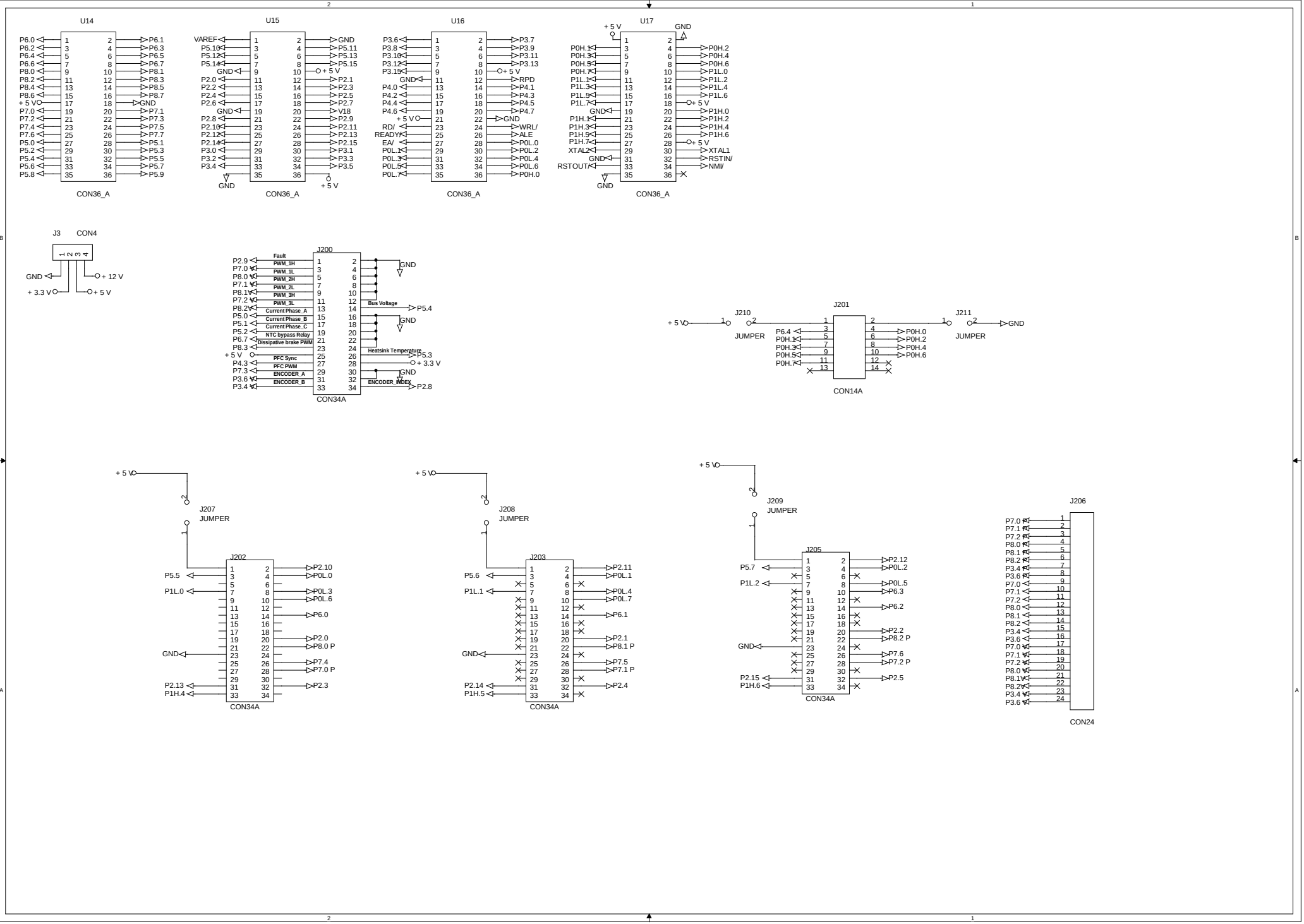
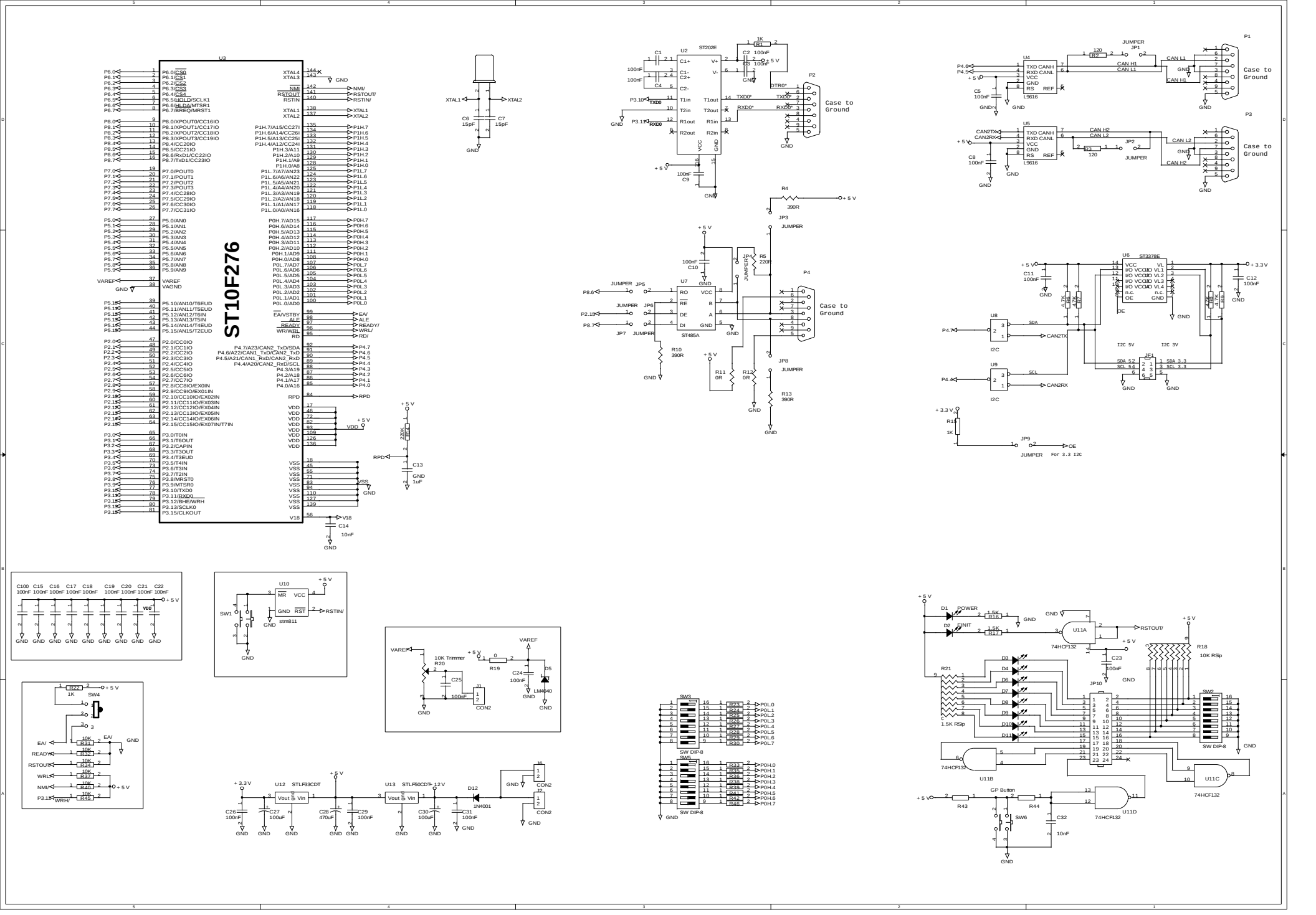

U14
P6.0 P6.1
P6.2 P6.3
P6.4 P6.5
P6.6 P6.7
P8.0 P8.1
P8.2 P8.3
P8.4 P8.5
P8.6 P8.7
+ 5 V GND
P7.0 P7.1
P7.2 P7.3
P7.4 P7.5
P7.6 P7.7
P5.0 P5.1
P5.2 P5.3
P5.4 P5.5
P5.6 P5.7
P5.8 P5.9
CON36_A
U15
VAREF GND
P5.10 P5.11
P5.12 P5.13
P5.14 P5.15
GND + 5 V
P2.0 P2.1
P2.2 P2.3
P2.4 P2.5
P2.6 P2.7
GND V18
P2.8 P2.9
P2.10 P2.11
P2.12 P2.13
P2.14 P2.15
P3.0 P3.1
P3.2 P3.3
P3.4 P3.5
GND + 5 V
CON36_A
U16
P3.6 P3.7
P3.8 P3.9
P3.10 P3.11
P3.12 P3.13
P3.15 + 5 V
GND RPD
P4.0 P4.1
P4.2 P4.3
P4.4 P4.5
P4.6 P4.7
+ 5 V GND
RD/ WRL/
READY ALE
EA/ P0L.0
P0L.1 P0L.2
P0L.3 P0L.4
P0L.5 P0L.6
P0L.7 P0H.0
CON36_A
U17
+ 5 V GND
P0H.1 P0H.2
P0H.3 P0H.4
P0H.5 P0H.6
P0H.7 P1L.0
P1L.1 P1L.2
P1L.3 P1L.4
P1L.5 P1L.6
P1L.7 + 5 V
GND P1H.0
P1H.1 P1H.2
P1H.3 P1H.4
P1H.5 P1H.6
P1H.7 + 5 V
XTAL2 XTAL1
GND RSTIN/
RSTOUT NMI/
GND
CON36_A
J3 CON4
GND + 12 V
+ 3.3 V + 5 V
J200
P2.9 Fault
P7.0 PWM_1H
P8.0 PWM_1L
P7.1 PWM_2H
P8.1 PWM_2L
P7.2 PWM_3H
P8.2 PWM_3L
P5.0 Current Phase_A
P5.1 Current Phase_B
P5.2 Current Phase_C
P6.7 NTC bypass Relay
P8.3 Dissipative brake PWM
+ 5 V
P4.3 PFC Sync
P7.3 PFC PWM
P3.6 ENCODER_A
P3.4 ENCODER_B
GND
Bus Voltage P5.4
GND
Heatsink Temperature P5.3
+ 3.3 V
GND
ENCODER_INDEX P2.8
CON34A
+ 5 V
J210
JUMPER
J201
P6.4
P0H.1
P0H.3
P0H.5
P0H.7
P0H.0
P0H.2
P0H.4
P0H.6
CON14A
J211
JUMPER
GND
+ 5 V
J207
JUMPER
J202
P5.5 P2.10
P0L.0
P1L.0 P0L.3
P0L.6
P6.0
P2.0
GND P8.0 P
P7.4
P7.0 P
P2.13 P2.3
P1H.4
CON34A
+ 5 V
J208
JUMPER
J203
P5.6 P2.11
P0L.1
P1L.1 P0L.4
P0L.7
P6.1
P2.1
GND P8.1 P
P7.5
P7.1 P
P2.14 P2.4
P1H.5
CON34A
+ 5 V
J209
JUMPER
J205
P5.7 P2.12
P0L.2
P1L.2 P0L.5
P6.3
P6.2
P2.2
GND P8.2 P
P7.6
P7.2 P
P2.15 P2.5
P1H.6
CON34A
J206
P7.0 P7.1 P7.2 P8.0 P8.1 P8.2 P3.4 P3.6 P7.0 P7.1 P7.2 P8.0 P8.1 P8.2 P3.4 P3.6
CON24


ST10F276
U3
P6.0/CS0
P6.1/CS1
P6.2/CS2
P6.3/CS3
P6.4/CS4
P6.5/HOLD/SCLK1
P6.6/HLDA/MTSR1
P6.7/BREQ/MRST1
P8.0/XPOUT0/CC16IO
P8.1/XPOUT1/CC17IO
P8.2/XPOUT2/CC18IO
P8.3/XPOUT3/CC19IO
P8.4/CC20IO
P8.5/CC21IO
P8.6/RxD1/CC22IO
P8.7/TxD1/CC23IO
P7.0/POUT0
P7.1/POUT1
P7.2/POUT2
P7.3/POUT3
P7.4/CC28IO
P7.5/CC29IO
P7.6/CC30IO
P7.7/CC31IO
P5.0/AN0
P5.1/AN1
P5.2/AN2
P5.3/AN3
P5.4/AN4
P5.5/AN5
P5.6/AN6
P5.7/AN7
P5.8/AN8
P5.9/AN9
VAREF
VAGND
P5.10/AN10/T6EUD
P5.11/AN11/T5EUD
P5.12/AN12/T6IN
P5.13/AN13/T5IN
P5.14/AN14/T4EUD
P5.15/AN15/T2EUD
P2.0/CC0IO
P2.1/CC1IO
P2.2/CC2IO
P2.3/CC3IO
P2.4/CC4IO
P2.5/CC5IO
P2.6/CC6IO
P2.7/CC7IO
P2.8/CC8IO/EX0IN
P2.9/CC9IO/EX01IN
P2.10/CC10IO/EX02IN
P2.11/CC11IO/EX03IN
P2.12/CC12IO/EX04IN
P2.13/CC13IO/EX05IN
P2.14/CC14IO/EX06IN
P2.15/CC15IO/EX07IN/T7IN
P3.0/T0IN
P3.1/T6OUT
P3.2/CAPIN
P3.3/T3OUT
P3.4/T3EUD
P3.5/T4IN
P3.6/T3IN
P3.7/T2IN
P3.8/MRST0
P3.9/MTSR0
P3.10/TXD0
P3.11/RXD0
P3.12/BHE/WRH
P3.13/SCLK0
P3.15/CLKOUT
XTAL4
XTAL3
NMI/
RSTOUT/
RSTIN/
XTAL1
XTAL2
P1H.7/A15/CC27I
P1H.6/A14/CC26I
P1H.5/A13/CC25I
P1H.4/A12/CC24I
P1H.3/A11
P1H.2/A10
P1H.1/A9
P1H.0/A8
P1L.7/A7/AN23
P1L.6/A6/AN22
P1L.5/A5/AN21
P1L.4/A4/AN20
P1L.3/A3/AN19
P1L.2/A2/AN18
P1L.1/A1/AN17
P1L.0/A0/AN16
P0H.7/AD15
P0H.6/AD14
P0H.5/AD13
P0H.4/AD12
P0H.3/AD11
P0H.2/AD10
P0H.1/AD9
P0H.0/AD8
P0L.7/AD7
P0L.6/AD6
P0L.5/AD5
P0L.4/AD4
P0L.3/AD3
P0L.2/AD2
P0L.1/AD1
P0L.0/AD0
EA/VSTBY
ALE
READY
WR/WRL
RD
P4.7/A23/CAN2_TxD/SDA
P4.6/A22/CAN1_TxD/CAN2_TxD
P4.5/A21/CAN1_RxD/CAN2_RxD
P4.4/A20/CAN2_RxD/SCL
P4.3/A19
P4.2/A18
P4.1/A17
P4.0/A16
RPD
VDD
VSS
V18
GND
+ 5 V
C6 15pF
C7 15pF
C13 1uF
C14 10nF
ST202E
U2
C1
C2 100nF
C3 100nF
C4
C5 100nF
C9 100nF
R1 1K
P2
DTR0*
TXD0*
RXD0*
Case to Ground
R4 390R
JP3
JP4
R5 220R
C10 100nF
U7
ST485A
JP5
JP6
JP7
R10 390R
R11 0R
R12 0R
R13 390R
JP8
P4
U4
U5
L9616
TXD CANH
RXD CANL
VCC
GND
RS
REF
CAN L1
CAN H1
CAN L2
CAN H2
JP1
JP2
P1
P3
C5 100nF
C8 100nF
U6
ST3378E
VCC
I/O VCC1
I/O VCC2
I/O VCC3
I/O VCC4
n.c.
OE
VL
VL1
VL2
VL3
VL4
C11 100nF
C12 100nF
U8
U9
I2C
SDA
SCL
CAN2TX
CAN2RX
I2C 5V
I2C 3V
JE1
R15 1K
JP9
For 3.3 I2C
C100 100nF
C15 100nF
C16 100nF
C17 100nF
C18 100nF
C19 100nF
C20 100nF
C21 100nF
C22 100nF
U10
MR
VCC
GND
RST
stm811
SW1
RSTIN/
R22 1K
SW4
EA/
READY
RSTOUT
WRL
NMI/
WRH/
R31 10K
R32 10K
R37 10K
R40 10K
R41 10K
VAREF
10K Trimmer
R20
C25 100nF
R19 0
C24 100nF
D5 LM4040
CON2
U12 STLF33CDT
U13 STLF50CDT
Vout
Vin
+ 3.3 V
+ 12 V
C26 100nF
C27 100uF
C28 470uF
C29 100nF
C30 100uF
C31 100nF
D12 1N4001
J6
SW3
SW5
SW DIP-8
R23
R24
R25
R26
R27
R28
R29
R30
R33
R35
R36
R38
R39
R41
R42
R46
P0L.0
P0L.1
P0L.2
P0L.3
P0L.4
P0L.5
P0L.6
P0L.7
P0H.0
P0H.1
P0H.2
P0H.3
P0H.4
P0H.5
P0H.6
P0H.7
D1 POWER
D2 EINIT
R16 1.5K
R17 1.5K
U11A
74HCF132
RSTOUT/
C23 100nF
JP10
R18 10K RSip
R21 1.5K RSip
D3
D4
D5
D6
D7
D8
D9
D10
D11
SW2
U11B
U11C
U11D
GP Button
R43
R44
SW6
C32 10nF