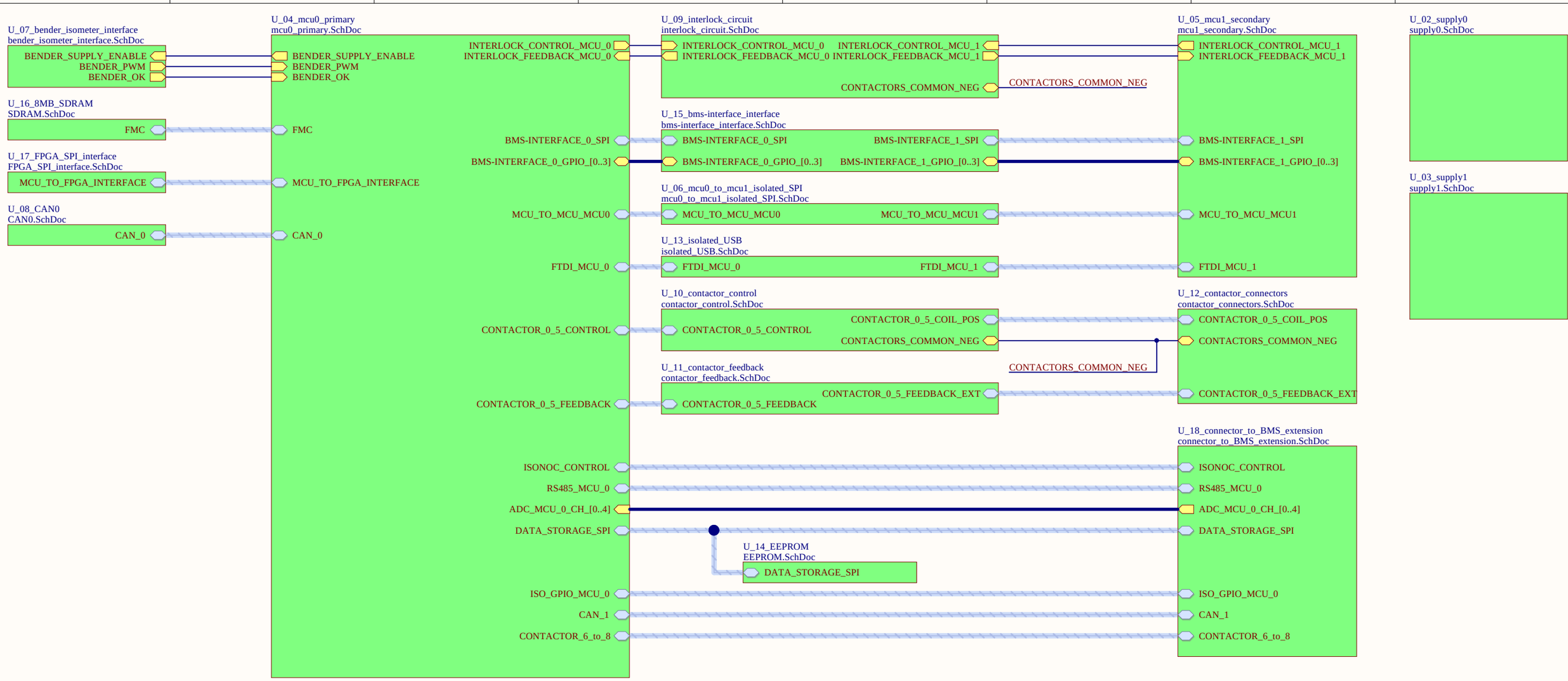
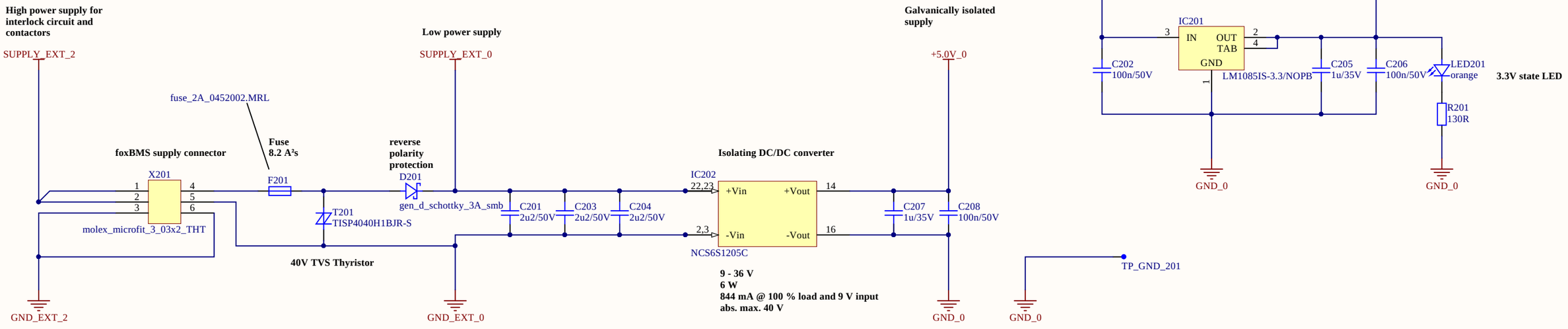
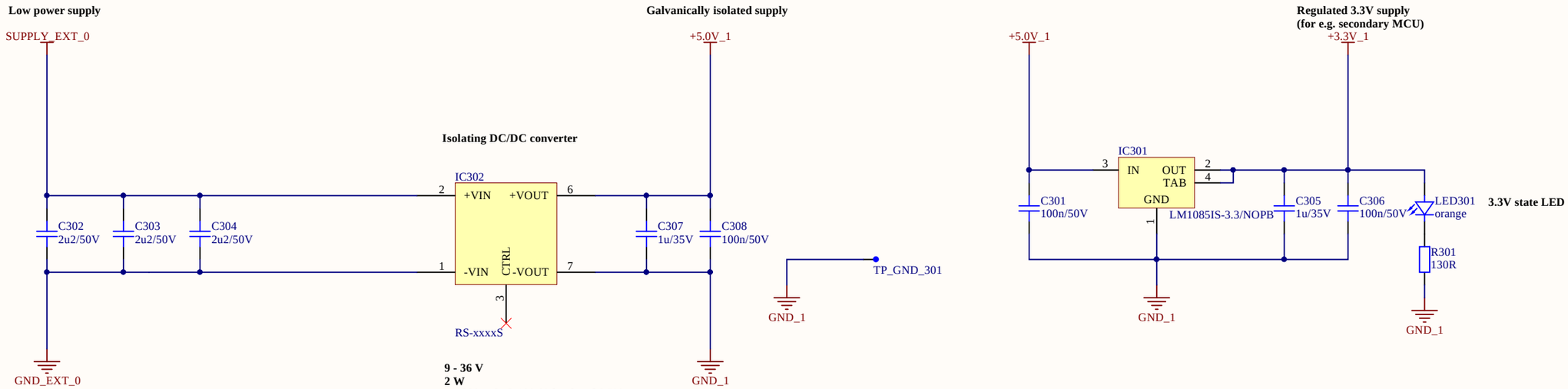


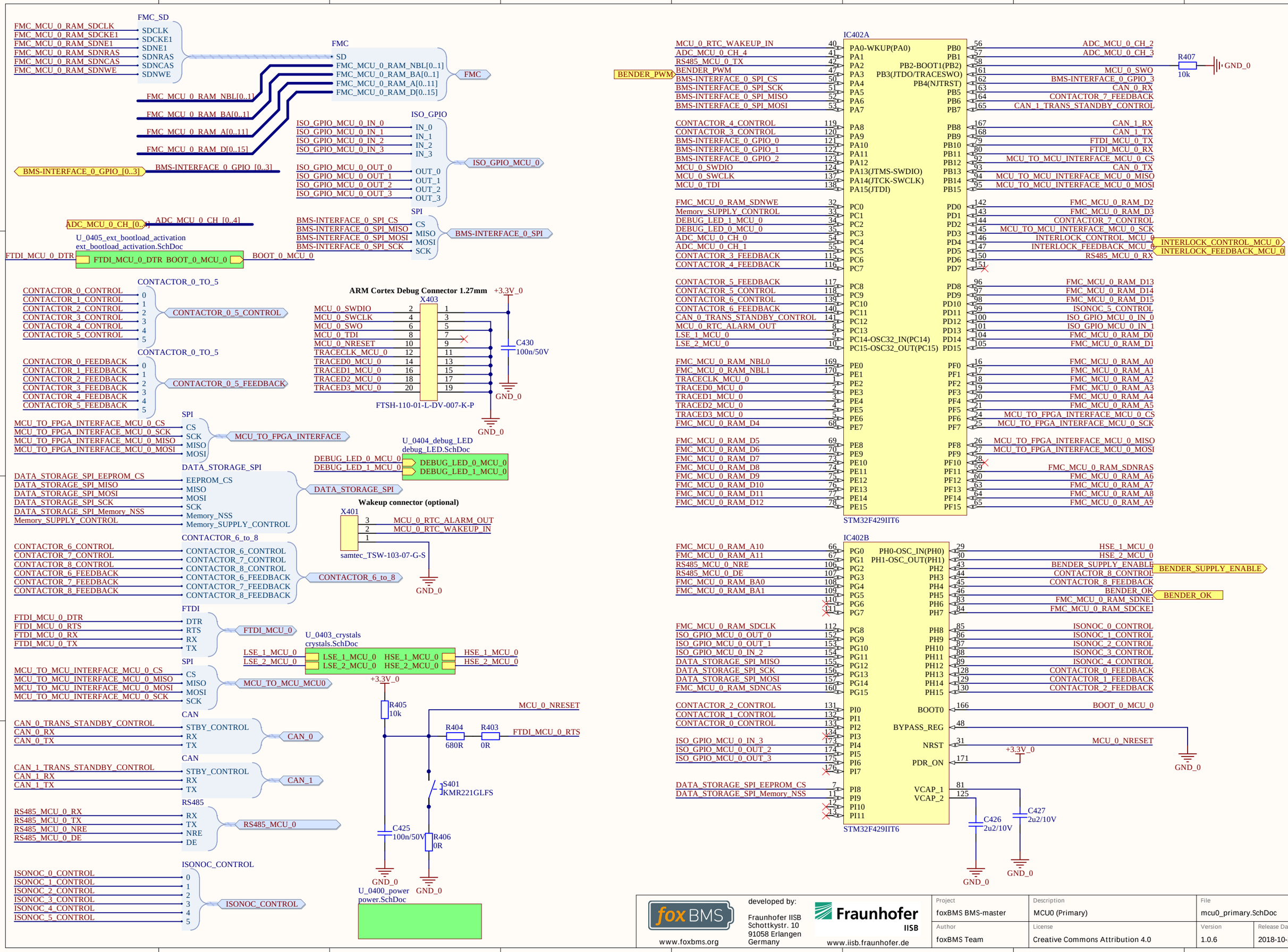

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| developed by: Fraunhofer IISB, Schottkystr. 10, 91058 Erlangen, Germany | Project: foxBMS BMS-master | Description: Structure of Master | File: hierarchy.SchDoc |
| www.foxbms.org / www.iisb.fraunhofer.de | Author: foxBMS Team | License: Creative Commons Attribution 4.0 | Version: 1.0.6 / Release Date: 2018-10-25 / Sheet: 1 / 24 |




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| www.foxbms.org | developed by: Fraunhofer IISB Schottkystr. 10 91058 Erlangen Germany | www.iisb.fraunhofer.de | Project: foxBMS BMS-master | Description: Supply for MCU0 and peripherals | File: supply0.SchDoc | | |
| | | | Author: foxBMS Team | License: Creative Commons Attribution 4.0 | Version: 1.0.6 | Release Date: 2018-10-25 | Sheet: 2 / 24 |




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| foxBMS www.foxbms.org | developed by: Fraunhofer IISB Schottkystr. 10 91058 Erlangen Germany | Fraunhofer IISB www.iisb.fraunhofer.de | Project: foxBMS BMS-master | Description: Supply for MCU1 and peripherals | File: supply1.SchDoc | | |
| | | | Author: foxBMS Team | License: Creative Commons Attribution 4.0 | Version: 1.0.6 | Release Date: 2018-10-25 | Sheet: 3 / 24 |


FMC_SD
FMC_MCU_0_RAM_SDCLK
FMC_MCU_0_RAM_SDCKE1
FMC_MCU_0_RAM_SDNE1
FMC_MCU_0_RAM_SDNRAS
FMC_MCU_0_RAM_SDNCAS
FMC_MCU_0_RAM_SDNWE
SDCLK
SDCKE1
SDNE1
SDNRAS
SDNCAS
SDNWE
FMC
FMC_MCU_0_RAM_NBL[0..1]
FMC_MCU_0_RAM_BA[0..1]
FMC_MCU_0_RAM_A[0..11]
FMC_MCU_0_RAM_D[0..15]
FMC_MCU_0_RAM_NBL[0..1]
FMC_MCU_0_RAM_BA[0..1]
FMC_MCU_0_RAM_A[0..11]
FMC_MCU_0_RAM_D[0..15]
ISO_GPIO
ISO_GPIO_MCU_0_IN_0
ISO_GPIO_MCU_0_IN_1
ISO_GPIO_MCU_0_IN_2
ISO_GPIO_MCU_0_IN_3
IN_0
IN_1
IN_2
IN_3
ISO_GPIO_MCU_0
BMS-INTERFACE_0_GPIO_[0..3]
BMS-INTERFACE_0_GPIO_[0..3]
ISO_GPIO_MCU_0_OUT_0
ISO_GPIO_MCU_0_OUT_1
ISO_GPIO_MCU_0_OUT_2
ISO_GPIO_MCU_0_OUT_3
OUT_0
OUT_1
OUT_2
OUT_3
ADC_MCU_0_CH_[0..4]
ADC_MCU_0_CH_[0..4]
SPI
BMS-INTERFACE_0_SPI_CS
BMS-INTERFACE_0_SPI_MISO
BMS-INTERFACE_0_SPI_MOSI
BMS-INTERFACE_0_SPI_SCK
CS
MISO
MOSI
SCK
BMS-INTERFACE_0_SPI
U_0405_ext_bootload_activation
ext_bootload_activation.SchDoc
FTDI_MCU_0_DTR
FTDI_MCU_0_DTR BOOT_0_MCU_0
BOOT_0_MCU_0
CONTACTOR_0_TO_5
CONTACTOR_0_CONTROL
CONTACTOR_1_CONTROL
CONTACTOR_2_CONTROL
CONTACTOR_3_CONTROL
CONTACTOR_4_CONTROL
CONTACTOR_5_CONTROL
0
1
2
3
4
5
CONTACTOR_0_5_CONTROL
CONTACTOR_0_TO_5
CONTACTOR_0_FEEDBACK
CONTACTOR_1_FEEDBACK
CONTACTOR_2_FEEDBACK
CONTACTOR_3_FEEDBACK
CONTACTOR_4_FEEDBACK
CONTACTOR_5_FEEDBACK
CONTACTOR_0_5_FEEDBACK
ARM Cortex Debug Connector 1.27mm
X403
MCU_0_SWDIO
MCU_0_SWCLK
MCU_0_SWO
MCU_0_TDI
MCU_0_NRESET
TRACECLK_MCU_0
TRACED0_MCU_0
TRACED1_MCU_0
TRACED2_MCU_0
TRACED3_MCU_0
FTSH-110-01-L-DV-007-K-P
+3.3V_0
C430
100n/50V
GND_0
SPI
MCU_TO_FPGA_INTERFACE_MCU_0_CS
MCU_TO_FPGA_INTERFACE_MCU_0_SCK
MCU_TO_FPGA_INTERFACE_MCU_0_MISO
MCU_TO_FPGA_INTERFACE_MCU_0_MOSI
MCU_TO_FPGA_INTERFACE
U_0404_debug_LED
debug_LED.SchDoc
DEBUG_LED_0_MCU_0
DEBUG_LED_1_MCU_0
DATA_STORAGE_SPI
DATA_STORAGE_SPI_EEPROM_CS
DATA_STORAGE_SPI_MISO
DATA_STORAGE_SPI_MOSI
DATA_STORAGE_SPI_SCK
DATA_STORAGE_SPI_Memory_NSS
Memory_SUPPLY_CONTROL
EEPROM_CS
MISO
MOSI
SCK
Memory_NSS
Memory_SUPPLY_CONTROL
Wakeup connector (optional)
X401
MCU_0_RTC_ALARM_OUT
MCU_0_RTC_WAKEUP_IN
samtec_TSW-103-07-G-S
CONTACTOR_6_to_8
CONTACTOR_6_CONTROL
CONTACTOR_7_CONTROL
CONTACTOR_8_CONTROL
CONTACTOR_6_FEEDBACK
CONTACTOR_7_FEEDBACK
CONTACTOR_8_FEEDBACK
FTDI
FTDI_MCU_0_DTR
FTDI_MCU_0_RTS
FTDI_MCU_0_RX
FTDI_MCU_0_TX
DTR
RTS
RX
TX
FTDI_MCU_0
U_0403_crystals
crystals.SchDoc
LSE_1_MCU_0
LSE_2_MCU_0
HSE_1_MCU_0
HSE_2_MCU_0
MCU_TO_MCU_INTERFACE_MCU_0_CS
MCU_TO_MCU_INTERFACE_MCU_0_MISO
MCU_TO_MCU_INTERFACE_MCU_0_MOSI
MCU_TO_MCU_INTERFACE_MCU_0_SCK
MCU_TO_MCU_MCU0
+3.3V_0
R405
10k
MCU_0_NRESET
R404
680R
R403
0R
FTDI_MCU_0_RTS
S401
KMR221GLFS
C425
100n/50V
R406
0R
CAN
CAN_0_TRANS_STANDBY_CONTROL
CAN_0_RX
CAN_0_TX
STBY_CONTROL
CAN_0
CAN_1_TRANS_STANDBY_CONTROL
CAN_1_RX
CAN_1_TX
CAN_1
RS485
RS485_MCU_0_RX
RS485_MCU_0_TX
RS485_MCU_0_NRE
RS485_MCU_0_DE
RS485_MCU_0
ISONOC_CONTROL
ISONOC_0_CONTROL
ISONOC_1_CONTROL
ISONOC_2_CONTROL
ISONOC_3_CONTROL
ISONOC_4_CONTROL
ISONOC_5_CONTROL
U_0400_power
power.SchDoc
IC402A
MCU_0_RTC_WAKEUP_IN
ADC_MCU_0_CH_4
RS485_MCU_0_TX
BENDER_PWM
BMS-INTERFACE_0_SPI_CS
BMS-INTERFACE_0_SPI_SCK
BMS-INTERFACE_0_SPI_MISO
BMS-INTERFACE_0_SPI_MOSI
CONTACTOR_4_CONTROL
CONTACTOR_3_CONTROL
BMS-INTERFACE_0_GPIO_0
BMS-INTERFACE_0_GPIO_1
BMS-INTERFACE_0_GPIO_2
MCU_0_SWDIO
MCU_0_SWCLK
MCU_0_TDI
FMC_MCU_0_RAM_SDNWE
Memory_SUPPLY_CONTROL
DEBUG_LED_1_MCU_0
DEBUG_LED_0_MCU_0
ADC_MCU_0_CH_0
ADC_MCU_0_CH_1
CONTACTOR_3_FEEDBACK
CONTACTOR_4_FEEDBACK
CONTACTOR_5_FEEDBACK
CONTACTOR_5_CONTROL
CONTACTOR_6_CONTROL
CAN_0_TRANS_STANDBY_CONTROL
MCU_0_RTC_ALARM_OUT
LSE_1_MCU_0
LSE_2_MCU_0
FMC_MCU_0_RAM_NBL0
FMC_MCU_0_RAM_NBL1
TRACECLK_MCU_0
TRACED0_MCU_0
TRACED1_MCU_0
TRACED2_MCU_0
TRACED3_MCU_0
FMC_MCU_0_RAM_D4
FMC_MCU_0_RAM_D5
FMC_MCU_0_RAM_D6
FMC_MCU_0_RAM_D7
FMC_MCU_0_RAM_D8
FMC_MCU_0_RAM_D9
FMC_MCU_0_RAM_D10
FMC_MCU_0_RAM_D11
FMC_MCU_0_RAM_D12
PA0-WKUP(PA0)
PA1
PA2
PB2-BOOT1(PB2)
PA3
PB3(JTDO/TRACESWO)
PA4
PB4(NJTRST)
PA5
PA6
PA7
PA8
PA9
PA10
PA11
PA12
PA13(JTMS-SWDIO)
PA14(JTCK-SWCLK)
PA15(JTDI)
PC0
PC1
PC2
PC3
PC4
PC5
PC6
PC7
PC8
PC9
PC10
PC11
PC12
PC13
PC14-OSC32_IN(PC14)
PC15-OSC32_OUT(PC15)
PE0
PE1
PE2
PE3
PE4
PE5
PE6
PE7
PE8
PE9
PE10
PE11
PE12
PE13
PE14
PE15
PB0
PB1
PB5
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PB9
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PB14
PB15
PD0
PD1
PD2
PD3
PD4
PD5
PD6
PD7
PD8
PD9
PD10
PD11
PD12
PD13
PD14
PD15
PF0
PF1
PF2
PF3
PF4
PF5
PF6
PF7
PF8
PF9
PF10
PF11
PF12
PF13
PF14
PF15
ADC_MCU_0_CH_2
ADC_MCU_0_CH_3
MCU_0_SWO
BMS-INTERFACE_0_GPIO_3
CAN_0_RX
CONTACTOR_7_FEEDBACK
CAN_1_TRANS_STANDBY_CONTROL
CAN_1_RX
CAN_1_TX
FTDI_MCU_0_TX
FTDI_MCU_0_RX
MCU_TO_MCU_INTERFACE_MCU_0_CS
CAN_0_TX
MCU_TO_MCU_INTERFACE_MCU_0_MISO
MCU_TO_MCU_INTERFACE_MCU_0_MOSI
INTERLOCK_CONTROL_MCU_0
INTERLOCK_FEEDBACK_MCU_0
RS485_MCU_0_RX
FMC_MCU_0_RAM_D2
FMC_MCU_0_RAM_D3
CONTACTOR_7_CONTROL
MCU_TO_MCU_INTERFACE_MCU_0_SCK
FMC_MCU_0_RAM_D13
FMC_MCU_0_RAM_D14
FMC_MCU_0_RAM_D15
ISONOC_5_CONTROL
ISO_GPIO_MCU_0_IN_0
ISO_GPIO_MCU_0_IN_1
FMC_MCU_0_RAM_D0
FMC_MCU_0_RAM_D1
FMC_MCU_0_RAM_A0
FMC_MCU_0_RAM_A1
FMC_MCU_0_RAM_A2
FMC_MCU_0_RAM_A3
FMC_MCU_0_RAM_A4
FMC_MCU_0_RAM_A5
MCU_TO_FPGA_INTERFACE_MCU_0_CS
MCU_TO_FPGA_INTERFACE_MCU_0_SCK
MCU_TO_FPGA_INTERFACE_MCU_0_MISO
MCU_TO_FPGA_INTERFACE_MCU_0_MOSI
FMC_MCU_0_RAM_SDNRAS
FMC_MCU_0_RAM_A6
FMC_MCU_0_RAM_A7
FMC_MCU_0_RAM_A8
FMC_MCU_0_RAM_A9
STM32F429IIT6
R407
10k
IC402B
FMC_MCU_0_RAM_A10
FMC_MCU_0_RAM_A11
RS485_MCU_0_NRE
RS485_MCU_0_DE
FMC_MCU_0_RAM_BA0
FMC_MCU_0_RAM_BA1
FMC_MCU_0_RAM_SDCLK
ISO_GPIO_MCU_0_OUT_0
ISO_GPIO_MCU_0_OUT_1
ISO_GPIO_MCU_0_IN_2
DATA_STORAGE_SPI_MISO
DATA_STORAGE_SPI_SCK
DATA_STORAGE_SPI_MOSI
FMC_MCU_0_RAM_SDNCAS
CONTACTOR_2_CONTROL
CONTACTOR_1_CONTROL
CONTACTOR_0_CONTROL
ISO_GPIO_MCU_0_IN_3
ISO_GPIO_MCU_0_OUT_2
ISO_GPIO_MCU_0_OUT_3
DATA_STORAGE_SPI_EEPROM_CS
DATA_STORAGE_SPI_Memory_NSS
PG0
PG1
PG2
PG3
PG4
PG5
PG6
PG7
PG8
PG9
PG10
PG11
PG12
PG13
PG14
PG15
PH0-OSC_IN(PH0)
PH1-OSC_OUT(PH1)
PH2
PH3
PH4
PH5
PH6
PH7
PH8
PH9
PH10
PH11
PH12
PH13
PH14
PH15
PI0
PI1
PI2
PI3
PI4
PI5
PI6
PI7
PI8
PI9
PI10
PI11
BOOT0
BYPASS_REG
NRST
PDR_ON
VCAP_1
VCAP_2
HSE_1_MCU_0
HSE_2_MCU_0
BENDER_SUPPLY_ENABLE
CONTACTOR_8_CONTROL
CONTACTOR_8_FEEDBACK
BENDER_OK
FMC_MCU_0_RAM_SDNE1
FMC_MCU_0_RAM_SDCKE1
ISONOC_0_CONTROL
ISONOC_1_CONTROL
ISONOC_2_CONTROL
ISONOC_3_CONTROL
ISONOC_4_CONTROL
CONTACTOR_0_FEEDBACK
CONTACTOR_1_FEEDBACK
CONTACTOR_2_FEEDBACK
BOOT_0_MCU_0
C426
2u2/10V
C427
2u2/10V
STM32F429IIT6
www.foxbms.org
developed by:
Fraunhofer IISB
Schottkystr. 10
91058 Erlangen
Germany
www.iisb.fraunhofer.de
Project
foxBMS BMS-master
Description
MCU0 (Primary)
File
mcu0_primary.SchDoc
Author
foxBMS Team
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Version
1.0.6
Release Date
2018-10-25
Sheet
4 / 24

U_0401_adc_reference
adc_reference.SchDoc
VREF+_MCU_0
VREF+_MCU_0

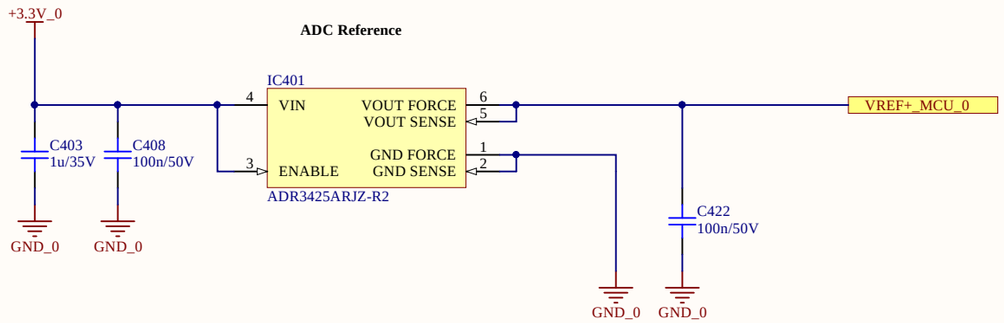
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VDDA_MCU_0

IC402C
STM32F429IIT6
6 VBAT
38 VREF+
39 VDDA
37 VSSA
15 23 36 49 62 72 82 91 103 114 127 136 149 159 172 VDD
14 22 61 71 90 102 113 126 135 148 158 VSS

BATT
battholder
GND_0

C423 1u/35V
C424 100n/50V

+3.3V_0
Digital Supply Decoupling
C401 C406 C409 C412 C415 C417 C419 C421 100n/50V
C405 C407 C410 C413 C416 C418 C420 100n/50V
Placed close to MCU pins





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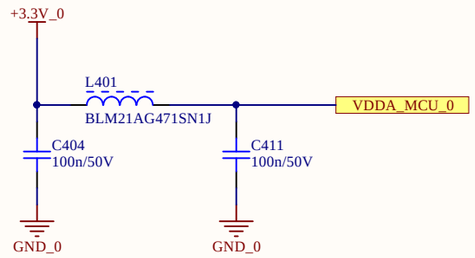
developed by:

Fraunhofer IISB
Schottkystr. 10
91058 Erlangen
Germany

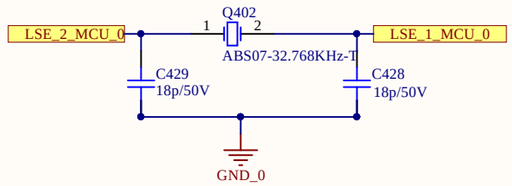
www.iisb.fraunhofer.de

| Project | Description | File | | |
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| foxBMS BMS-master | ADC Reference for MCU0 | adc_reference.SchDoc | | |
| Author | License | Version | Release Date | Sheet |
| foxBMS Team | Creative Commons Attribution 4.0 | 1.0.6 | 2018-10-25 | 6 / 24 |

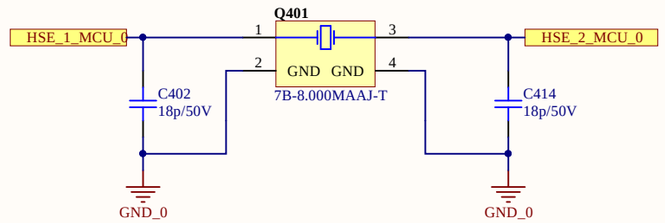
**Analog Supply Decoupling**



**LSE crystal**

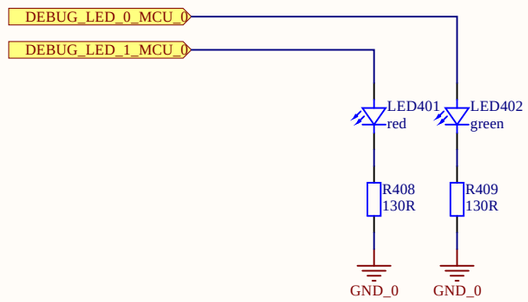



**HSE 8MHz crystal**



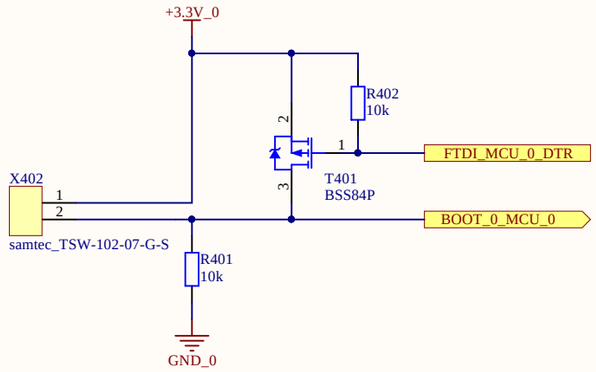

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|---|---|---|---|---|---|
| www.foxbms.org | developed by: Fraunhofer IISB Schottkystr. 10 91058 Erlangen Germany | www.iisb.fraunhofer.de | Project: foxBMS BMS-master | Description: Crystals for MCU0 | File: crystals.SchDoc |
| | | | Author: foxBMS Team | License: Creative Commons Attribution 4.0 | Version: 1.0.6 / Release Date: 2018-10-25 / Sheet: 8 / 24 |

**Debug LED**




| | | | | | |
|---|---|---|---|---|---|
| www.foxbms.org | developed by:<br>Fraunhofer IISB<br>Schottkystr. 10<br>91058 Erlangen<br>Germany | www.iisb.fraunhofer.de | Project: foxBMS BMS-master | Description: Debug LEDs for MCU0 | File: debug_LED.SchDoc |
| | | | Author: foxBMS Team | License: Creative Commons Attribution 4.0 | Version: 1.0.6 / Release Date: 2018-10-25 / Sheet: 9 / 24 |

**External bootload activation circuit**





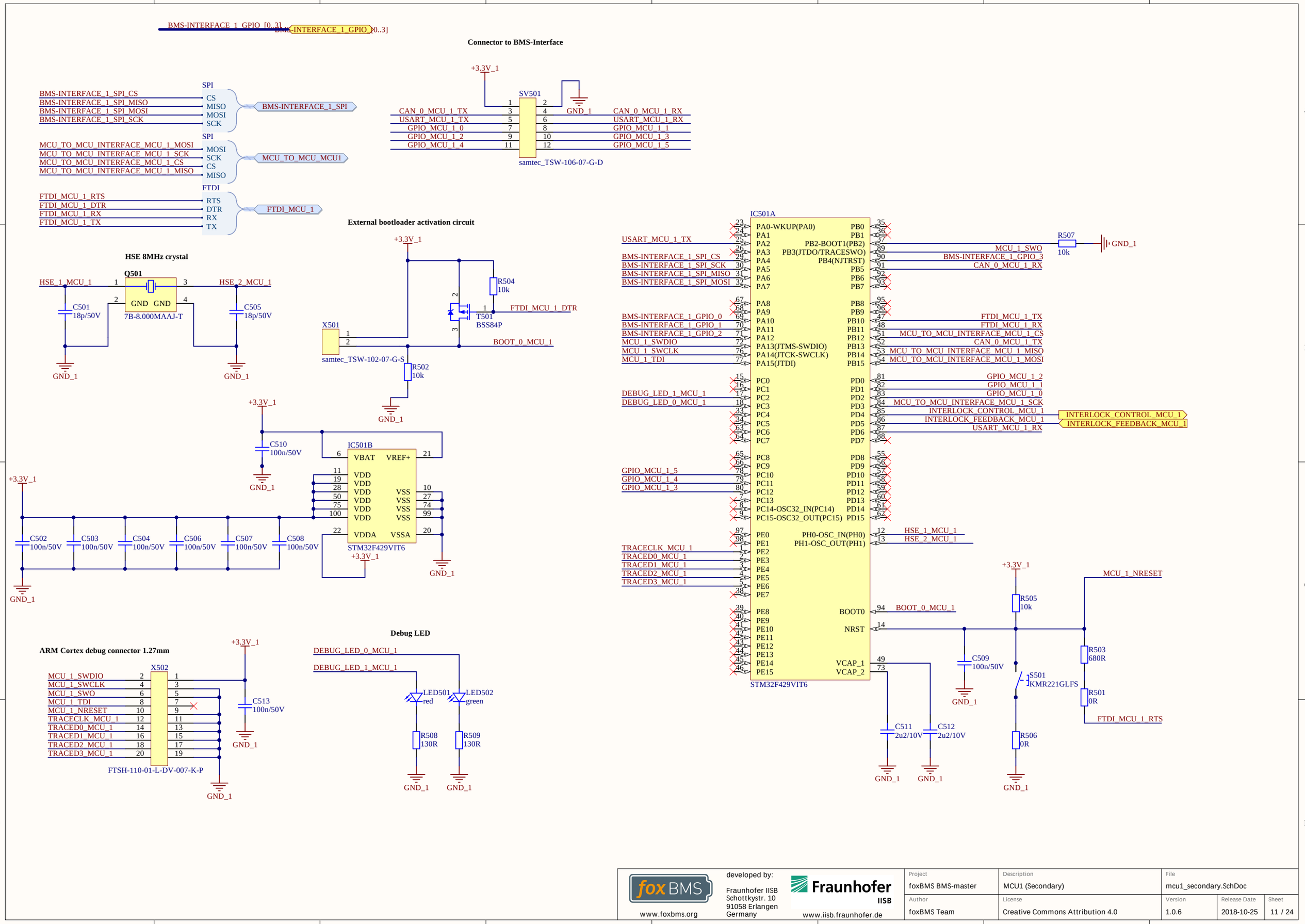
www.foxbms.org

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Fraunhofer IISB
Schottkystr. 10
91058 Erlangen
Germany

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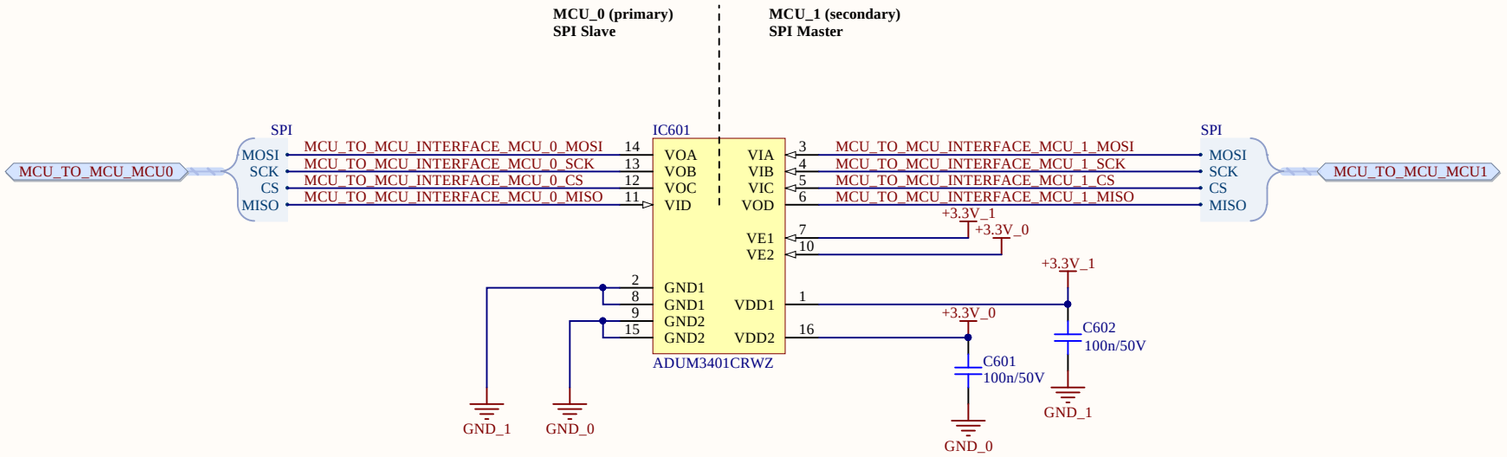
| Project | Description | File | | |
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| foxBMS BMS-master | External Bootload Activation Circuit | ext_bootload_activation.SchDoc | | |
| Author | License | Version | Release Date | Sheet |
| foxBMS Team | Creative Commons Attribution 4.0 | 1.0.6 | 2018-10-25 | 10 / 24 |




| | | | | | |
|---|---|---|---|---|---|
| developed by: Fraunhofer IISB, Schottkystr. 10, 91058 Erlangen, Germany | Project: foxBMS BMS-master | Description: MCU1 (Secondary) | File: mcu1_secondary.SchDoc | | |
| www.foxbms.org / www.iisb.fraunhofer.de | Author: foxBMS Team | License: Creative Commons Attribution 4.0 | Version: 1.0.6 | Release Date: 2018-10-25 | Sheet: 11 / 24 |

**Isolated Bidirectional Interface**
**between MCU_0 (primary) and MCU_1 (secondary)**

**SPI up to 45MHz**





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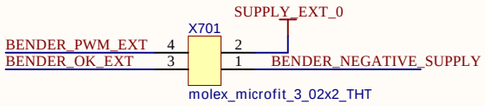
developed by:

Fraunhofer IISB
Schottkystr. 10
91058 Erlangen
Germany

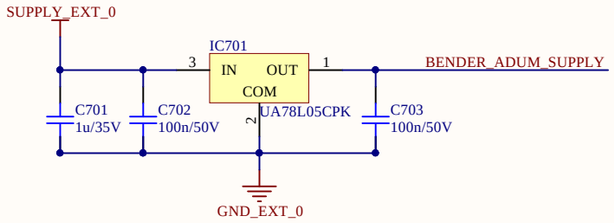
www.iisb.fraunhofer.de

| Project | Description | File | | |
|---|---|---|---|---|
| foxBMS BMS-master | Isolated Bidirectional Interface MCU0/MCU1 | mcu0_to_mcu1_isolated_SPI.SchDoc | | |
| Author | License | Version | Release Date | Sheet |
| foxBMS Team | Creative Commons Attribution 4.0 | 1.0.6 | 2018-10-25 | 12 / 24 |

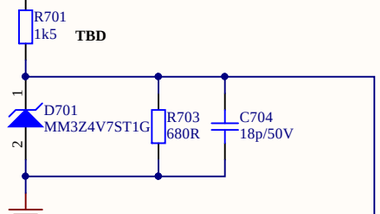
**Bender Isometer Connector**



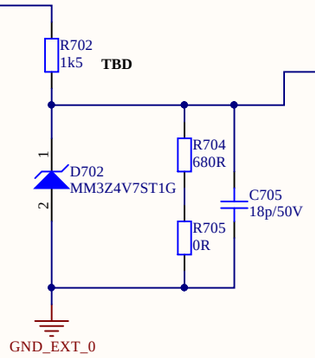

**Onboard supply**

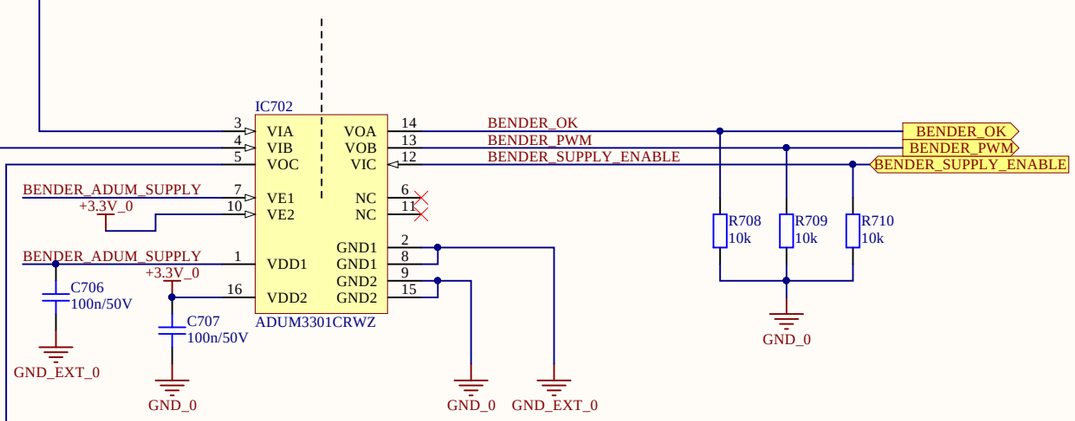



**Status Signal**
**from Bender Isometer** BENDER_OK_EXT

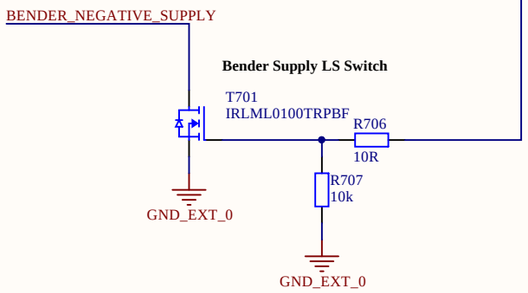



**Diagnostic Signal**
**from Bender Isometer** BENDER_PWM_EXT
**(PWM coded)**

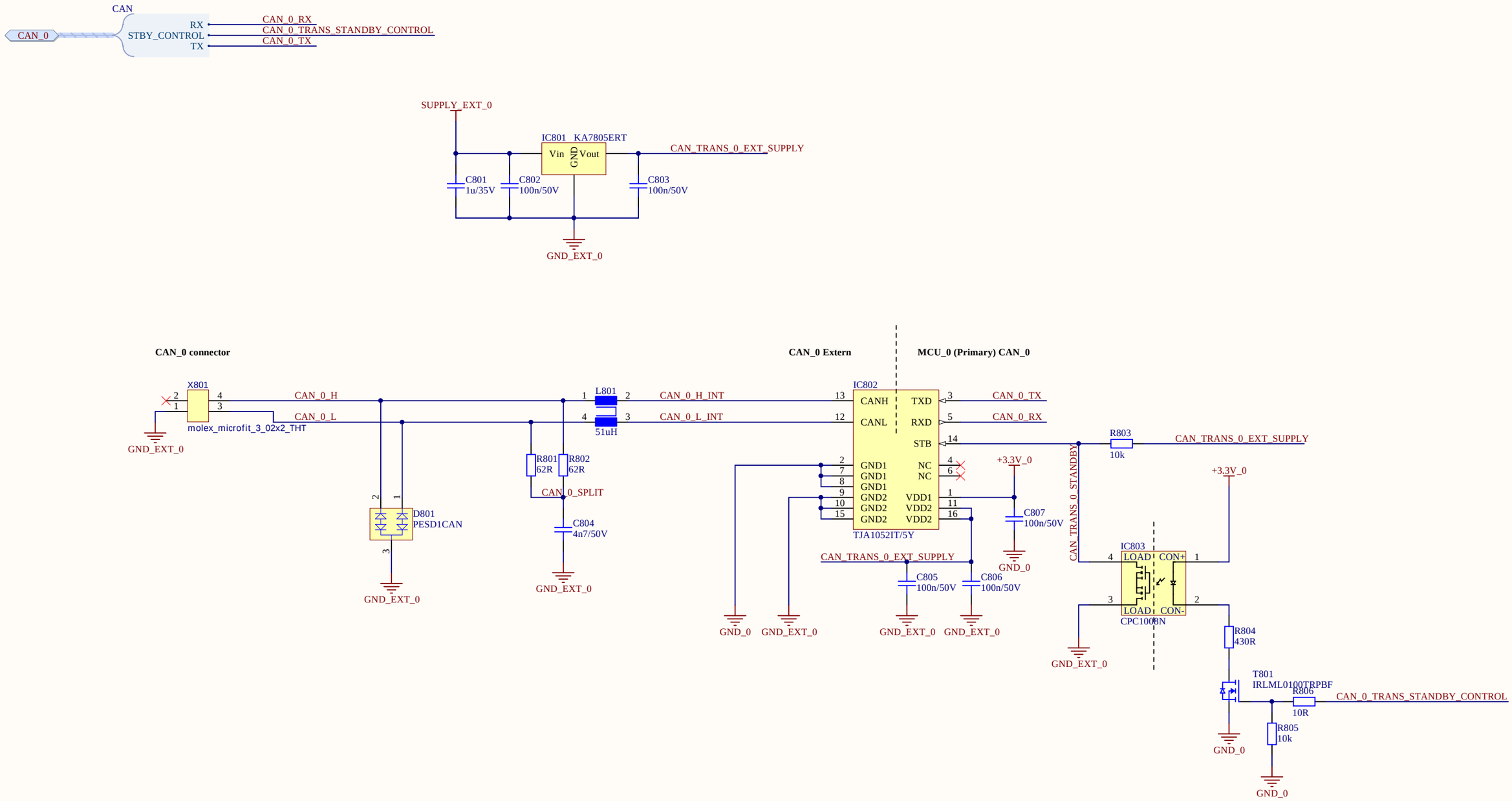


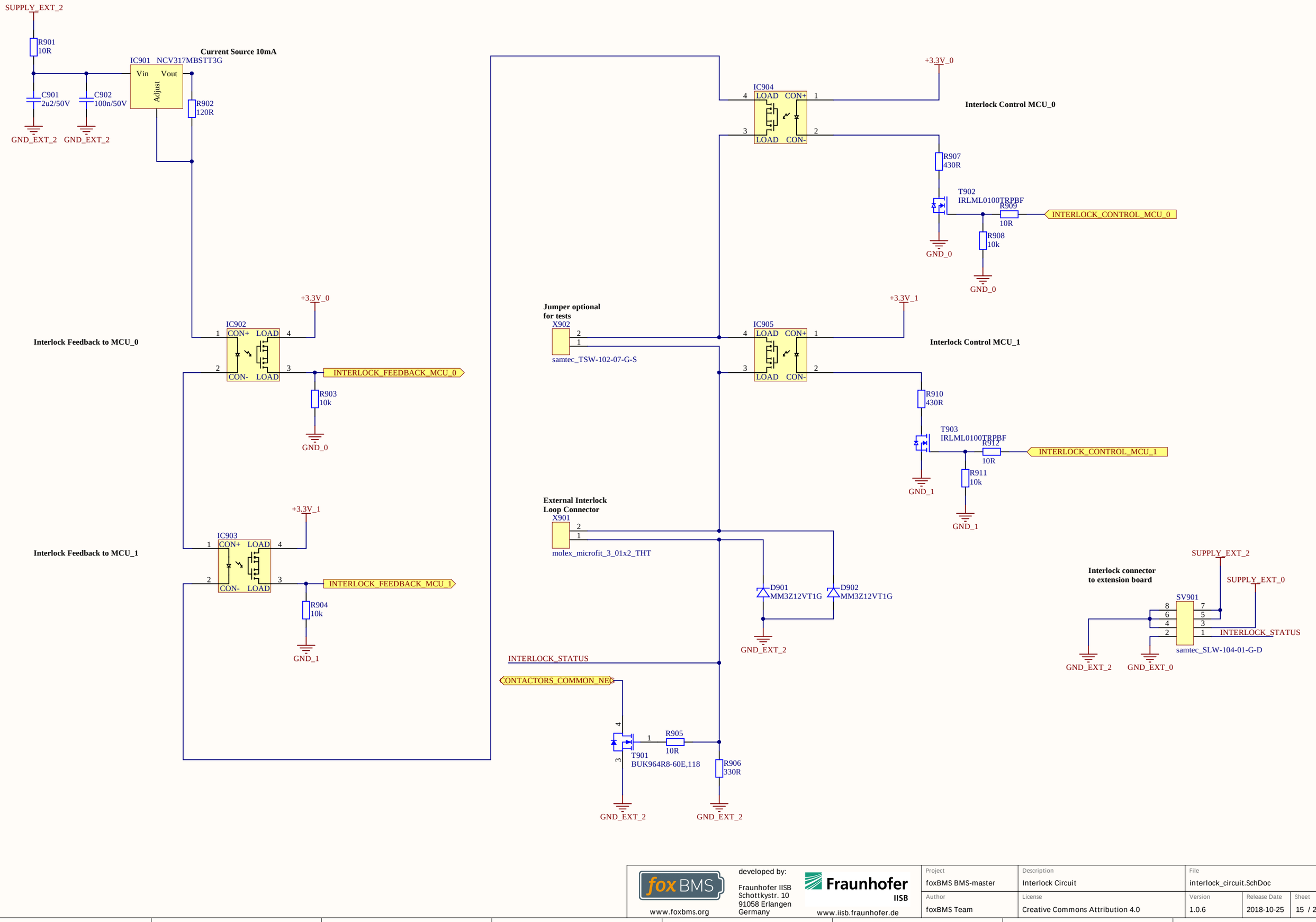




**Solderjumper:**
**open for Bender IR155-3203 (LS)**
**closed for Bender IR155-3204/-3210 (HS)**

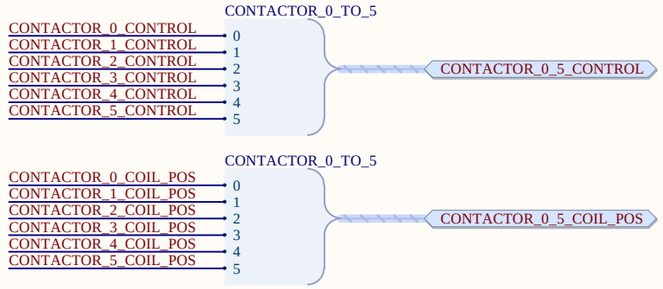


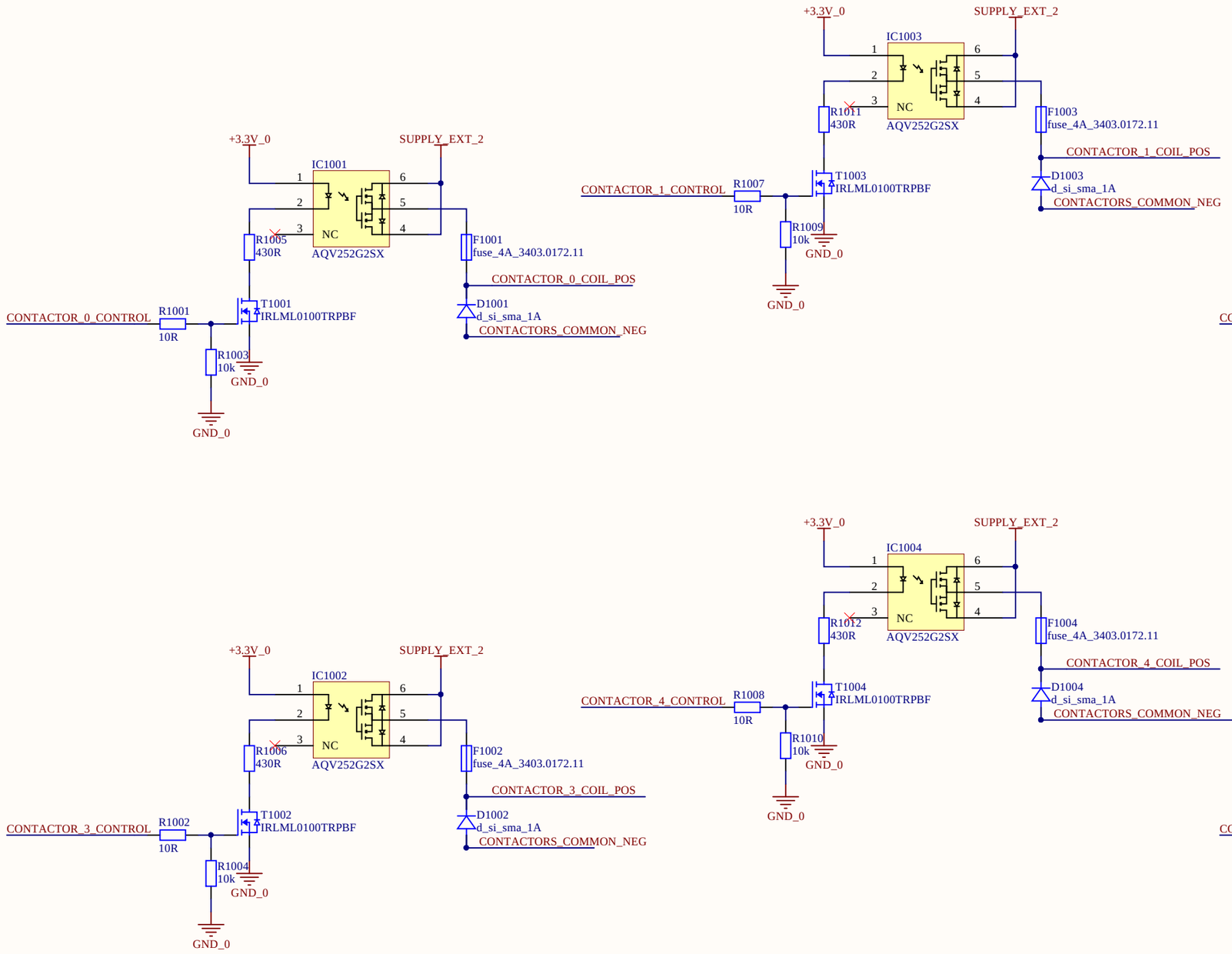

| | | | | | |
|---|---|---|---|---|---|
| www.foxbms.org | developed by: Fraunhofer IISB Schottkystr. 10 91058 Erlangen Germany | www.iisb.fraunhofer.de | Project: foxBMS BMS-master | Description: Bender Isometer Interface | File: bender_isometer_interface.SchDoc |
| | | | Author: foxBMS Team | License: Creative Commons Attribution 4.0 | Version: 1.0.6 / Release Date: 2018-10-25 / Sheet: 13 / 24 |


CAN
CAN_0
RX
STBY_CONTROL
TX
CAN_0_RX
CAN_0_TRANS_STANDBY_CONTROL
CAN_0_TX
SUPPLY_EXT_0
IC801 KA7805ERT
Vin
GND
Vout
CAN_TRANS_0_EXT_SUPPLY
C801
1u/35V
C802
100n/50V
C803
100n/50V
GND_EXT_0
CAN_0 connector
CAN_0 Extern
MCU_0 (Primary) CAN_0
X801
molex_microfit_3_02x2_THT
CAN_0_H
CAN_0_L
L801
51uH
CAN_0_H_INT
CAN_0_L_INT
R801
62R
R802
62R
CAN_0_SPLIT
D801
PESD1CAN
C804
4n7/50V
IC802
CANH
CANL
STB
GND1
GND2
TXD
RXD
NC
VDD1
VDD2
TJA1052IT/5Y
+3.3V_0
C807
100n/50V
C805
100n/50V
C806
100n/50V
R803
10k
CAN_TRANS_0_STANDBY
IC803
LOAD
CON+
CON-
CPC1008N
R804
430R
T801
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10R
R805
10k



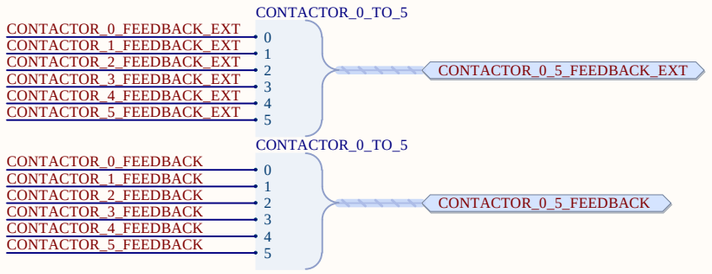

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| foxBMS www.foxbms.org | developed by: Fraunhofer IISB Schottkystr. 10 91058 Erlangen Germany | Fraunhofer IISB www.iisb.fraunhofer.de | Project: foxBMS BMS-master | Description: Interlock Circuit | File: interlock_circuit.SchDoc |
| | | | Author: foxBMS Team | License: Creative Commons Attribution 4.0 | Version: 1.0.6 / Release Date: 2018-10-25 / Sheet: 15 / 24 |

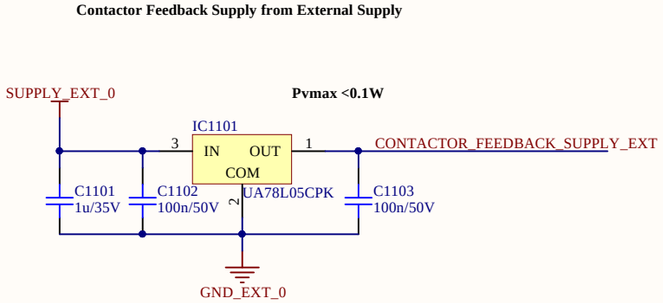


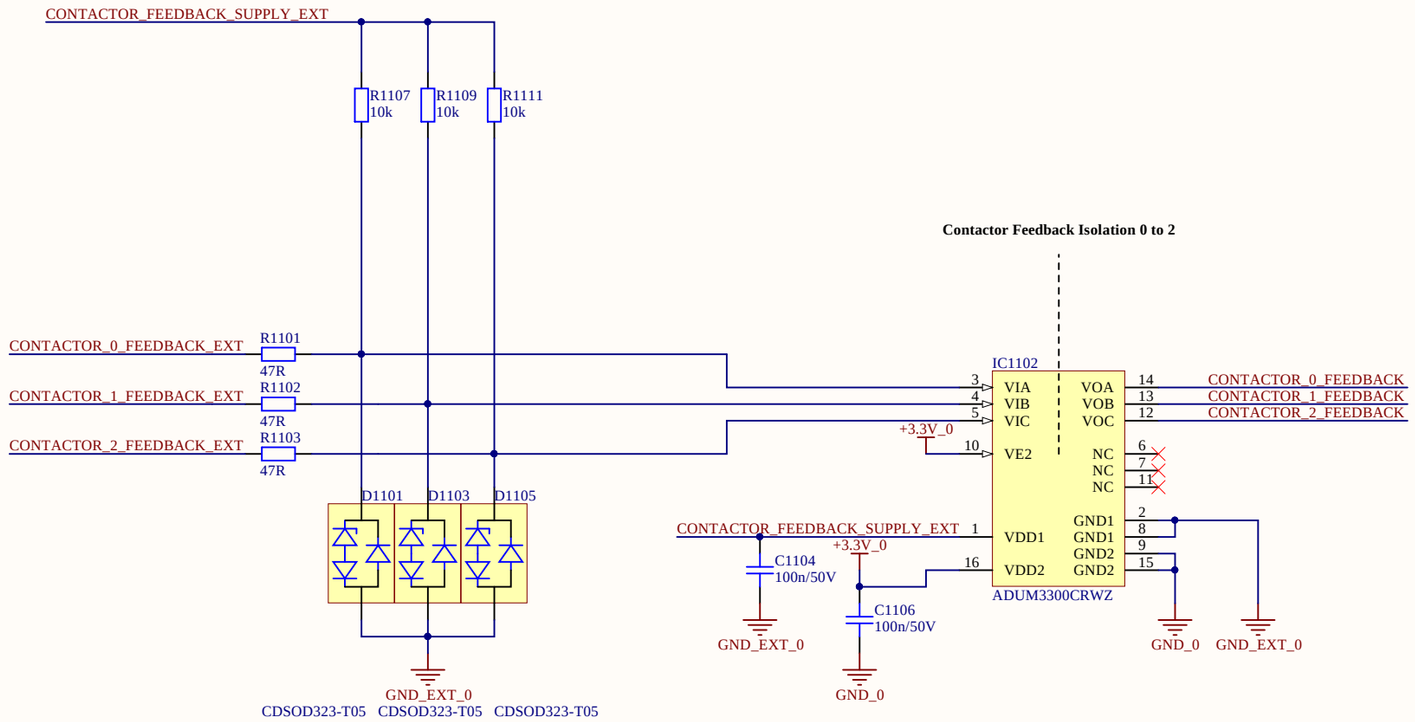



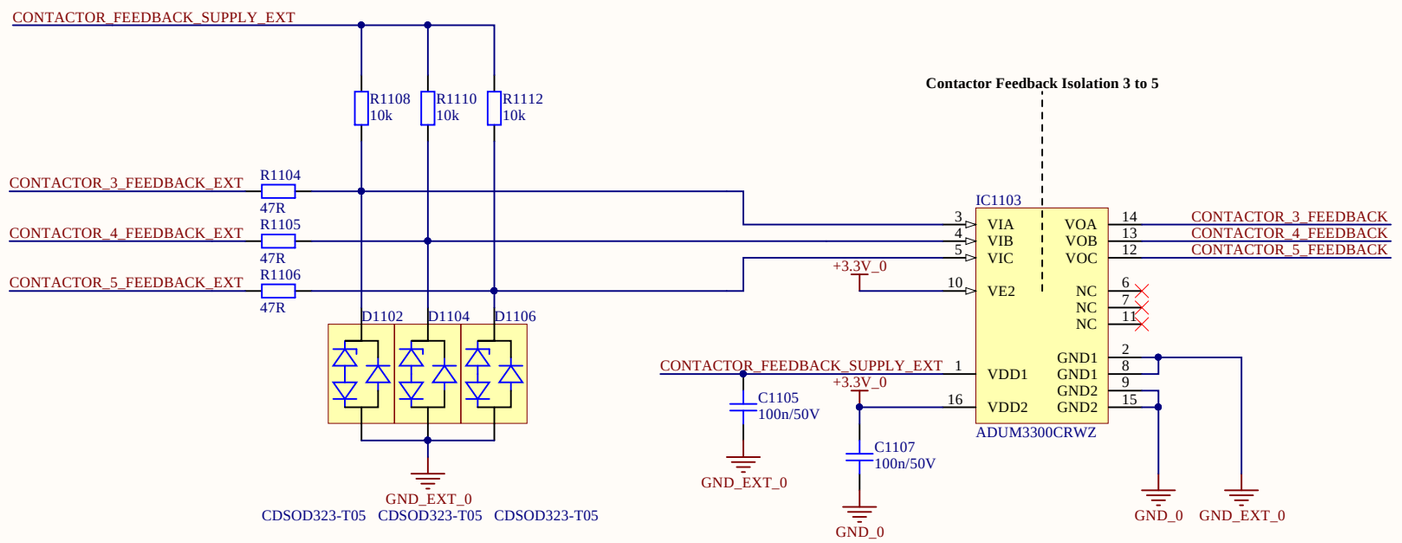

CONTACTORS_COMMON_NEG CONTACTORS_COMMON_NEG

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| www.foxbms.org | developed by: Fraunhofer IISB Schottkystr. 10 91058 Erlangen Germany | www.iisb.fraunhofer.de | Project: foxBMS BMS-master | Description: Contactor Control | File: contactor_control.SchDoc |
| | | | Author: foxBMS Team | License: Creative Commons Attribution 4.0 | Version: 1.0.6 / Release Date: 2018-10-25 / Sheet: 16 / 24 |

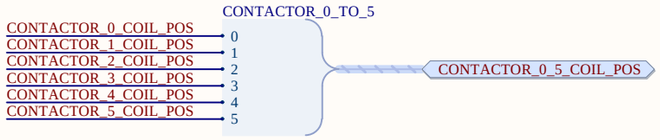


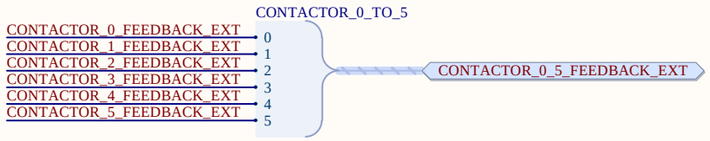



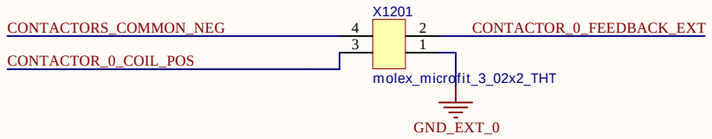



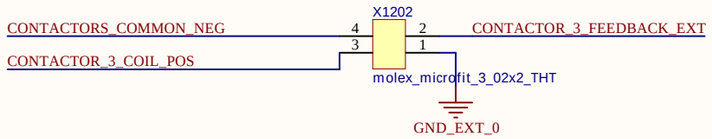

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| foxBMS www.foxbms.org | developed by: Fraunhofer IISB Schottkystr. 10 91058 Erlangen Germany | Fraunhofer IISB www.iisb.fraunhofer.de | Project: foxBMS BMS-master | Description: Contactor Feedback | File: contactor_feedback.SchDoc | | |
| | | | Author: foxBMS Team | License: Creative Commons Attribution 4.0 | Version: 1.0.6 | Release Date: 2018-10-25 | Sheet: 17 / 24 |



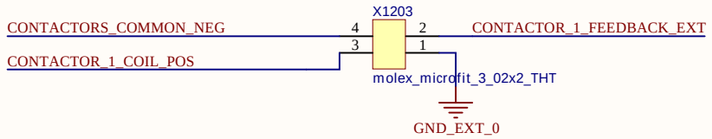

**One connector for each contactor:**
**- Coil supply**
**- Feedback (auxiliary) contact**



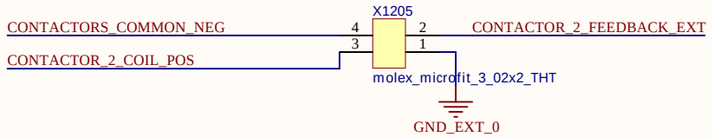


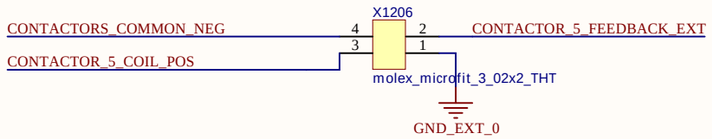












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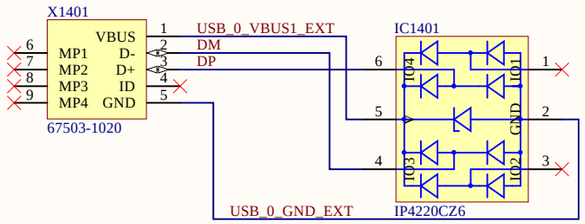
| Project | Description | File | | |
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| foxBMS BMS-master | Contactor Connectors | contactor_connectors.SchDoc | | |
| Author | License | Version | Release Date | Sheet |
| foxBMS Team | Creative Commons Attribution 4.0 | 1.0.6 | 2018-10-25 | 18 / 24 |

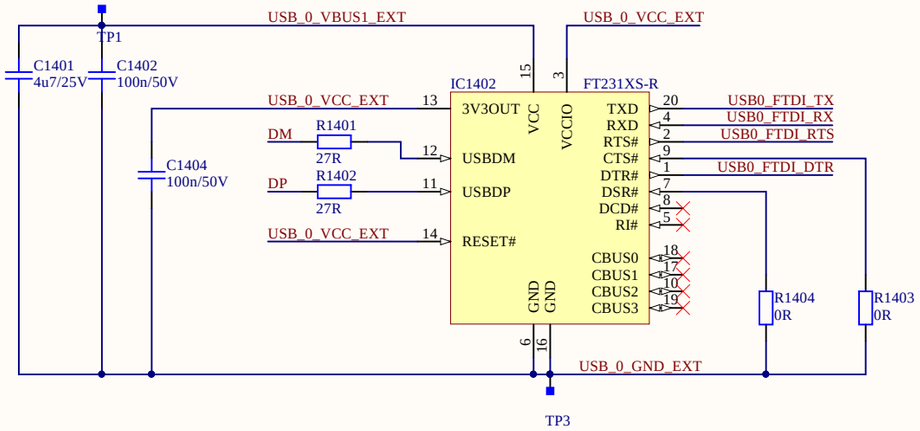
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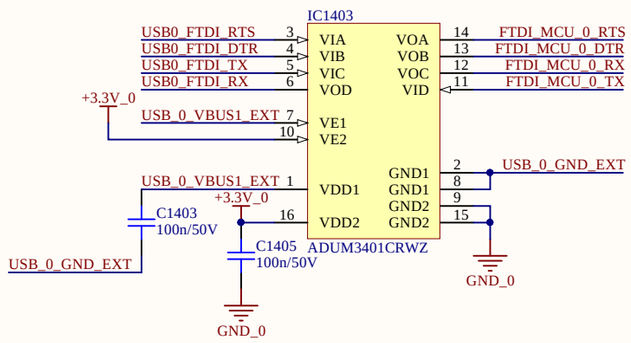



**MCU_0 (primary)**

**Isolated USB-Mini**



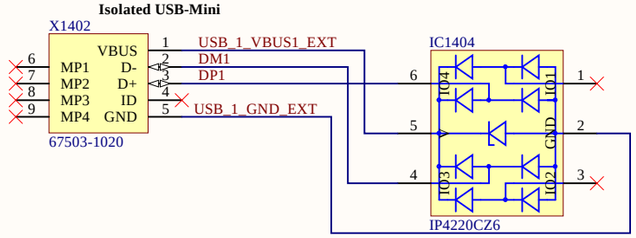



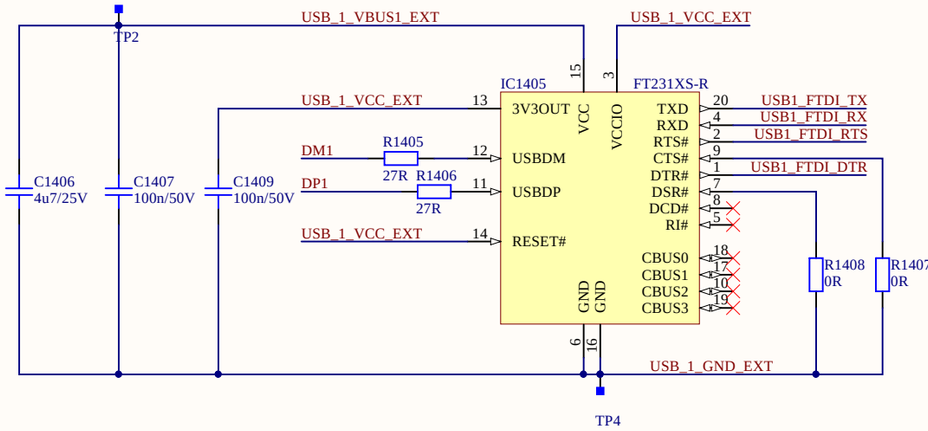

FTDI

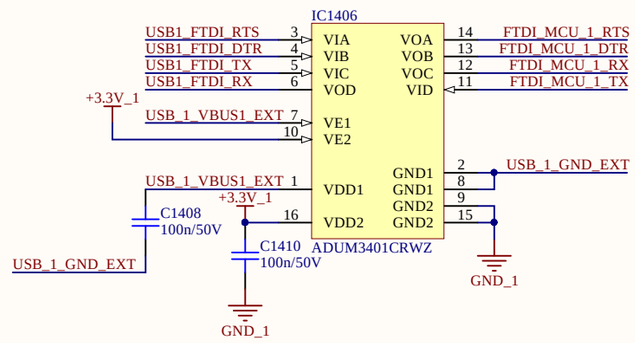


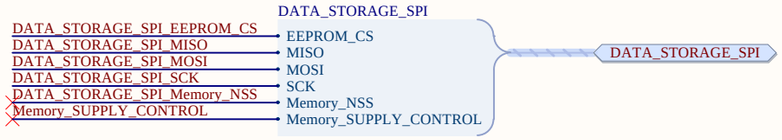

**MCU_1 (secondary)**

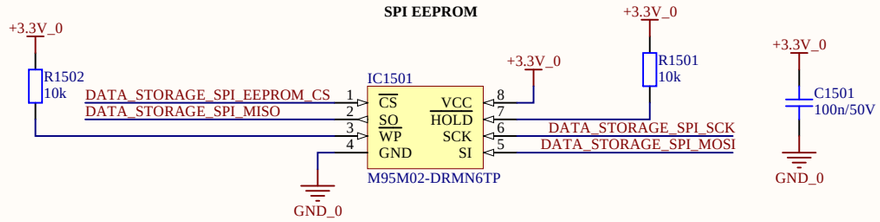
**Isolated USB-Mini**



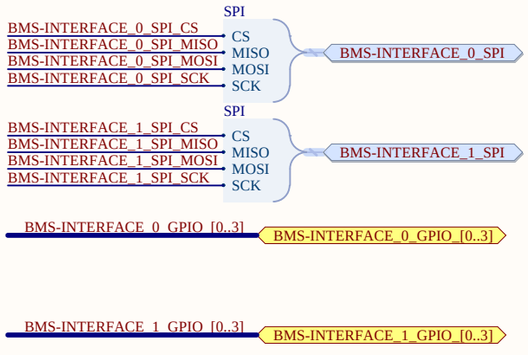



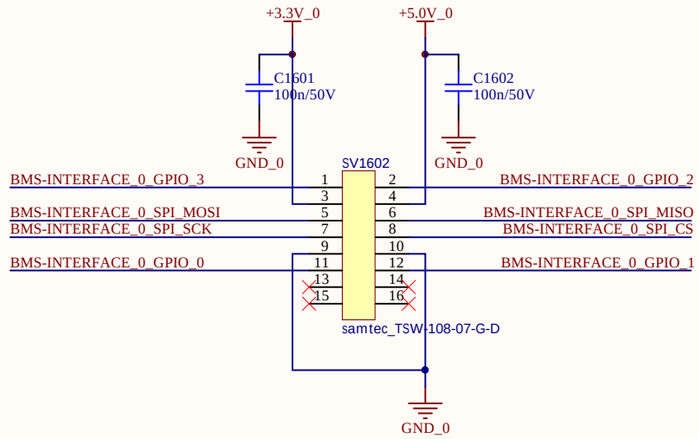


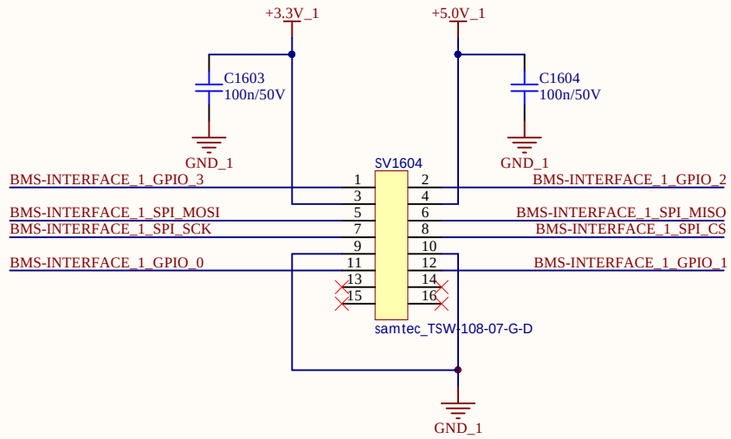

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| www.foxbms.org | developed by: Fraunhofer IISB Schottkystr. 10 91058 Erlangen Germany | www.iisb.fraunhofer.de | Project: foxBMS BMS-master | Description: EEPROM | File: EEPROM.SchDoc |
| | | | Author: foxBMS Team | License: Creative Commons Attribution 4.0 | Version: 1.0.6 / Release Date: 2018-10-25 / Sheet: 20 / 24 |



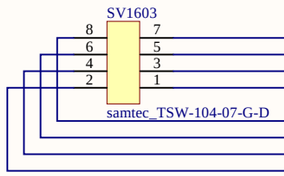

**Connector to BMS-Interface 0 (Primary)**



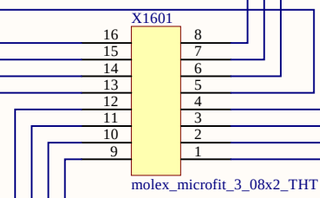

**Connector to BMS-Interface 1 (Secondary)**



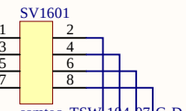

**Board-to-board connector**
**BMS-Master Basic to BMS-Interface**




**Connector to first BMS-Slave**




**Board-to-board connector**
**BMS-Master Basic to BMS-Interface**



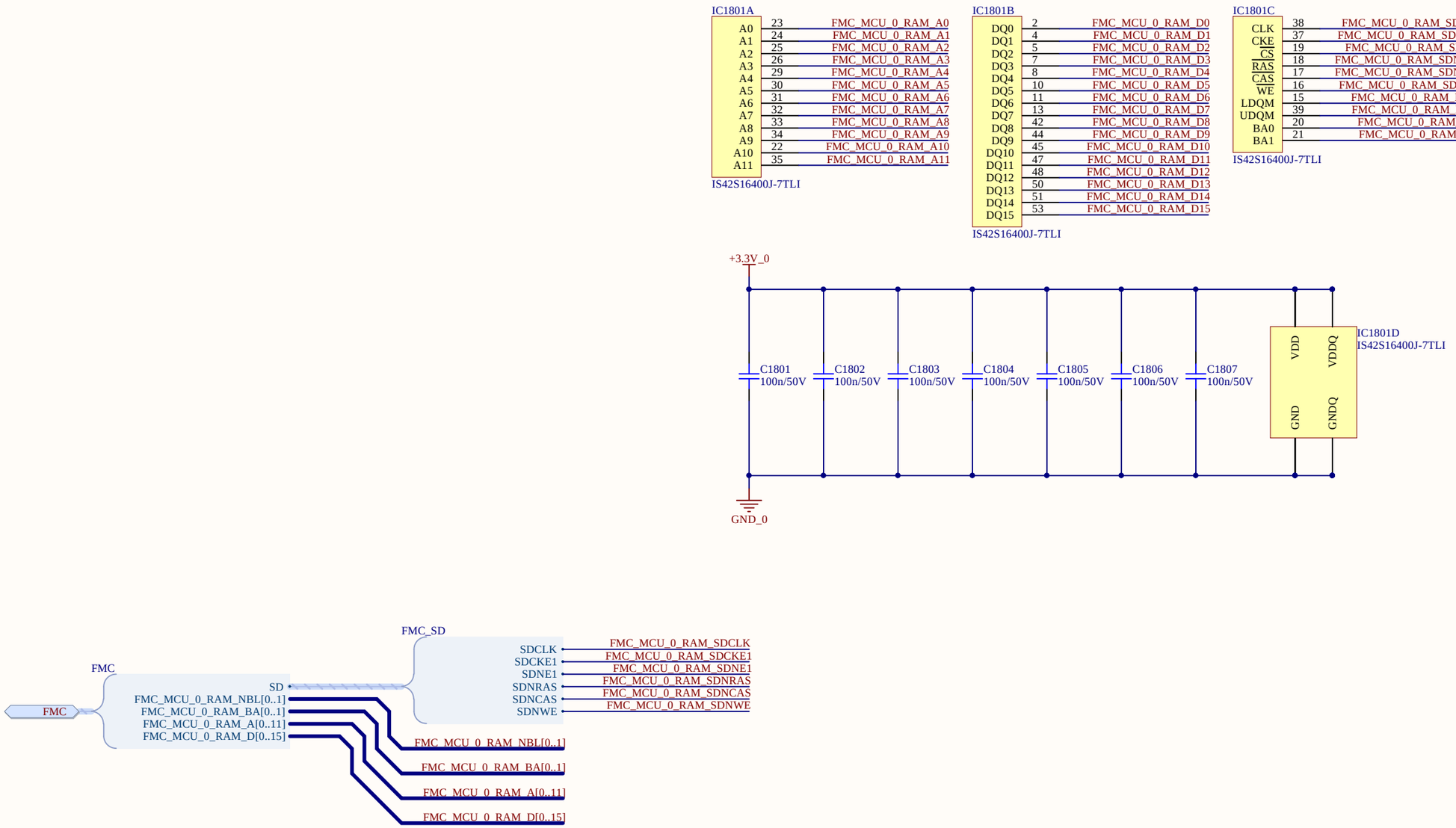


fox BMS
www.foxbms.org

developed by:
Fraunhofer IISB
Schottkystr. 10
91058 Erlangen
Germany

Fraunhofer IISB
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| Project | Description | File | | |
|---|---|---|---|---|
| foxBMS BMS-master | Interface to BMS-Interface | bms-interface_interface.SchDoc | | |
| Author | License | Version | Release Date | Sheet |
| foxBMS Team | Creative Commons Attribution 4.0 | 1.0.6 | 2018-10-25 | 21 / 24 |




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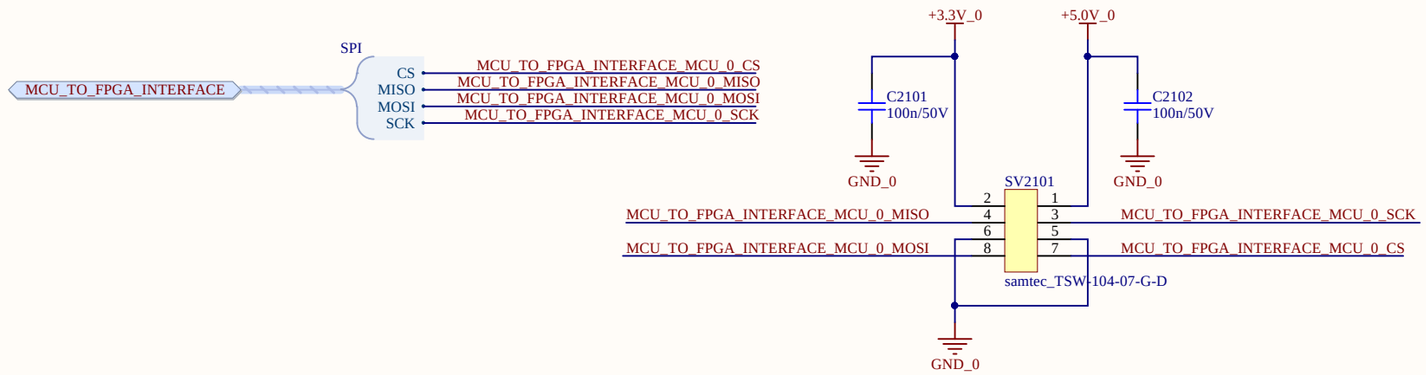
developed by:

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| Project | Description | File | | |
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| foxBMS BMS-master | 8MB SDRAM | SDRAM.SchDoc | | |
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**Connector for optional FPGA extension board (SPI)**





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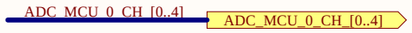
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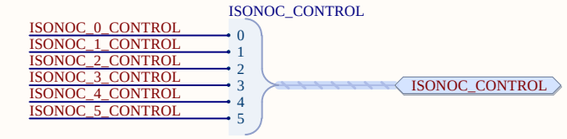
Fraunhofer IISB
Schottkystr. 10
91058 Erlangen
Germany

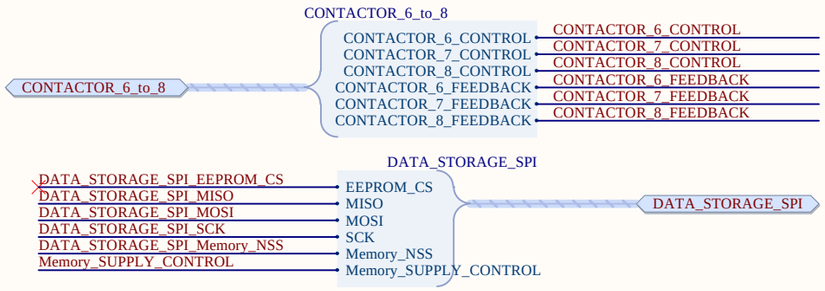
www.iisb.fraunhofer.de


| Project | Description | File | | |
|---|---|---|---|---|
| foxBMS BMS-master | FPGA SPI Interface up to 45MHz | FPGA_SPI_interface.SchDoc | | |
| Author | License | Version | Release Date | Sheet |
| foxBMS Team | Creative Commons Attribution 4.0 | 1.0.6 | 2018-10-25 | 23 / 24 |



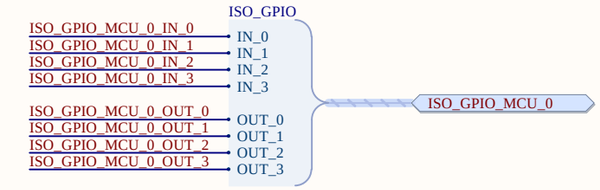



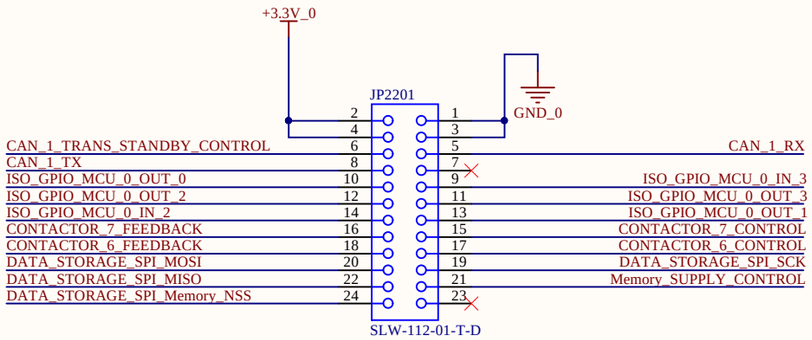


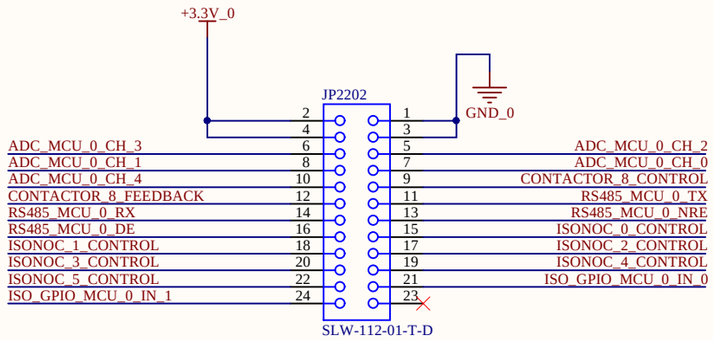











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|---|---|---|---|---|
| foxBMS BMS-master | Connectors to BMS-Extension | connector_to_BMS_extension.SchDoc | | |
| Author | License | Version | Release Date | Sheet |
| foxBMS Team | Creative Commons Attribution 4.0 | 1.0.6 | 2018-10-25 | 24 / 24 |