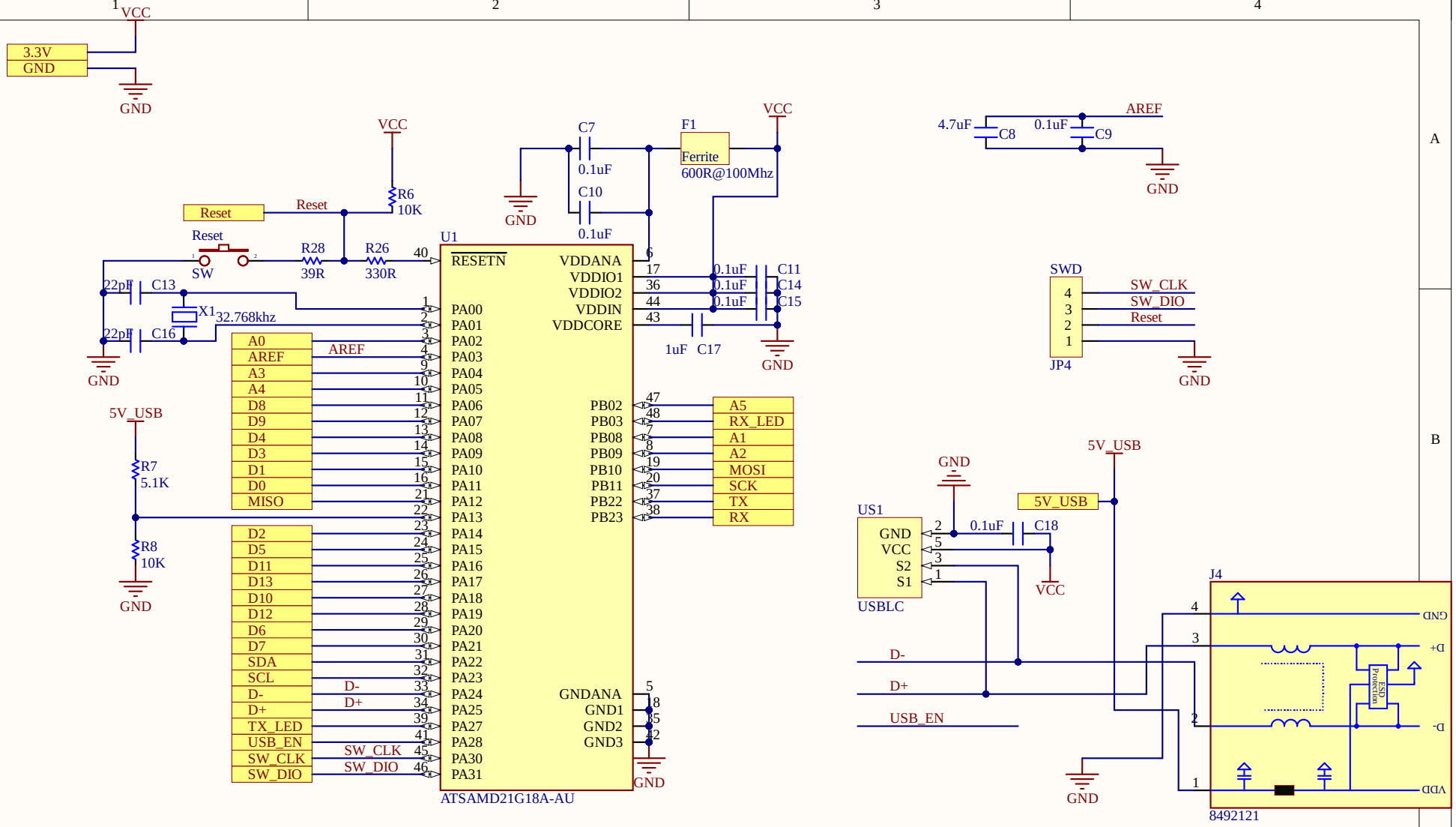

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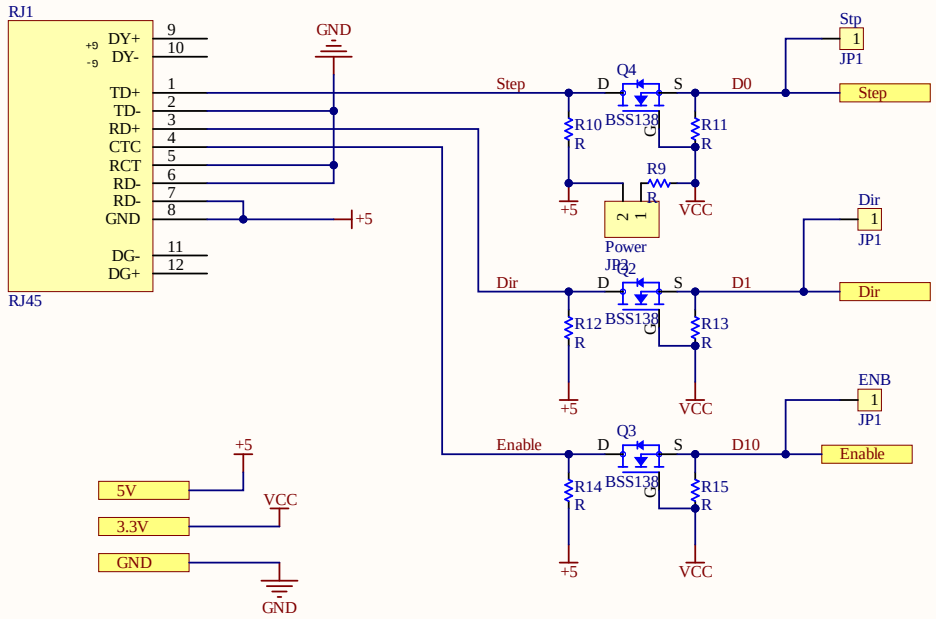

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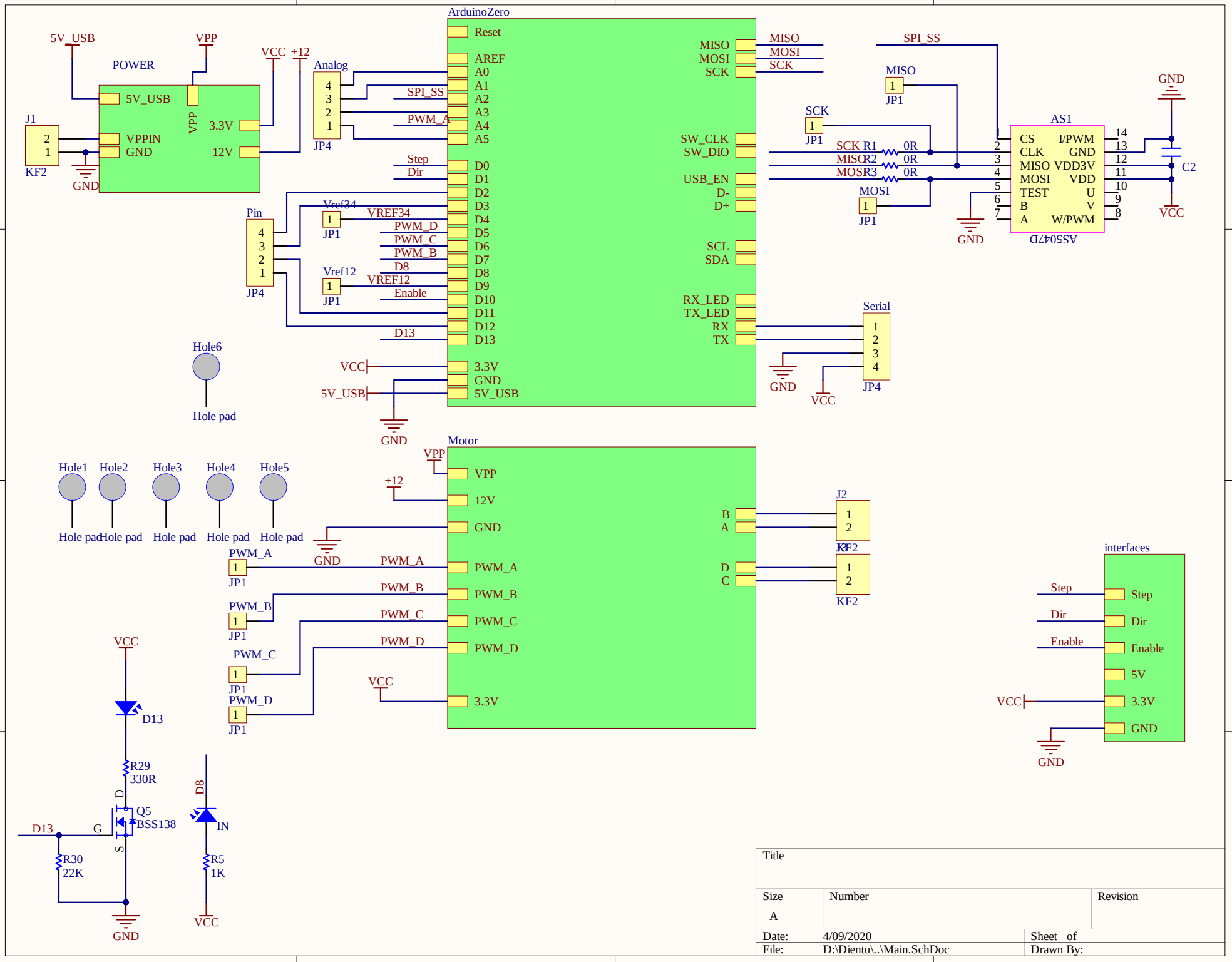
ArduinoZero
Reset
AREF
A0
A1
A2
A3
A4
A5
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
3.3V
GND
5V_USB
MISO
MOSI
SCK
SW_CLK
SW_DIO
USB_EN
D-
D+
SCL
SDA
RX_LED
TX_LED
RX
TX
POWER
5V_USB
VPP
VPPIN
GND
3.3V
12V
J1
KF2
Analog
JP4
SPI_SS
PWM_A
Step
Dir
Pin
Vref34
VREF34
PWM_D
PWM_C
PWM_B
D8
Vref12
VREF12
Enable
JP1
Hole6
Hole pad
AS1
CS
CLK
MISO
MOSI
TEST
B
A
I/PWM
GND
VDD3V
VDD
U
V
W/PWM
AS5047D
SCK R1
MISO R2
MOSI R3
0R
C2
Serial
Motor
VPP
12V
GND
PWM_A
PWM_B
PWM_C
PWM_D
3.3V
J2
B
A
D
C
Hole1
Hole2
Hole3
Hole4
Hole5
interfaces
Step
Dir
Enable
5V
D13
R29
330R
Q5
BSS138
G
D
S
R30
22K
D8
IN
R5
1K
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A
Number
Revision
Date:
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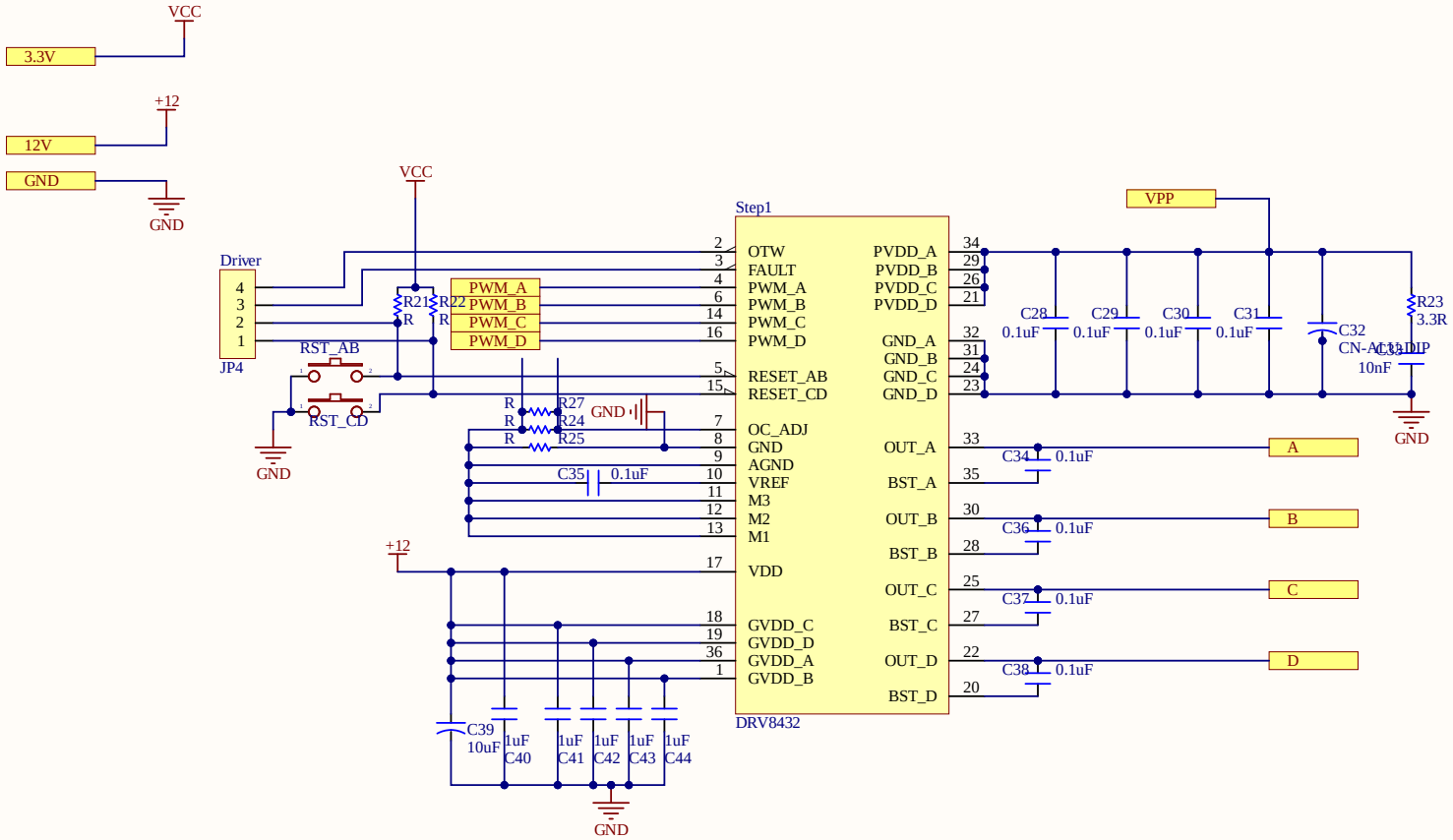
VCC
3.3V
+12
12V
GND
GND
VCC
Driver
4
3
2
1
JP4
RST_AB
RST_CD
GND
R21
R22
R
R
PWM_A
PWM_B
PWM_C
PWM_D
R
R
R
R27
R24
R25
GND
C35
0.1uF
+12
Step1
OTW
FAULT
PWM_A
PWM_B
PWM_C
PWM_D
RESET_AB
RESET_CD
OC_ADJ
GND
AGND
VREF
M3
M2
M1
VDD
GVDD_C
GVDD_D
GVDD_A
GVDD_B
PVDD_A
PVDD_B
PVDD_C
PVDD_D
GND_A
GND_B
GND_C
GND_D
OUT_A
BST_A
OUT_B
BST_B
OUT_C
BST_C
OUT_D
BST_D
DRV8432
2
3
4
6
14
16
5
15
7
8
9
10
11
12
13
17
18
19
36
1
34
29
26
21
32
31
24
23
33
35
30
28
25
27
22
20
VPP
C28
C29
C30
C31
0.1uF
C32
CN-ALDIP
10nF
R23
3.3R
GND
C34
C36
C37
C38
0.1uF
A
B
C
D
C39
10uF
C40
C41
C42
C43
C44
1uF
GND
Title
Size
A4
Number
Revision
Date:
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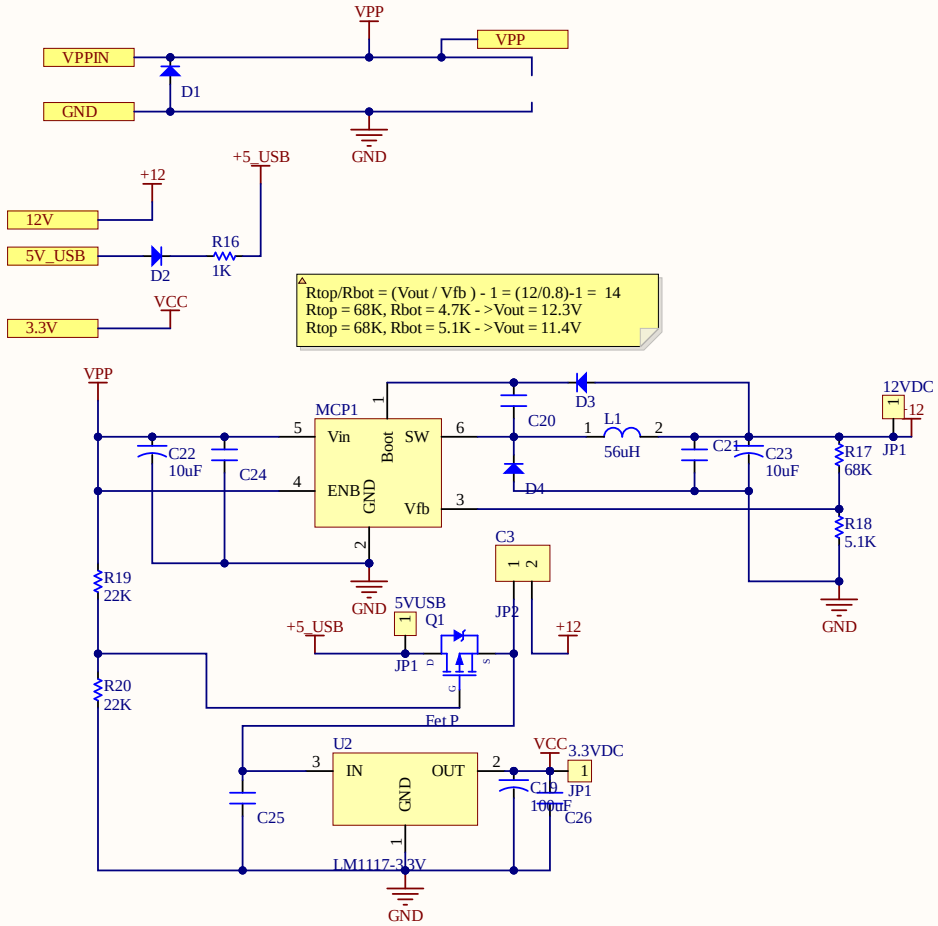

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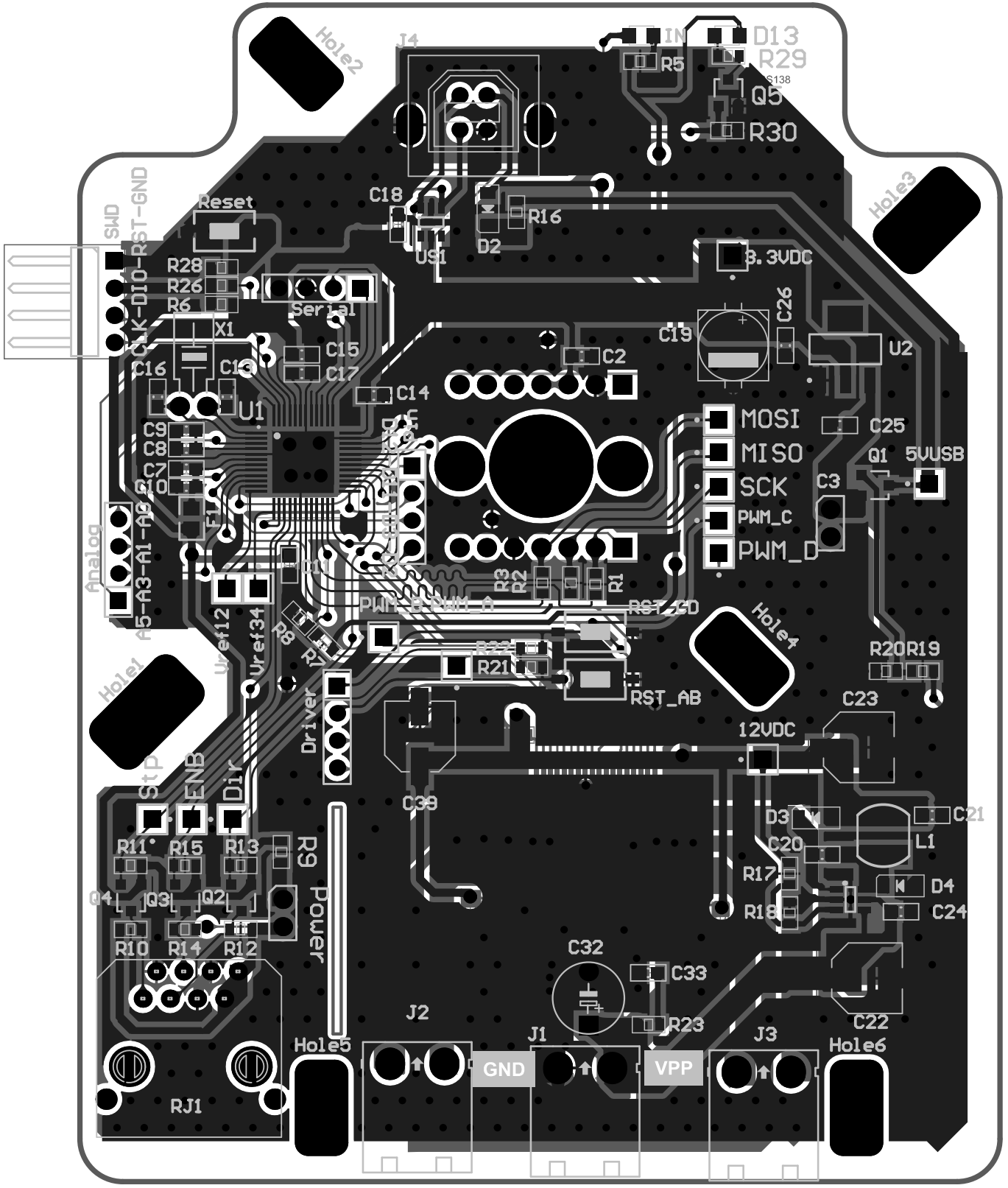
Hole2
J4
IN
D13
R29
R5
S138
Q5
R30
Hole3
C18
R16
D2
US1
Reset
SWD
CLK-DIO-RST-GND
R28
R26
R6
Serial
X1
3.3VDC
C26
C19
U2
C15
C17
C16
C13
C14
C2
U1
MOSI
MISO
SCK
PWM_C
PWM_D
C25
Q1
5VUSB
C3
C9
C8
C7
C10
Analog
A5-A3-A1-A0
R3
R2
R1
PWM_A
PWM_B
RST_CD
Hole4
Vref12
Vref34
R8
R7
R22
R21
RST_AB
R20
R19
Hole1
Driver
C23
12VDC
Stp
ENB
Dir
C38
D3
C21
L1
C20
R17
R18
D4
C24
R11
R15
R13
R9
Power
Q4
Q3
Q2
R10
R14
R12
C32
C33
R23
C22
J2
J1
J3
Hole5
Hole6
GND
VPP
RJ1

Comment	Description	Designator	Footprint	LibRef	Quantity
JP1	WR-PHD 2.54 mm Angled Socket Header	3.3VDC, 5VUSB, 12VDC, Dir, ENB, MISO, MOSI, PWM_A, PWM_B, PWM_C, PWM_D, SCK, Stp, Vref12, Vref34	JP1-D1T	JP1	15
JP4	WR-PHD 2.54 mm Angled Socket Header	Analog, Driver, Pin, Serial	JP4-C1T	JP4	4
AS5047D		AS1	AS5047D_Module		1
CN		C2, C20, C21, C24, C25, C26	CN-SMD-0603_big	CN	6
JP2	WR-PHD 2.54 mm Angled Socket Header	C3, Power	JP2-CLOSED	JP2	2
0.1uF		C7, C9, C10, C11, C14, C15, C18, C28, C29, C30, C31, C35, C36, C37	CN-SMD-0603_big	CN	14
4.7uF		C8	CN-SMD-0603_big	CN	1
22pF		C13, C16	CN-SMD-0603_big	CN	2
1uF		C17, C40, C41, C42, C43, C44	CN-SMD-0603_big	CN	6
100uF	Polarized Capacitor (Axial)	C19	CAP-ALU-SMD-D	CN-ALU-SMD	1
10uF	Polarized Capacitor (Axial)	C22, C23, C39	CAP-ALU-SMD-6.3x7.7x2.2	CN-ALU-SMD	3
CN-ALU-DIP	Capacitor (Semiconductor SIM Model)	C32	CA-ALU-5R	CN-ALU-DIP	1
10nF		C33	CN-SMD-0603_big	CN	1
0.1uF		C34, C38	CN-SMD-0805	CN	2
RB160M-60	Default Diode	D1	DIO-SMD-214AC	Diode	1
Diode	Default Diode	D2, D3, D4	DIO-SMD-123	Diode	3
LED		D13, IN	LED-0805-Blue	LED SMD	2
600R@100Mhz		F1	Capacitor_805	Ferrite	1
Hole pad		Hole1, Hole2, Hole3, Hole4, Hole5, Hole6	HolePad	Hole pad	6
KF2		J1, J2, J3	KF2-5.08T	KF2	3
8492121	THT USB 2.0 A Connector WE-EPLE	J4	USB-C3	USB-4	1
56uH	https://www.thegioiic.com/products/cuon-cam-68uh-cd75-smd-7-8x7-5x5-0	L1	L_SMD	L-SMD-1	1
MCP16331		MCP1	SOT23-6-	MCP16331	1
Fet P	HEXFET P-Channel Power MOSFET	Q1	SOT23F	Fet P	1
BSS138	N-Channel 50V 220mA _Ta_ 360mW _Ta_ Surface Mount Die	Q2, Q3, Q4, Q5	SOT23-bss138	BSS138	4
0R		R1, R2, R3	RES-SMD-0603_BIG	R	3
1K		R5, R16	RES-SMD-0603_BIG	R	2
10K		R6, R8	RES-SMD-0603_BIG	R	2
5.1K		R7, R18	RES-SMD-0603_BIG	R	2
R		R9, R10, R11, R12, R13, R14, R15, R21, R22, R24, R25, R27	RES-SMD-0603_BIG	R	12
68K		R17	RES-SMD-0603_BIG	R	1
22K		R19, R20, R30	RES-SMD-0603_BIG	R	3
3.3R		R23	RES-SMD-0603_BIG	R	1
330R		R26, R29	RES-SMD-0603_BIG	R	2
39R		R28	RES-SMD-0603_BIG	R	1
SW	Switch button 2 pin	Reset, RST_AB, RST_CD	SW1-SMD	SW2	3
RJ45		RJ1	RJ45-Dung	CON JR45	1
DRV8432	https://www.digikey.com/product-detail/en/texas-instruments/DRV8432DKDR/296-29573-2-ND/2353367	Step1	DRV8432	DRV8432	1
JP4	WR-PHD 2.54 mm Angled Socket Header	SWD	JP4-D1C	JP4	1
ATSAMD21G18A-AU	ARMÂ® CortexÂ®-M0+ SAM D21G Microcontroller IC 32-Bit 48MHz 256KB _256K x 8_ FLASH 48-TQFP _7x7_ Arduino Zero	U1	QFP50P900X900X120-48N	ATSAMD21G18A-AU	1
LM1117-3.3V	800mA Low-Dropout Linear Regulator	U2	SOT223	LM1117	1
USBLC	http://robocon.vn/detail/ic81-ic-dan-ul26-usblc6-2sc6-sot-23-6-st-st-esd.html	US1	SOT23-6	USBLC6-2S	1
32.768khz	Crystal, 32.768 KHz, -40 to 85 degC, 3.2 x 1.5 x 0.9 mm SMD	X1	XT32k	XT2	1