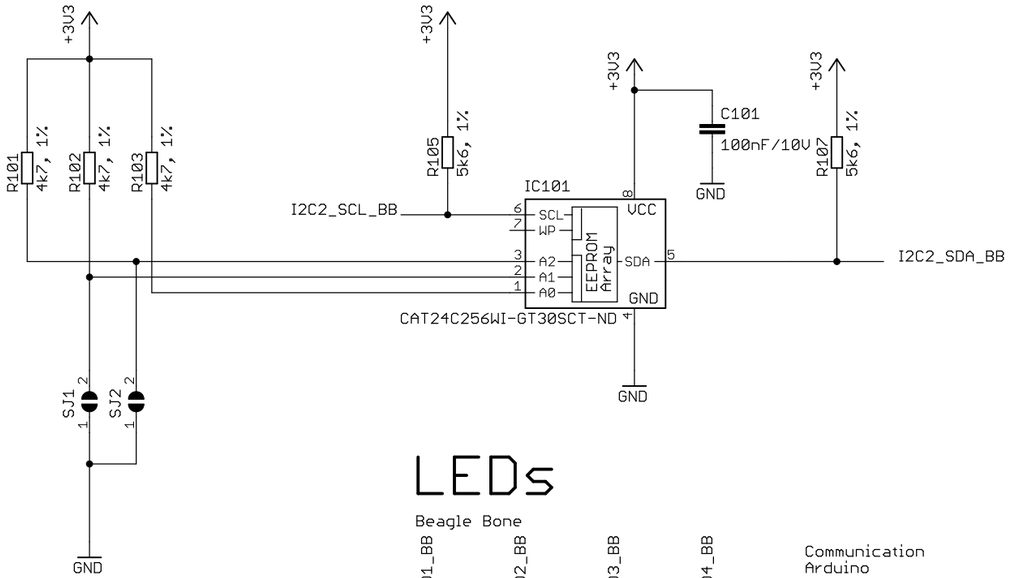
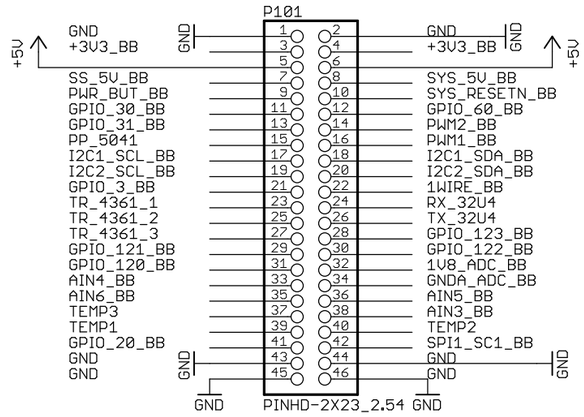
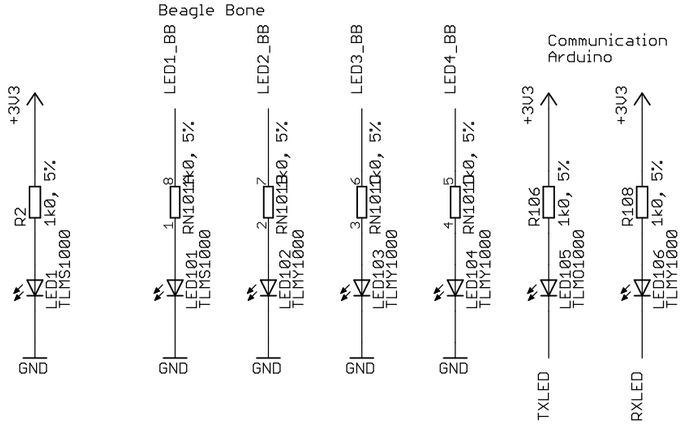
# EEPROM - Config BeagleBone



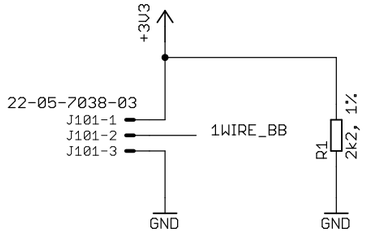

# Connector BeagleBone

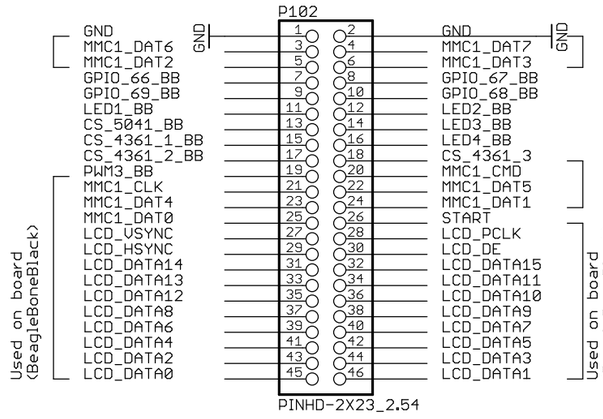



# LEDs




# 1-Wire




# Analog Ground


# Digital Ground


| | |
|---|---|
| | TMC3D_v0_94_with_changes |
| | 20.02.2014 16:57:15 |
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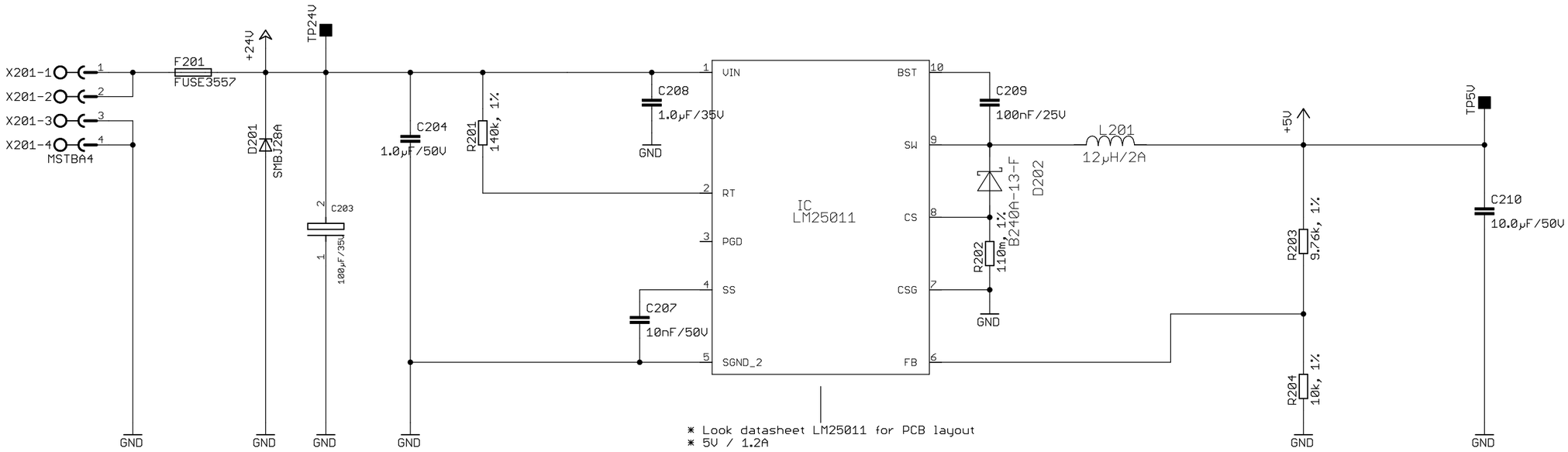
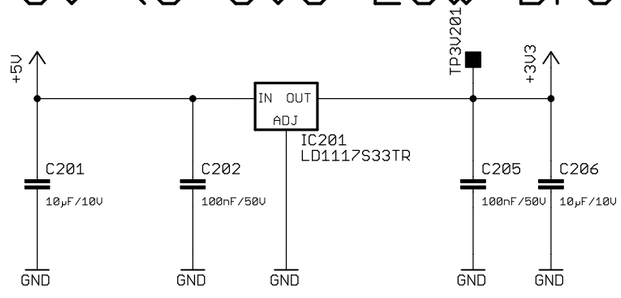
# 24V to 5V Switching Regulator



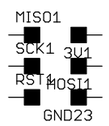

# 5V to 3V3 Low-Dropout Regulator

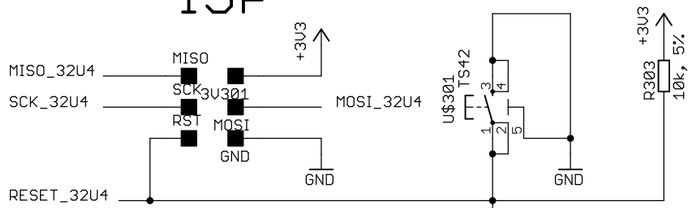


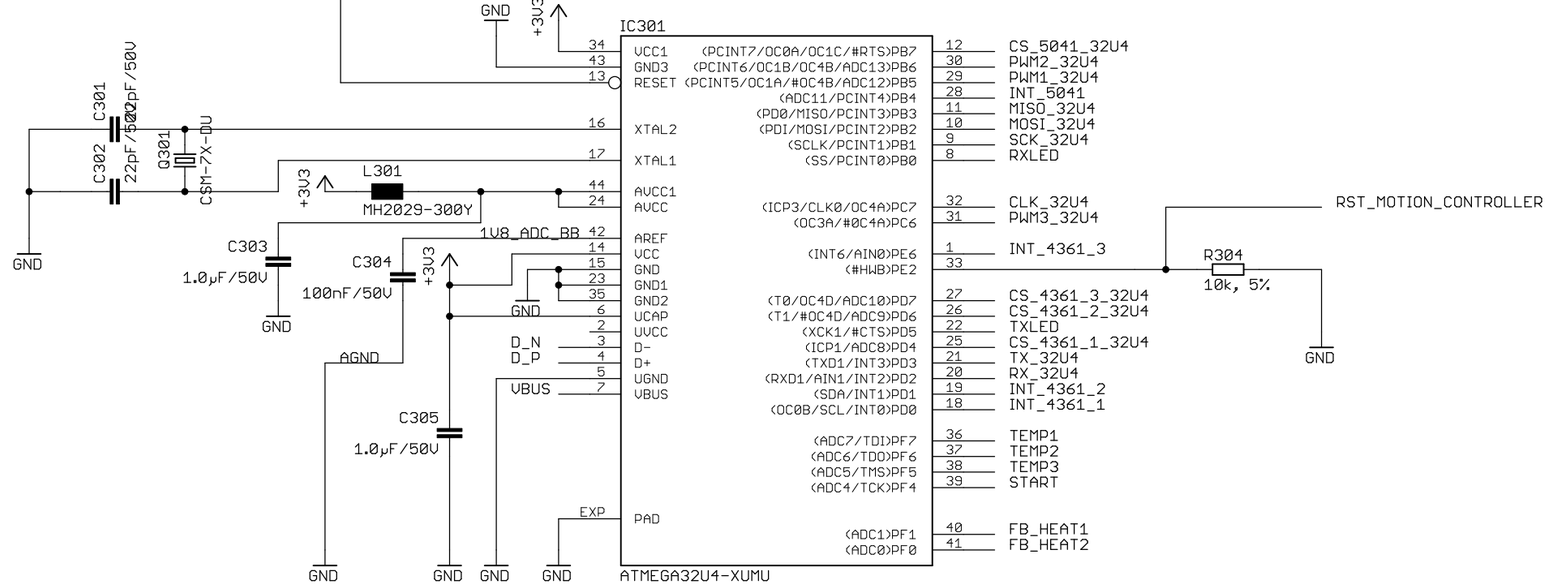

*Crititcal component placement

| | |
|---|---|
| | TMC3D_v0_94_with_changes |
| | 20.02.2014 16:57:15 |
| | Sheet: 2/9 |

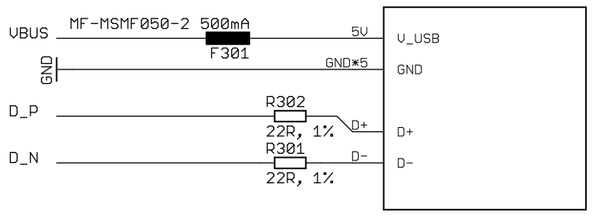
# ISP



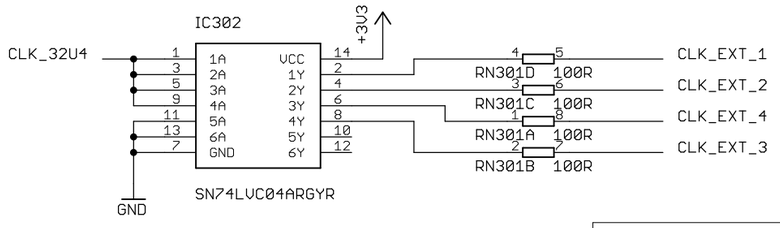




# USB Connection




# Clock Buffer

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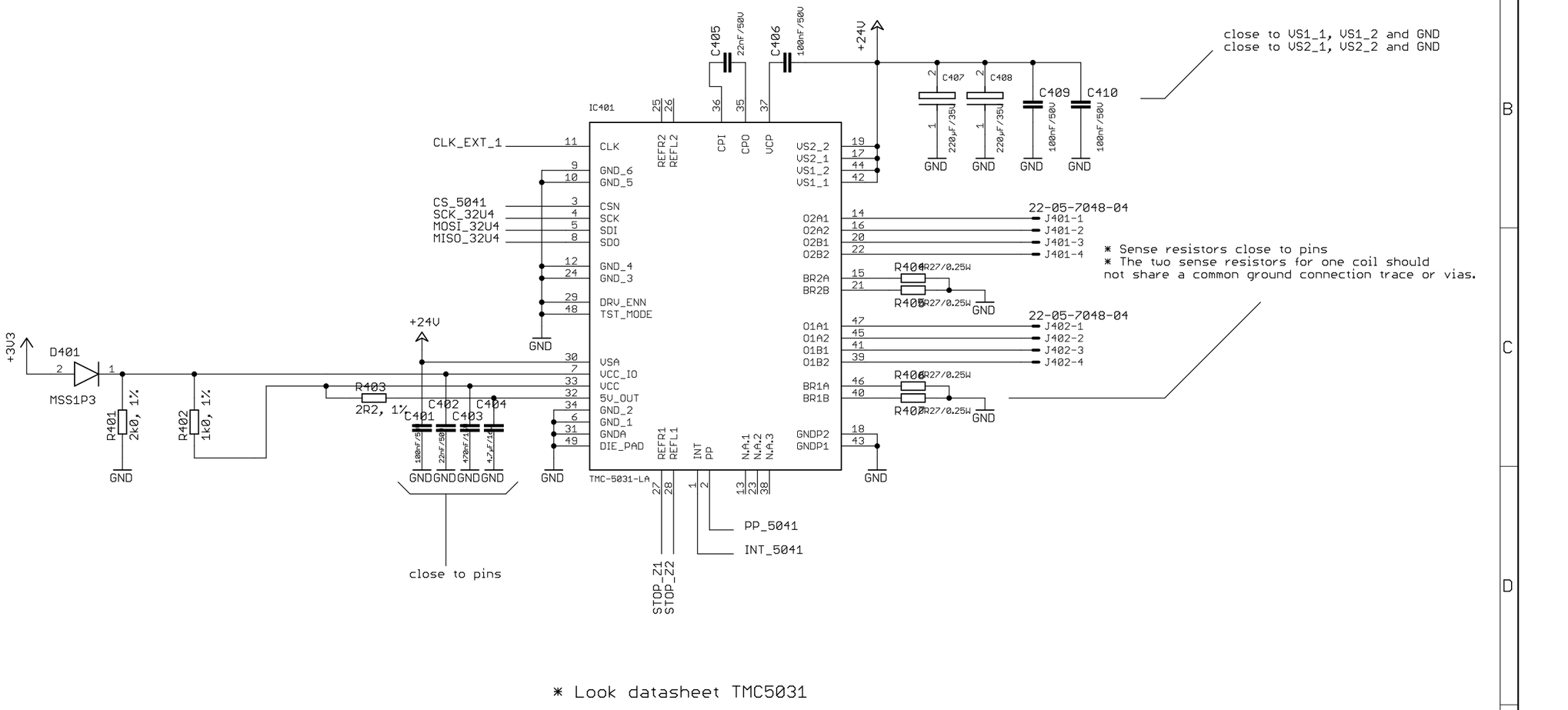
| | 20.02.2014 16:57:15 |
| | Sheet: 3/9 |

# TMC5041 Controller and Driver




* Look datasheet TMC5031

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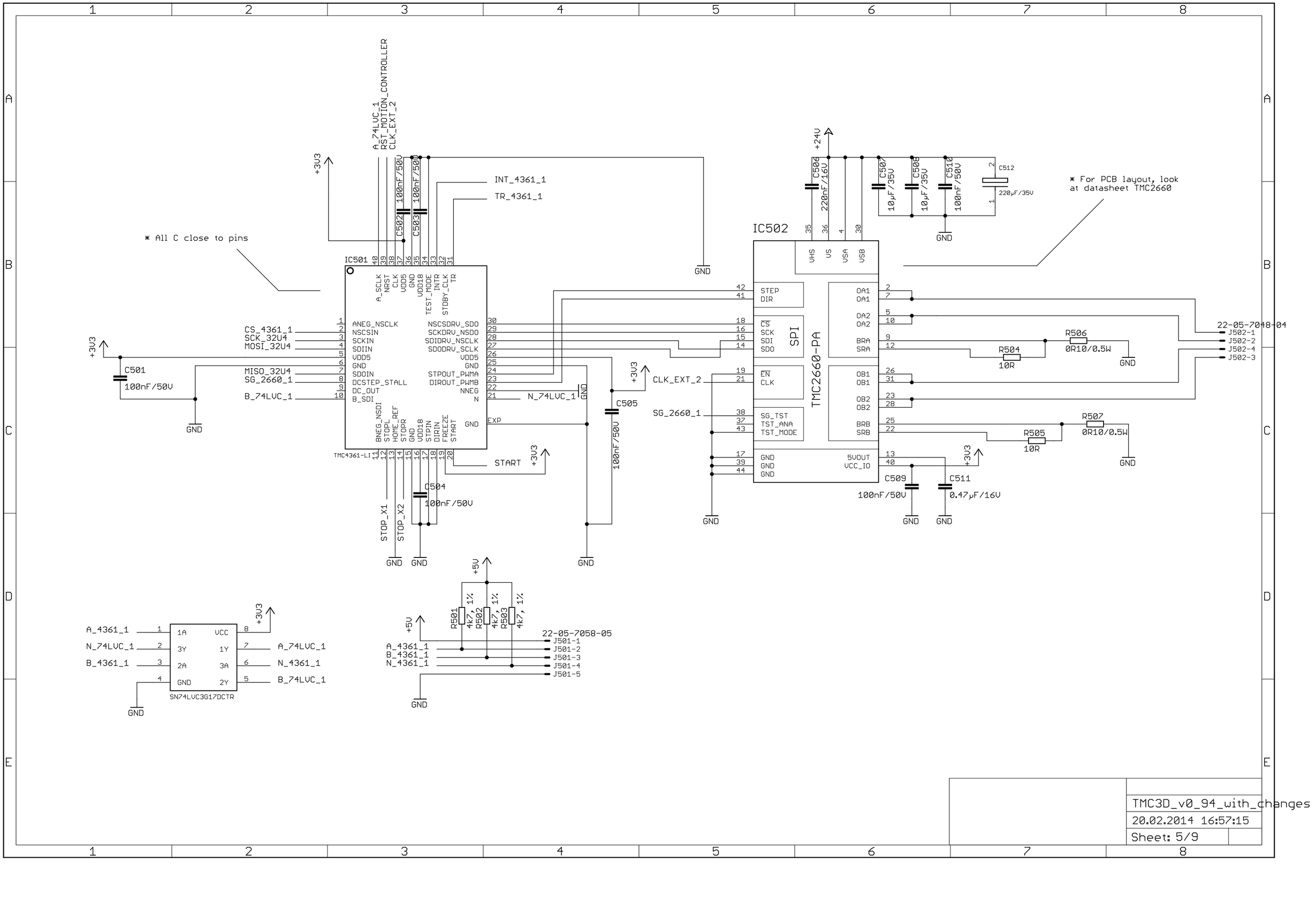
| | 20.02.2014 16:57:15 |
| | Sheet: 4/9 |

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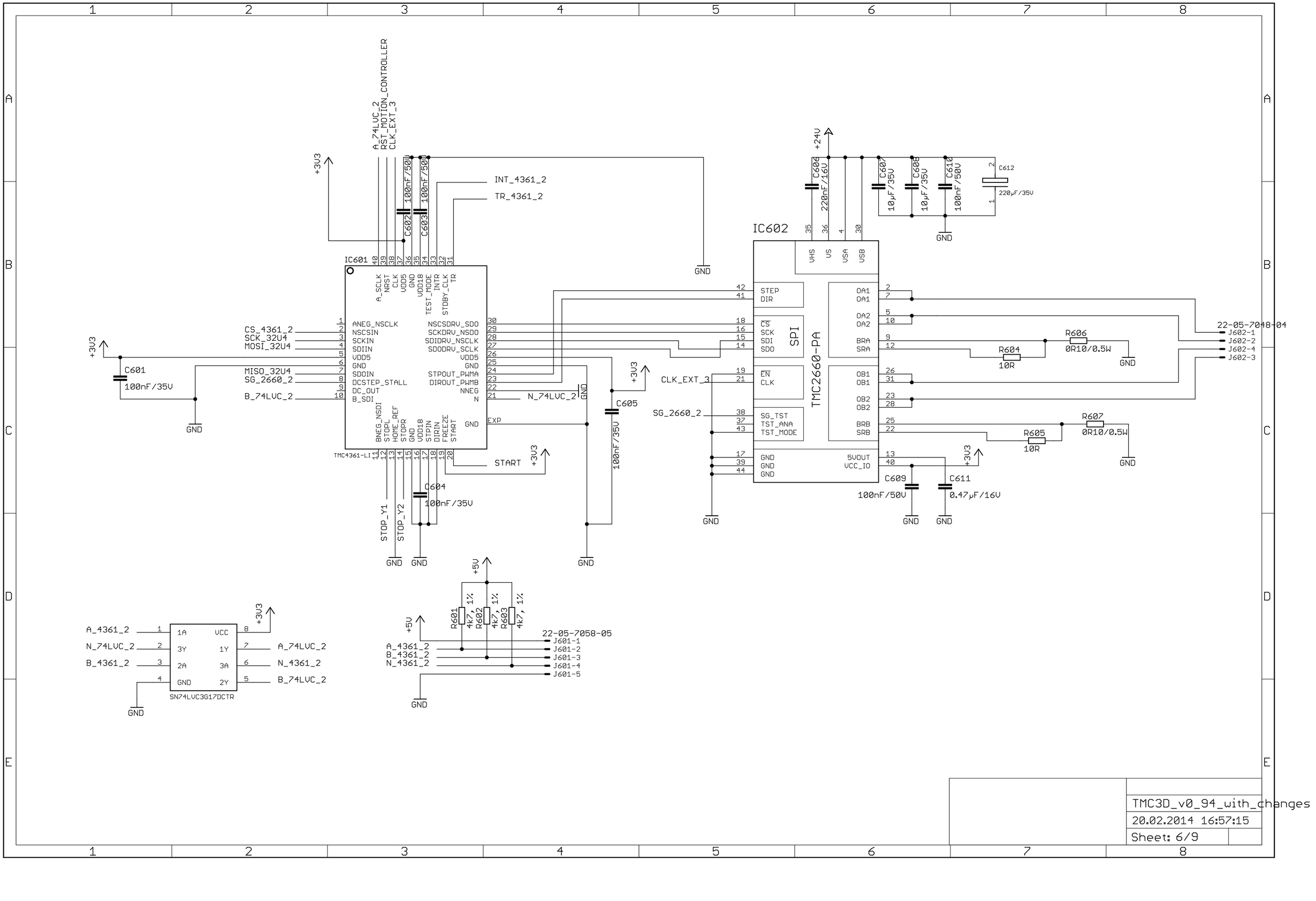
| TMC3D_v0_94_with_changes | |
| 20.02.2014 16:57:15 | |
| Sheet: 5/9 | |


A_74LVC_2
RST_MOTION_CONTROLLER
CLK_EXT_3
+3V3
C602 100nF/50V
C603 100nF/50V
INT_4361_2
TR_4361_2
GND
IC601
TMC4361-LI
A_SCLK
NRST
CLK
VDD5
GND
VDD18
TEST_MODE
INTR
STDBY_CLK
TR
ANEG_NSCLK
NSCSIN
SCKIN
SDIIN
VDD5
GND
SDOIN
DCSTEP_STALL
DC_OUT
B_SDI
NSCSDRV_SDO
SCKDRV_NSDO
SDIDRV_NSCLK
SDODRV_SCLK
VDD5
GND
STPOUT_PWMA
DIROUT_PWMB
NNEG
N
EXP
GND
BNEG_NSDI
STOPL
HOME_REF
STOPR
GND
VDD18
STPIN
DIRIN
FREEZE
START
CS_4361_2
SCK_32U4
MOSI_32U4
MISO_32U4
SG_2660_2
B_74LVC_2
N_74LVC_2
START
C601 100nF/35V
C604 100nF/35V
C605 100nF/35V
STOP_Y1
STOP_Y2
+24V
C606 220nF/16V
C607 10µF/35V
C608 10µF/35V
C610 100nF/50V
C612 220µF/35V
IC602
TMC2660-PA
VHS
VS
VSA
VSB
STEP
DIR
CS
SCK
SDI
SDO
SPI
EN
CLK
SG_TST
TST_ANA
TST_MODE
OA1
OA2
BRA
SRA
OB1
OB2
BRB
SRB
5VOUT
VCC_IO
R604 10R
R605 10R
R606 0R10/0.5W
R607 0R10/0.5W
C609 100nF/50V
C611 0.47µF/16V
22-05-7048-04
J602-1
J602-2
J602-4
J602-3
A_4361_2
N_74LVC_2
B_4361_2
SN74LVC3G17DCTR
1A
3Y
2A
GND
VCC
1Y
3A
2Y
A_74LVC_2
N_4361_2
B_74LVC_2
R601 4k7, 1%
R602 4k7, 1%
R603 4k7, 1%
+5V
22-05-7058-05
J601-1
J601-2
J601-3
J601-4
J601-5
TMC3D_v0_94_with_changes
20.02.2014 16:57:15
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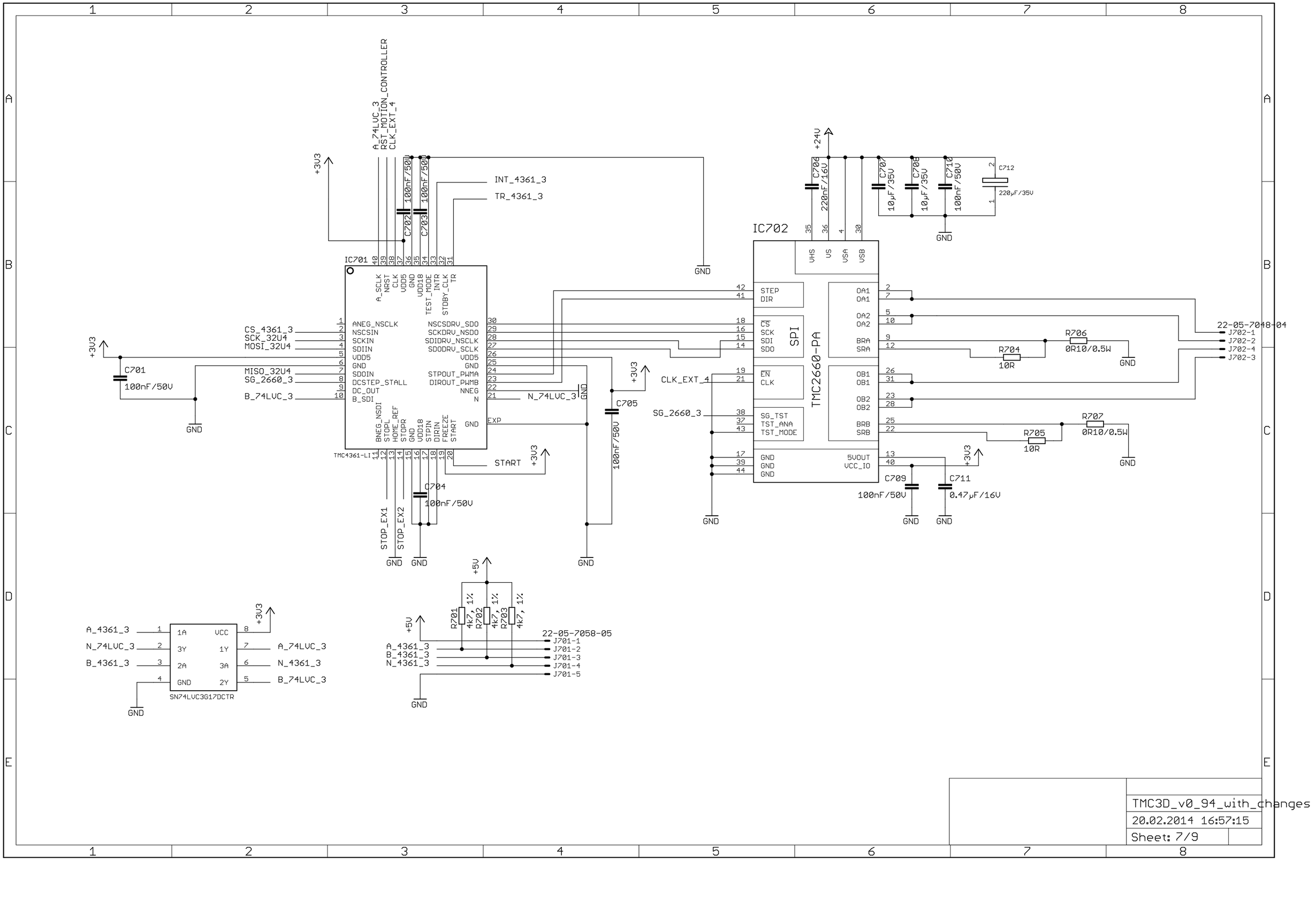
A_74LVC_3
RST_MOTION_CONTROLLER
CLK_EXT_4
+3V3
C702 100nF/50V
C703 100nF/50V
INT_4361_3
TR_4361_3
GND
IC701
TMC4361-LI
A_SCLK
NRST
CLK
VDD5
GND
VDD18
TEST_MODE
INTR
STDBY_CLK
TR
ANEG_NSCLK
NSCSIN
SCKIN
SDIIN
VDD5
GND
SDOIN
DCSTEP_STALL
DC_OUT
B_SDI
NSCSDRV_SDO
SCKDRV_NSDO
SDIDRV_NSCLK
SDODRV_SCLK
VDD5
GND
STPOUT_PWMA
DIROUT_PWMB
NNEG
N
EXP
GND
BNEG_NSDI
STOPL
HOME_REF
STOPR
GND
VDD18
STPIN
DIRIN
FREEZE
START
GND
CS_4361_3
SCK_32U4
MOSI_32U4
MISO_32U4
SG_2660_3
B_74LVC_3
N_74LVC_3
START
C701 100nF/50V
C704 100nF/50V
C705 100nF/50V
STOP_EX1
STOP_EX2
+24V
C706 220nF/16V
C707 10µF/35V
C708 10µF/35V
C710 100nF/50V
C712 220µF/35V
IC702
TMC2660-PA
VHS
VS
VSA
VSB
STEP
DIR
CS
SCK
SDI
SDO
SPI
EN
CLK
SG_TST
TST_ANA
TST_MODE
OA1
OA2
OB1
OB2
BRA
SRA
BRB
SRB
5VOUT
VCC_IO
R704 10R
R705 10R
R706 0R10/0.5W
R707 0R10/0.5W
C709 100nF/50V
C711 0.47µF/16V
22-05-7048-04
J702-1
J702-2
J702-4
J702-3
IC703
SN74LVC3G17DCTR
1A
2A
3A
VCC
1Y
2Y
3Y
GND
A_4361_3
N_74LVC_3
B_4361_3
A_74LVC_3
N_4361_3
B_74LVC_3
R701 4k7, 1%
R702 4k7, 1%
R703 4k7, 1%
+5V
22-05-7058-05
J701-1
J701-2
J701-3
J701-4
J701-5
TMC3D_v0_94_with_changes
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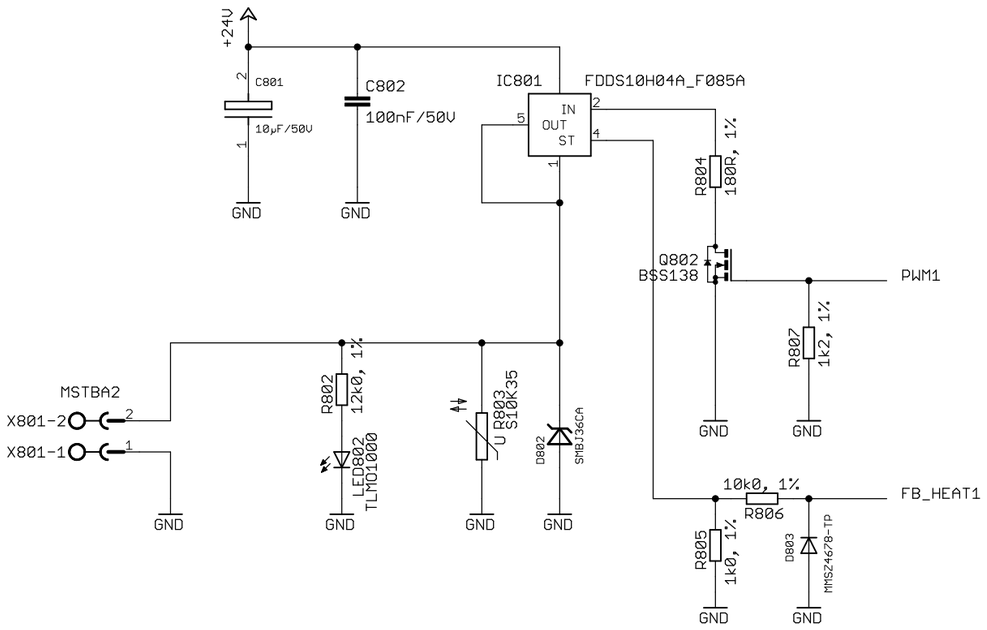
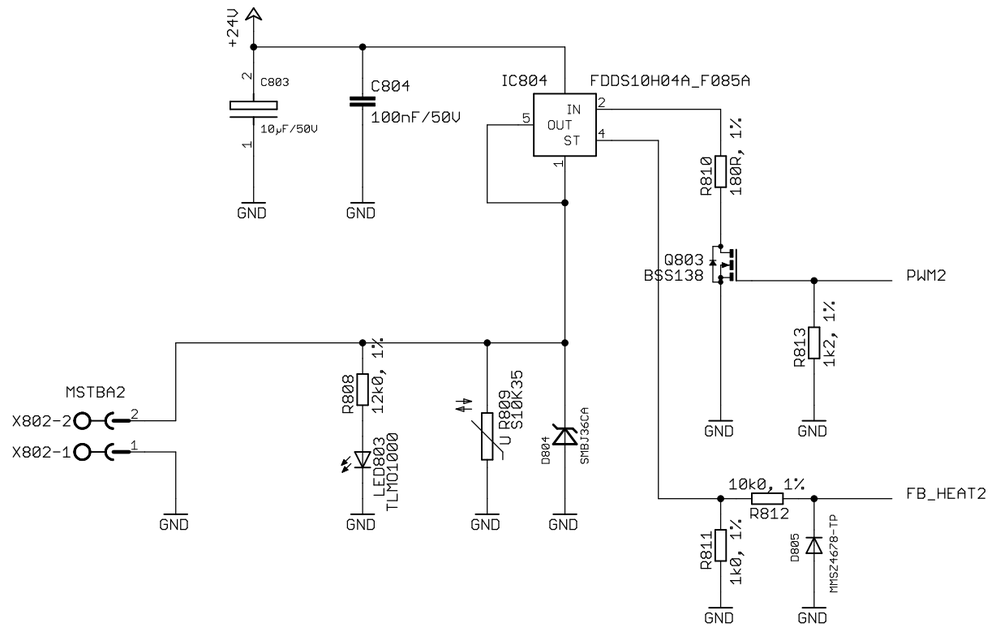
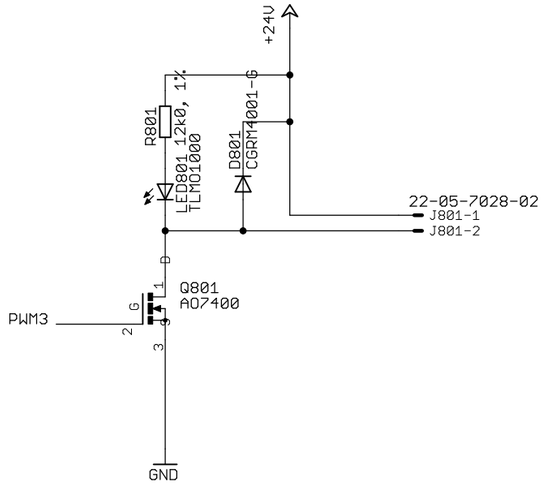
# Power Switches for high current (Heatbed, Hotend)

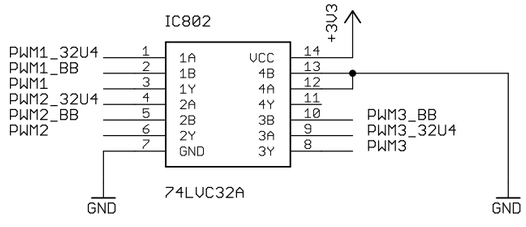


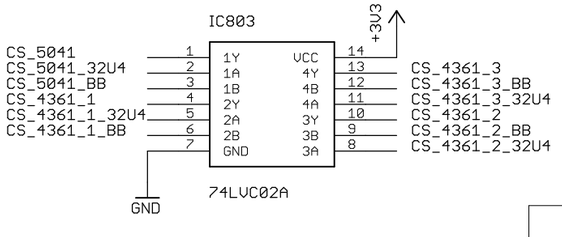

## FET for fan control




## PWM with Arduino or BeagleBone




## CS with Arduino or BeagleBone

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| | TMC3D_v0_94_with_changes |
| | 20.02.2014 16:57:15 |
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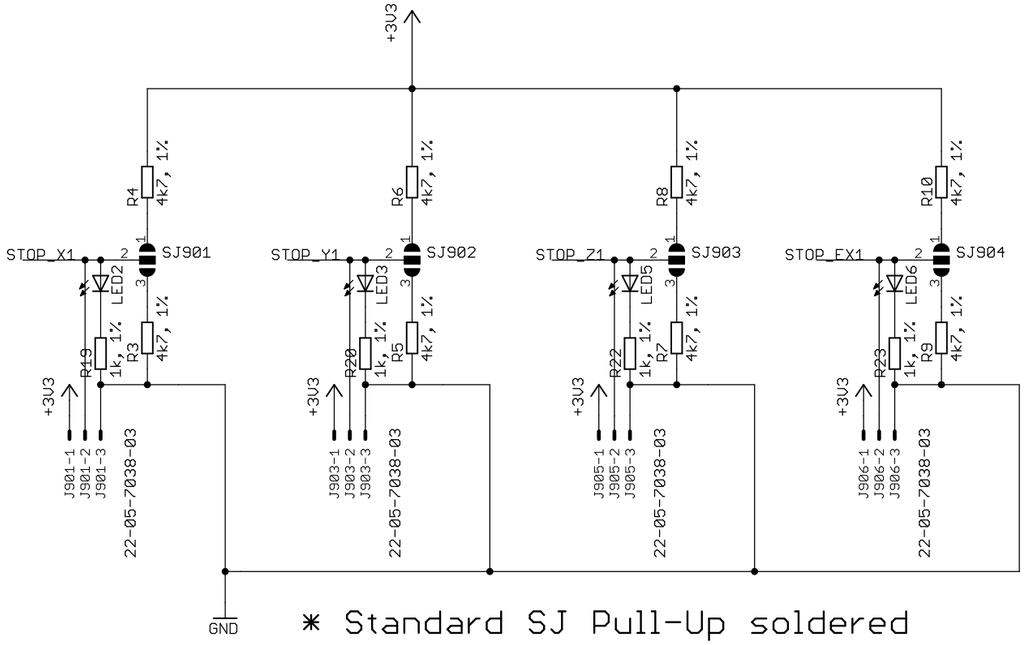
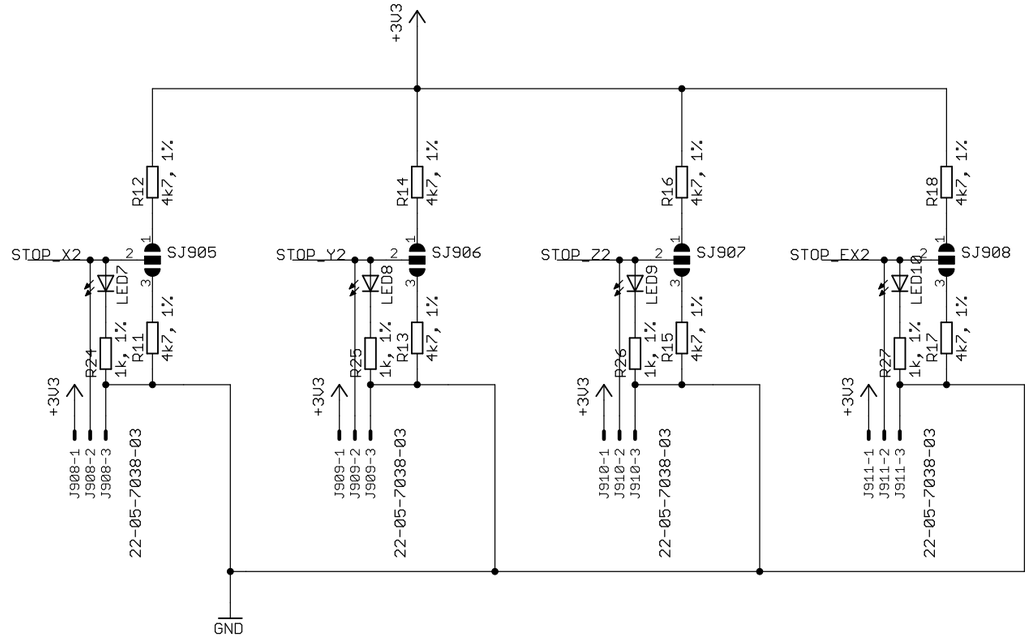
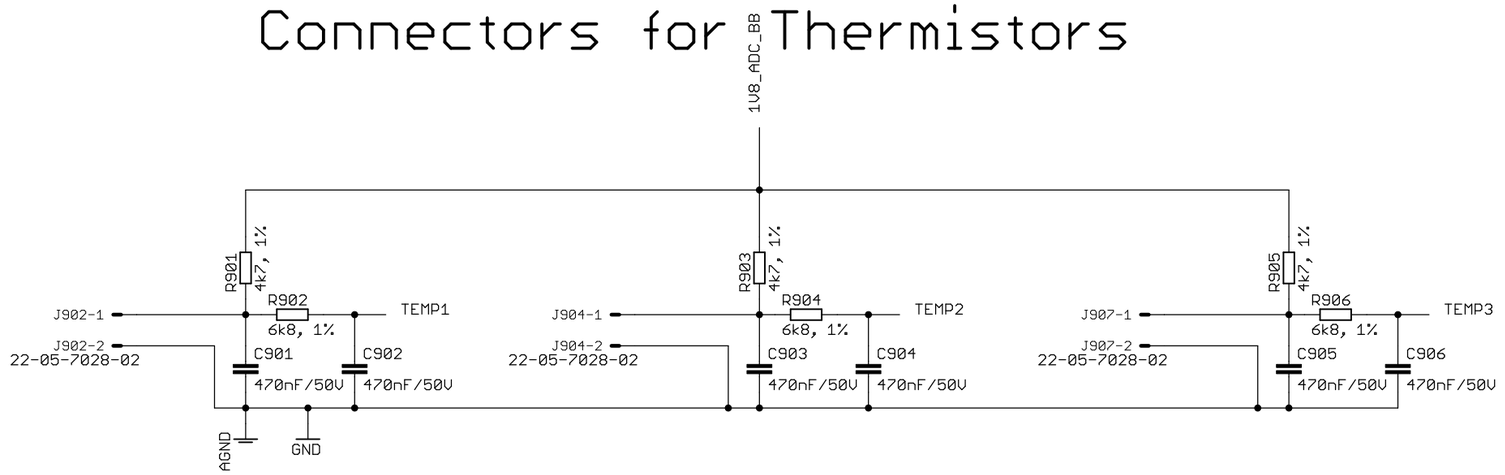
# Connectors for Endstops (Pullup/-down optional)




* Standard SJ Pull-Up soldered

# Connectors for Thermistors

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| Sheet: 9/9 | |