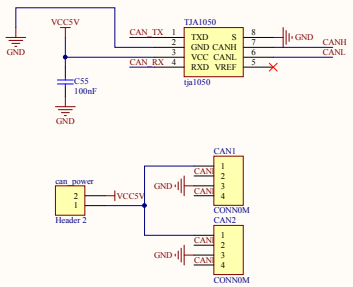
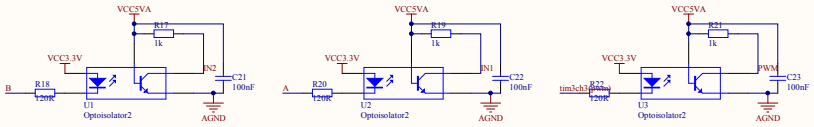
Motor Controller v3.2

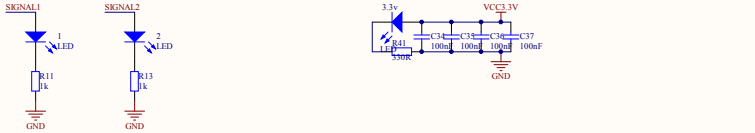
By GAO Zihou, with two current sensing chips, 03/2013

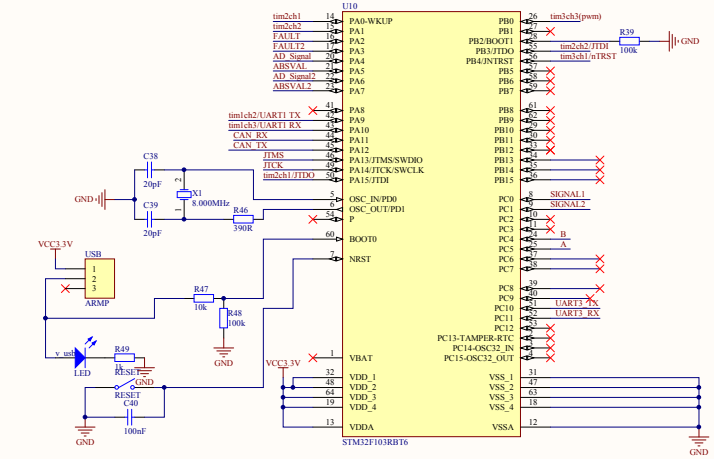


CAN Communication

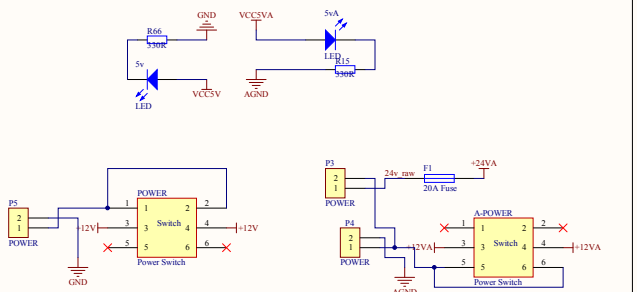


Optoisolators

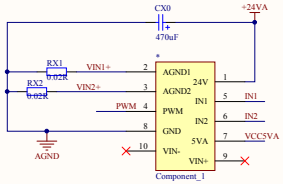




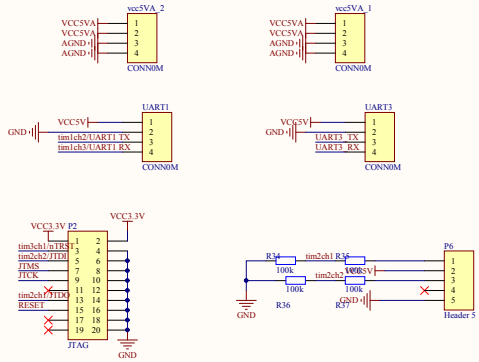
MCU



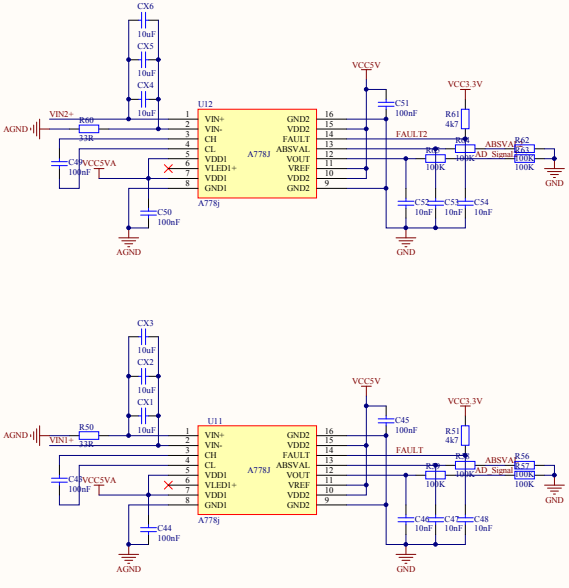
Power



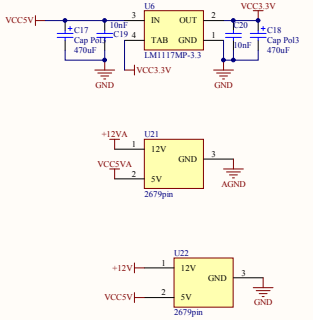
Motor Driving Module



Port and Connector



Current Sensing



Regulators

Title		
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Date: 2013-03-26		Sheet of
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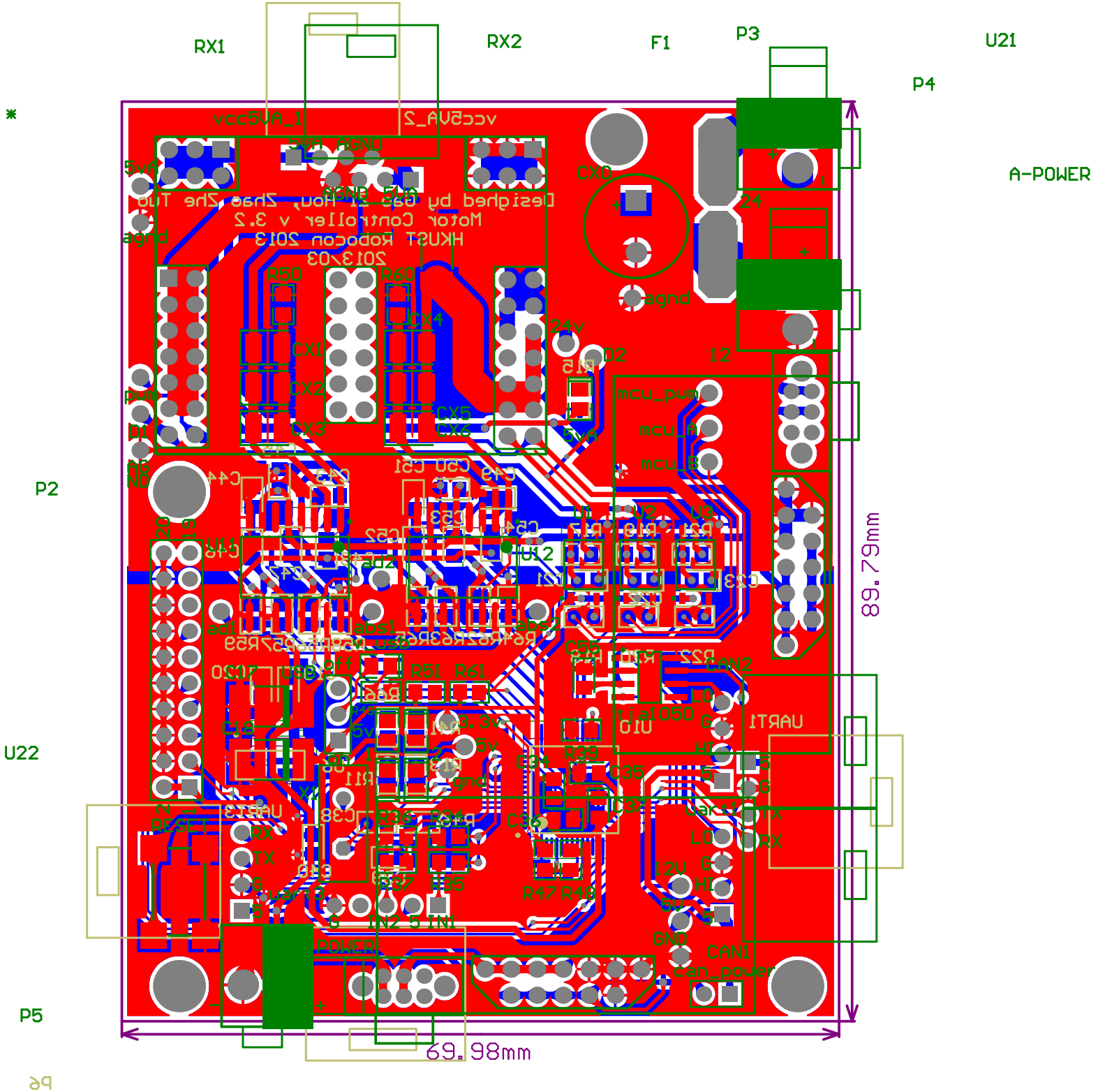
RX1
RX2
F1
P3
U21
P4
A-POWER
P2
U22
P5
89.79mm
69.98mm

Comment	Description	Designator	Footprint	LibRef	Quantity
Component_1			PCBComponent_1	Component_1	1
LED	Typical RED GaAs LED	1, 2, 3.3v, 5v, 5vA, v_usb	SMD _LED	LED1	6
Power Switch		A-POWER, POWER	POWER SWITCH	Power Switch	2
Cap Pol3	Polarized Capacitor (Surface Mount)	C17, C18	CAPC7238N	Cap Pol3	2
10nF	Capacitor (Semiconductor SIM Model)	C19, C20, C46, C47, C48, C52, C53, C54	CC2012-0805	Cap Semi	8
100nF	Capacitor (Semiconductor SIM Model)	C21, C22, C23, C34, C35, C36, C37, C40, C43, C44, C45, C49, C50, C51, C55	CC2012-0805	Cap Semi	15
20pF	Capacitor (Semiconductor SIM Model)	C38, C39	CC2012-0805	Cap Semi	2
CONN0M	Header, 4-Pin	CAN1, CAN2, UART1, UART3, vcc5VA_1, vcc5VA_2	LOCKEDHDR-4W	Header 4	6
Header 2	Header, 2-Pin	can_power	HDR1X2	Header 2	1
470uF	Polarized Capacitor (Surface Mount)	CX0	470UF/50V	Cap Pol3	1
10uF	Capacitor (Semiconductor SIM Model)	CX1, CX2, CX3, CX4, CX5, CX6	CC3225-1210	Cap Semi	6
20A Fuse	Fuse	F1	FUSE SOCKET	Fuse 1	1
JTAG	Header, 10-Pin, Dual row	P2	HDR2X10	Header 10X2	1
POWER	Connector	P3, P4, P5	LOCKEDPWRHDR	CON2	3
Header 5	Header, 5-Pin	P6	lockedHDR-5W	Header 5	1
1k	Resistor	R11, R13, R17, R19, R21, R49	CR2012-0805	Res2	6
330R	Resistor	R15, R41, R66	CR2012-0805	Res2	3
120R	Resistor	R18, R20, R22	CR2012-0805	Res2	3
100k	Resistor	R34, R35, R36, R37, R39, R48, R56, R57, R58, R59, R62, R63, R64, R65	CR2012-0805	Res2	14
390R	Resistor	R46	CR2012-0805	Res2	1
10k	Resistor	R47	CR2012-0805	Res2	1
33R	Resistor	R50, R60	CR2012-0805	Res2	2
4k7	Resistor	R51, R61	CR2012-0805	Res2	2
RESET	Single-Pole, Single-Throw Switch	RESET	PUSH SWITCH	SW-SPST	1
0.02R	Resistor	RX1, RX2	CR6332-2512	Res2	2
tja1050		TJA1050	tja1050	tja1050	1
Optoisolator2	Optoisolator	U1, U2, U3	TLP113	Optoisolator2	3
LM1117MP-3.3	800mA Low-Dropout Linear Regulator	U6	MP04A_N	LM1117MP-3.3	1
STM32F103RBT6	STM32 ARM-based 32-bit MCU with 128 Kbytes Flash, 64-pin LQFP, Industrial Temperature	U10	LQFP64_N	STM32F103RBT6	1
A778j		U11, U12	A778j	A778j	2
2679pin		U21, U22	PCBComponent_1	2679pin	2
ARMP	Header, 3-Pin	USB	HDR1X3	Header 3	1
8.000MHz	Crystal Oscillator	X1	BCY-W2/E4.7	XTAL	1