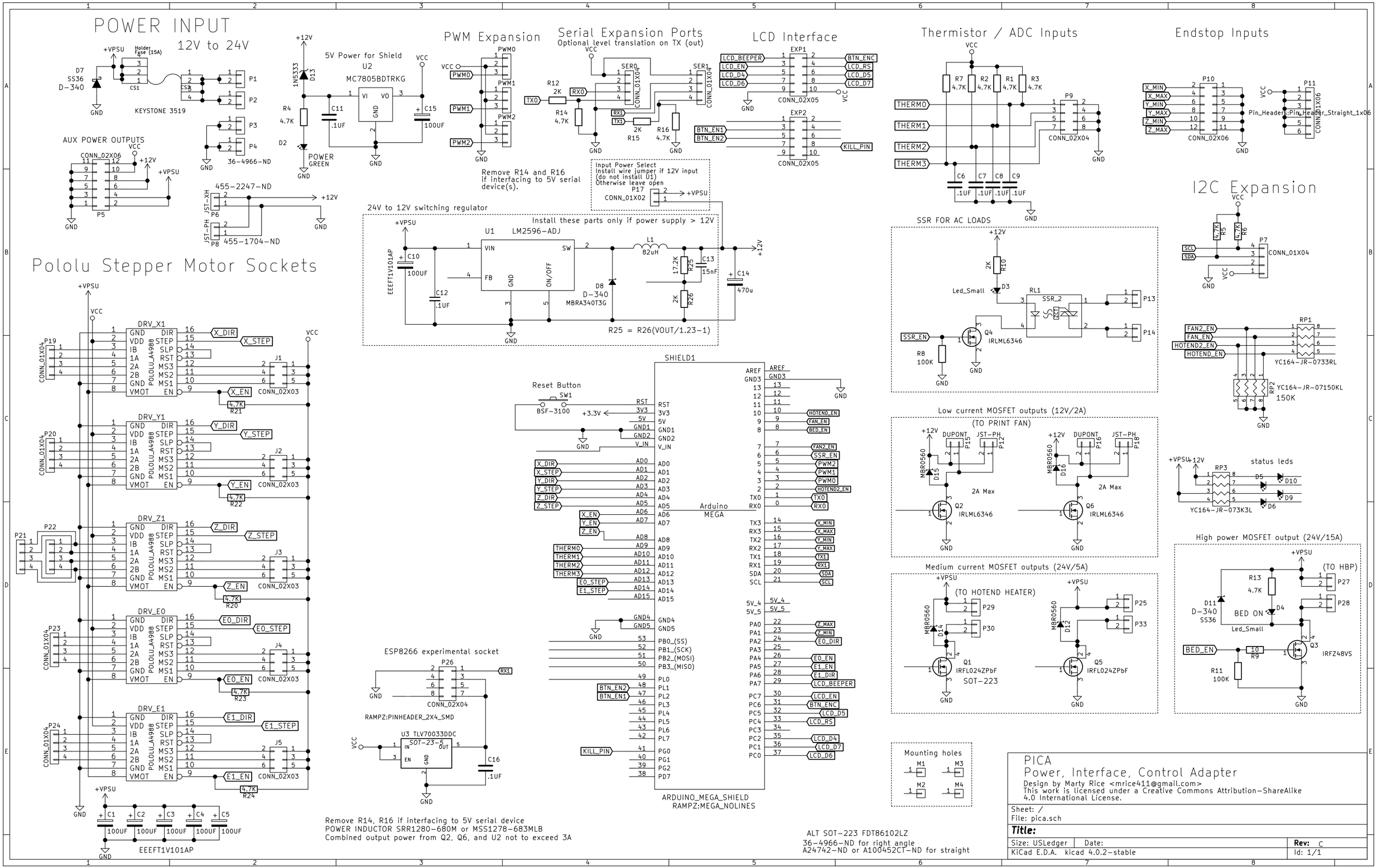
POWER INPUT
12V to 24V
+VPSU
Holder Fuse (15A)
D7
SS36
D-340
CS1
CS2
KEYSTONE 3519
P1
P2
P3
P4
36-4966-ND
GND
AUX POWER OUTPUTS
CONN_02X06
+12V
P5
455-2247-ND
JST-XH
P6
JST-PH
P8
455-1704-ND
5V Power for Shield
U2
MC7805BDTRKG
VI
VO
GND
1N5333
D13
R4
4.7K
C11
.1UF
C15
100UF
D2
POWER GREEN
VCC
PWM Expansion
PWM0
PWM1
PWM2
Remove R14 and R16
if interfacing to 5V serial
device(s).
Serial Expansion Ports
Optional level translation on TX (out)
SER0
SER1
CONN_01X04
TX0
RX0
R12
2K
R14
4.7K
RX1
TX1
R15
R16
LCD Interface
EXP1
LCD_BEEPER
LCD_EN
LCD_D4
LCD_D6
BTN_ENC
LCD_RS
LCD_D5
LCD_D7
CONN_02X05
EXP2
BTN_EN1
BTN_EN2
KILL_PIN
Thermistor / ADC Inputs
THERM0
THERM1
THERM2
THERM3
R7
4.7K
R2
4.7K
R1
4.7K
R3
4.7K
P9
CONN_02X04
C6
C7
C8
C9
.1UF
Endstop Inputs
X_MIN
X_MAX
Y_MIN
Y_MAX
Z_MIN
Z_MAX
P10
CONN_02X06
P11
Pin_Header:Pin_Header_Straight_1x06
CONN_01X06
Input Power Select
Install wire jumper if 12V input
(do not install U1)
Otherwise leave open
P17
CONN_01X02
24V to 12V switching regulator
Install these parts only if power supply > 12V
U1
LM2596-ADJ
VIN
FB
SW
ON/OFF
L1
82uH
C10
100UF
EEEFT1V101AP
C12
.1UF
D8
D-340
MBRA340T3G
17.2K
R25
C13
15nF
2K
R26
C14
470u
R25 = R26(VOUT/1.23-1)
SSR FOR AC LOADS
R10
2K
D3
Led_Small
RL1
SSR_2
P13
P14
SSR_EN
Q4
IRLML6346
R8
100K
I2C Expansion
SCL
SDA
R5
4.7K
R6
4.7K
P7
CONN_01X04
Pololu Stepper Motor Sockets
DRV_X1
DRV_Y1
DRV_Z1
DRV_E0
DRV_E1
POLOLU_A4988
GND
VDD
STEP
DIR
IB
1A
2A
2B
SLP
RST
MS3
MS2
MS1
EN
VMOT
X_DIR
X_STEP
X_EN
Y_DIR
Y_STEP
Y_EN
Z_DIR
Z_STEP
Z_EN
E0_DIR
E0_STEP
E0_EN
E1_DIR
E1_STEP
E1_EN
P19
P20
P21
P22
P23
P24
J1
J2
J3
J4
J5
CONN_02X03
R21
R22
R20
R23
R24
4.7K
C1
C2
C3
C4
C5
100UF
EEEFT1V101AP
Reset Button
SW1
BSF-3100
+3.3V
SHIELD1
RST
3V3
5V
GND1
GND2
V_IN
AREF
GND3
AD0
AD1
AD2
AD3
AD4
AD5
AD6
AD7
AD8
AD9
AD10
AD11
AD12
AD13
AD14
AD15
GND4
GND5
PB0_(SS)
PB1_(SCK)
PB2_(MOSI)
PB3_(MISO)
PL0
PL1
PL2
PL3
PL4
PL5
PL6
PL7
PG0
PG1
PG2
PD7
5V_4
5V_5
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PC7
PC6
PC5
PC4
PC3
PC2
PC1
PC0
TX0
RX0
TX3
RX3
TX2
RX2
TX1
RX1
SDA
SCL
HOTEND_EN
FAN_EN
BED_EN
FAN2_EN
SSR_EN
PWM2
PWM1
PWM0
HOTEND2_EN
X_MIN
X_MAX
Y_MIN
Y_MAX
Z_MAX
Z_MIN
E0_DIR
E0_EN
E1_EN
E1_DIR
LCD_BEEPER
LCD_EN
BTN_ENC
LCD_D5
LCD_RS
LCD_D4
LCD_D7
LCD_D6
KILL_PIN
ARDUINO_MEGA_SHIELD
RAMPZ:MEGA_NOLINES
Arduino
MEGA
ESP8266 experimental socket
P26
CONN_02X04
RAMPZ:PINHEADER_2X4_SMD
U3 TLV70033DDC
SOT-23-5
IN
OUT
EN
C16
.1UF
Low current MOSFET outputs (12V/2A)
(TO PRINT FAN)
DUPONT
JST-PH
P15
P12
P16
P18
MBR0560
D15
D16
2A Max
Q2
Q6
IRLML6346
Medium current MOSFET outputs (24V/5A)
(TO HOTEND HEATER)
P29
P30
P25
P33
D14
D12
Q1
Q5
IRFL024ZPbF
SOT-223
FAN2_EN
FAN_EN
HOTEND2_EN
HOTEND_EN
RP1
YC164-JR-0733RL
RP2
YC164-JR-07150KL
150K
RP3
status leds
D5
D10
D9
D6
YC164-JR-073K3L
High power MOSFET output (24V/15A)
(TO HBP)
R13
4.7K
D11
D-340
SS36
BED ON
D4
Led_Small
P27
P28
BED_EN
10
R9
Q3
IRFZ48VS
R11
100K
Mounting holes
M1
M2
M3
M4
Remove R14, R16 if interfacing to 5V serial device
POWER INDUCTOR SRR1280-680M or MSS1278-683MLB
Combined output power from Q2, Q6, and U2 not to exceed 3A
ALT SOT-223 FDT86102LZ
36-4966-ND for right angle
A24742-ND or A100452CT-ND for straight
PICA
Power, Interface, Control Adapter
Design by Marty Rice <mrice411@gmail.com>
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4.0 International License.
Sheet: /
File: pica.sch
Title:
Size: USLedger
Date:
Rev: C
KiCad E.D.A. kicad 4.0.2-stable
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