Molex 70543-0036 J21 DC_IN
Molex 70543-0036 J20 BATT
GND

File: power-supply.kicad_sch
4/6
Power Supply
+V_DC
+V_BAT
V_PS

RP2350 Datasheet

File: board-id.kicad_sch
5/6
Board ID
ID0
ID1
4mA @ 3.3V

File: encoder-inputs.kicad_sch
6/6
Encoder Inputs
ENC0_AD
ENC0_BD
ENC0_PWM
ENC1_AD
ENC1_BD
ENC1_PWM

File: joystick-inputs.kicad_sch
3/6
Joystick Inputs
ADC0
ADC1
ADC2
ADC_SCK
ADC_MISO
ADC_CS
75mA @ 3.3VA

File: button-input.kicad_sch
2/6
Button Inputs
BUTTON_DA
BUTTON_DB
BUTTON_S0
BUTTON_S1
BUTTON_S2
32mA max @ 3.3V

R56 1.50k-1%-0805
C25 0.1uF-25V-10%-0805
+3V3
+5V
GND

A1 RaspberryPi_Pico2
RESET
3V3_EN
VSYS
VBUS
3V3
GPIO0
GPIO1
GPIO2
GPIO3
GPIO4
GPIO5
GPIO6
GPIO7
SPI1_RX
SPI1_CSn
SPI1_SCK
GPIO11
GPIO12
GPIO13
GPIO15
GPIO16
ADC_VREF
ADC0
ADC1
ADC2
AGND
GPIO17
GPIO18
SPI0_TX
SPI0_RX
SPI0_CSn
GPIO14
SPI0_SCK
CAN_IRQ
CAN_RX_IRQ
SPI0_MOSI
SPI0_MISO
SPI0_CS
CAN_TX_IRQ
+3V3A
X0_ADC
Y0_ADC
X1_ADC
35mA @ 3.3V

C23 0.1uF-25V-10%-0805
U5 MCP2518FDT-H/SL
SDI
SDO
CS
SCK
INT
INT0/GPIO0/XSTBY
INT1/GPIO1
OSC2
OSC1
VDD
VSS
TXCAN
RXCAN
SOF
20mA @ 3.3V

U4 4.0 MHz
EN
+Vs
OUT
7mA @ 3.3V
C4 0.1uF-25V-10%-0805

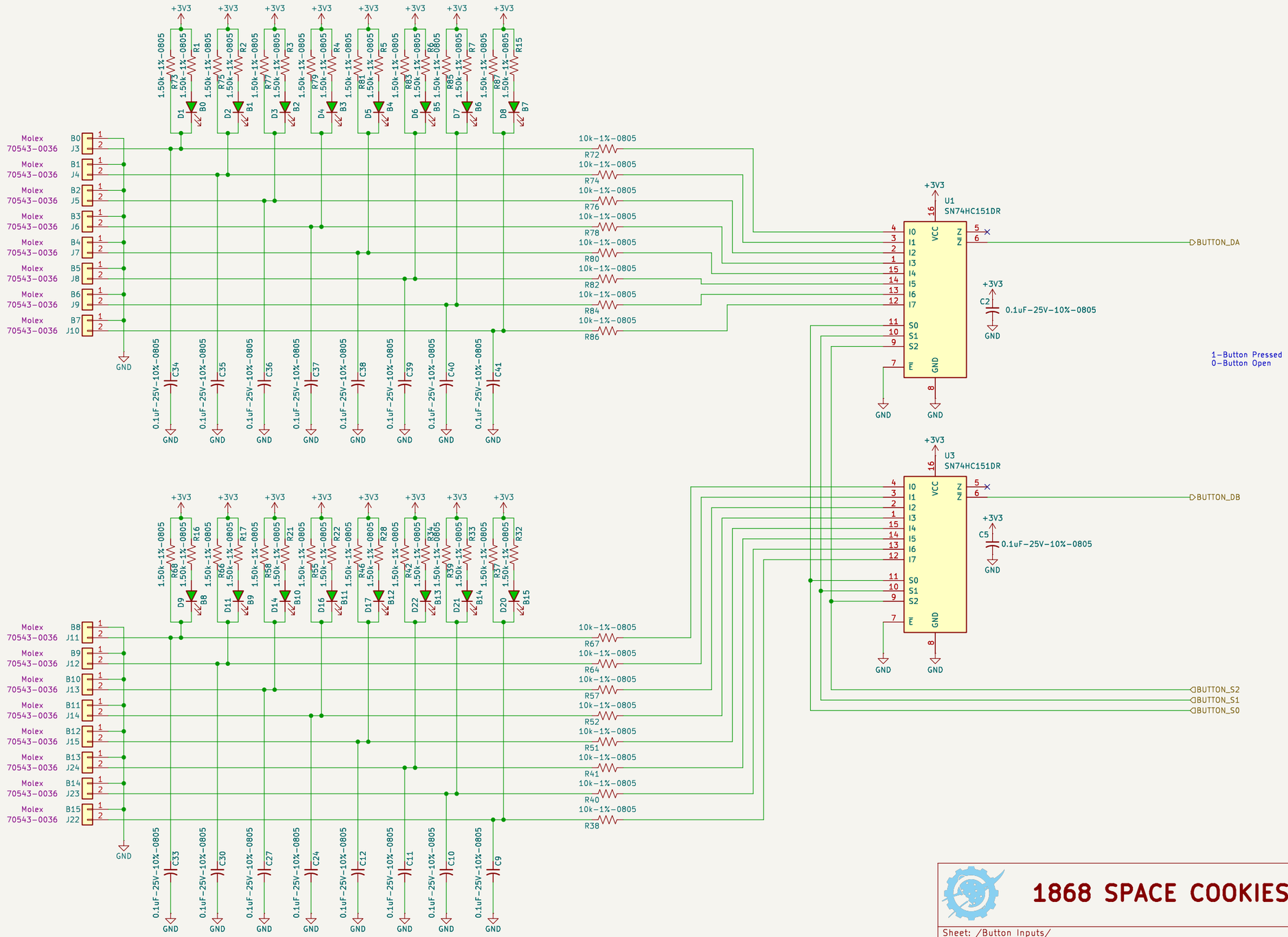
C17 0.1uF-25V-10%-0805
C19 0.1uF-25V-10%-0805
U8 MCP2558FD
TXD
RXD
S
Vio
Vdd
CANH
CANL
CANTX
CANRX
70mA max @ 5V
30mA avg

J18 CAN
V_PS
CAN_L
CAN_H
MFG: Molex
MFG P/N: 0705430038
J19 CAN Molex 70543-0036

H1 MountingHole
H2 MountingHole
H3 MountingHole
H4 MountingHole
FID1 Fiducial
FID2 Fiducial
FID3 Fiducial
FID4 Fiducial
FID5 Fiducial
FID6 Fiducial
G1 Space Cookies Logo

1868 SPACE COOKIES

Sheet: /
File: Pico-ButtonBoard-v1.kicad_sch
Title: Pico Button Board
Size: B | Date: 2026-01-21 | **Rev: 1**
KiCad E.D.A. 9.0.7 | Id: 1/6

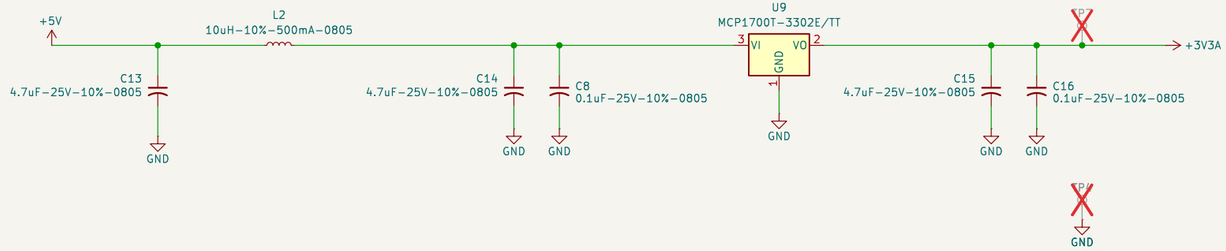


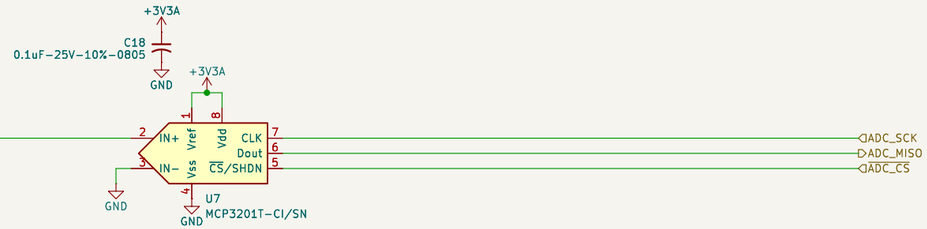
1868 SPACE COOKIES

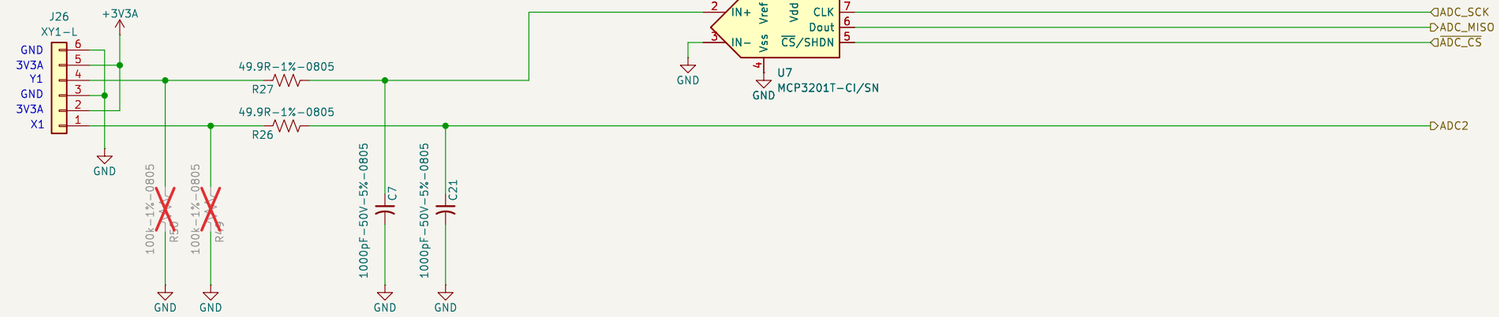
Sheet: /Button Inputs/
File: button-input.kicad_sch

Title: Pico Button Board

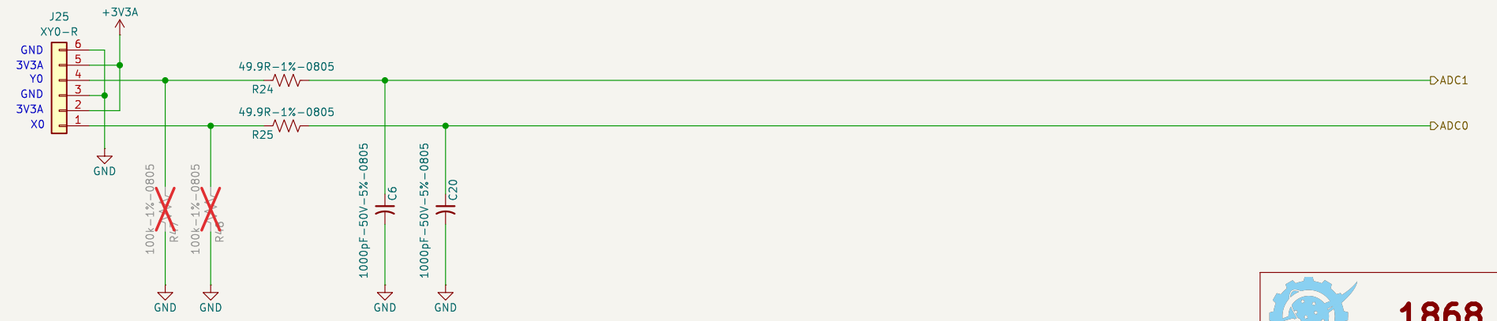
Size: B	Date: 2026-01-21	**Rev: 1**
KiCad E.D.A. 9.0.7		Id: 2/6







Same connector as Radio Master TX16S



Link: Radio Master TX2 Schematic

1868 SPACE COOKIES

Sheet: /Joystick Inputs/
File: joystick-inputs.kicad_sch

Title: Pico Button Board

Size: B	Date: 2026-01-21	**Rev: 1**
KiCad E.D.A. 9.0.7		Id: 3/6

Power supply input range: 8V – 25V
– Allows use of M12 and M18 Milwaukee battery packs.

– Input power can be sourced from either a Milwaukee battery pack an AC power adapter.
– Voltage of the battery pack may be higher than the AC adapter.
– The battery pack is disabled from supplying power whenever the AC adapter is greater than 9V.
– All inputs are protected from reverse polarity

Battery Backup Selector

+V_DCD
D19
B340AE-13
R35
1.50k-1%-0805
1.50k-1%-0805
R36
+V_BAT
D18
B340AE-13
DNP
U6
ITS41k0S-ME-N
Vs
OUT
IN
200mA max
V_PS
20k-1%-0805
R53
D24
5.6V
MMBZ5232BLT1G
C22
10uF-10%-50V-1206
Q1
BSS123
Q2
BSS123
20k-1%-0805
R23
MMBZ5232BLT1G
D15
5.6V
20k-1%-0805
R54
MMBZ5232BLT1G
D23
5.6V
GND

5V Power Supply

V_PS
D13
B340AE-13
U2
TPS54202DDC
VIN
EN
BOOT
SW
FB
GND
0.1uF-25V-10%-0805
C29
5.6 uH-20%-3.4A
L1
R19
100k-1%-0805
7.2-7.7V Setpoint
R59
100k-1%-0805
C26
68pF-50V-5%-0805
C1
10uF-10%-50V-1206
20k-1%-0805
R20
13k-1%-0805
R18
5.18V Setpoint
C3
47uF-10%-16V-1210
5V_PS
D10
B340AE-13
+5V
Input: 7.2 to 25V
Output: 5V, 1A
Efficiency: 89%
f_sw: 500kHz
TPS54202-DCDC-Analysis

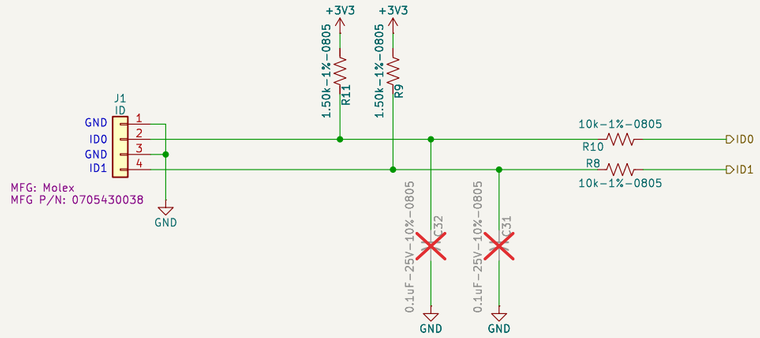
Power Indicator

+5V
D12A
PWR
D12B
PWR
100k-1%-0805
R61
1.50k-1%-0805
R63
10k-1%-0805
R65
1.50k-1%-0805
R62
Q4
BSS123
Q3
BSS123
100k-1%-0805
R60
0.1uF-25V-10%-0805
C28
GND
GREEN – Power Present
YELLOW – Power Present No Battery

1868 SPACE COOKIES

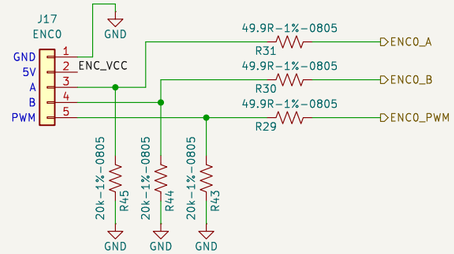
Sheet: /Power Supply/
File: power-supply.kicad_sch
Title: Pico Button Board

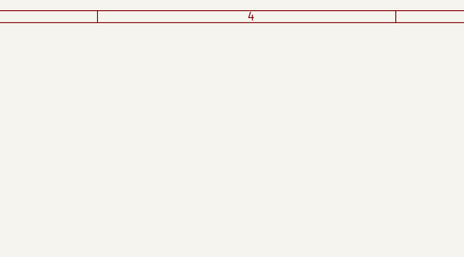
Size: B	Date: 2026-01-21	**Rev: 1**
KiCad E.D.A. 9.0.7		Id: 4/6

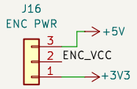


1868 SPACE COOKIES

Sheet: /Board ID/		
File: board-id.kicad_sch		
Title: Pico Button Board		
Size: B	Date: 2026-01-21	**Rev: 1**
KiCad E.D.A. 9.0.7		Id: 5/6







JMP1 0.100'' SHORTING JUMPER

MFG: Sullins
MFG P/N: QPC02SXGN-RC

EXAMPLE CODE: Github: PIO PWM Input Code

1868 SPACE COOKIES

Sheet: /Encoder Inputs/
File: encoder-inputs.kicad_sch

Title: Pico Button Board

Size: B	Date: 2026-01-21	**Rev: 1**
KiCad E.D.A. 9.0.7		Id: 6/6