SWO
GND
J301
USB_A
P301
USB_OTG
TP201
TP202
USB_DP
USB_DN
EMIGND
SW1
SW_DIP_x03
R321
R322
R323
1k
+3V0
INITIATOR
DBGLOG
TERM_EN
DIP switch GPIOs can be reused after switch state has been read. R316–R318 must be strong enough to override 74LVT245 bus hold current 500uA.
4k7
R316
R317
R318
R301
GPIO_ATN
GPIO_REQ
GPIO_IO
GPIO_ACK
GPIO ACK is pulled down to detect the PCB is not a rev 2023b board at boot. The rev 2023b board has a broken DBGLOG and TERM_EN circuit.
C320
10uF
R320
N/A
C322
C312
100nF
R311
R312
R313
R314
R315
J305
EXT_SDCARD
CON401
DAT2
CD/DAT3
CMD
VSS
VDD
CLK
VSS
DAT0
DAT1
CARD_DETECT
WRITE_PROTECT
SHELL1
SHELL2
SD_Card
GPIO_RST
IN_RST
R205
U103D
74LVT125
OUT_RST
SCSI_RST is input–only in target mode. In initiator mode, it is bidirectional and will latch low until RP2040 firmware forces it back high.
LED output buffered for higher current.
U103C
74LVT125
LED_SWO
J306
BUZZER
R326
0R
R304
R305
R306
62
D302
LED
J304
LED
LS301
Speaker
Descended from SCSI2SD, with special thanks to Michael McMaster
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Sheet: /cpu/
File: cpu.kicad_sch
Title: ZuluSCSI (TM) Pico OSHW
Size: A4
Date: 2023-09-19
Rev: 2023d
KiCad E.D.A. kicad 7.0.2-0
Id: 3/3