



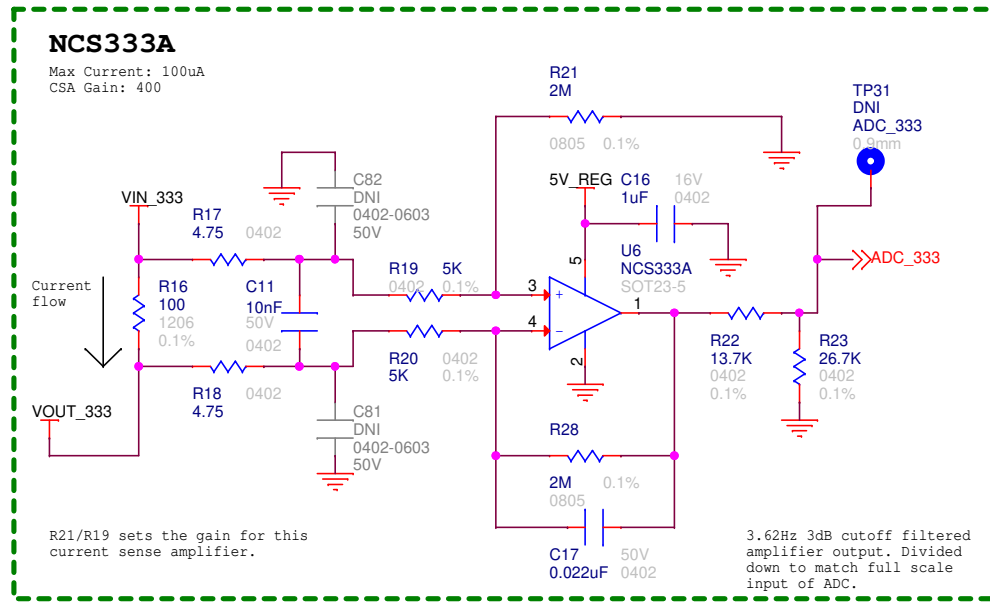
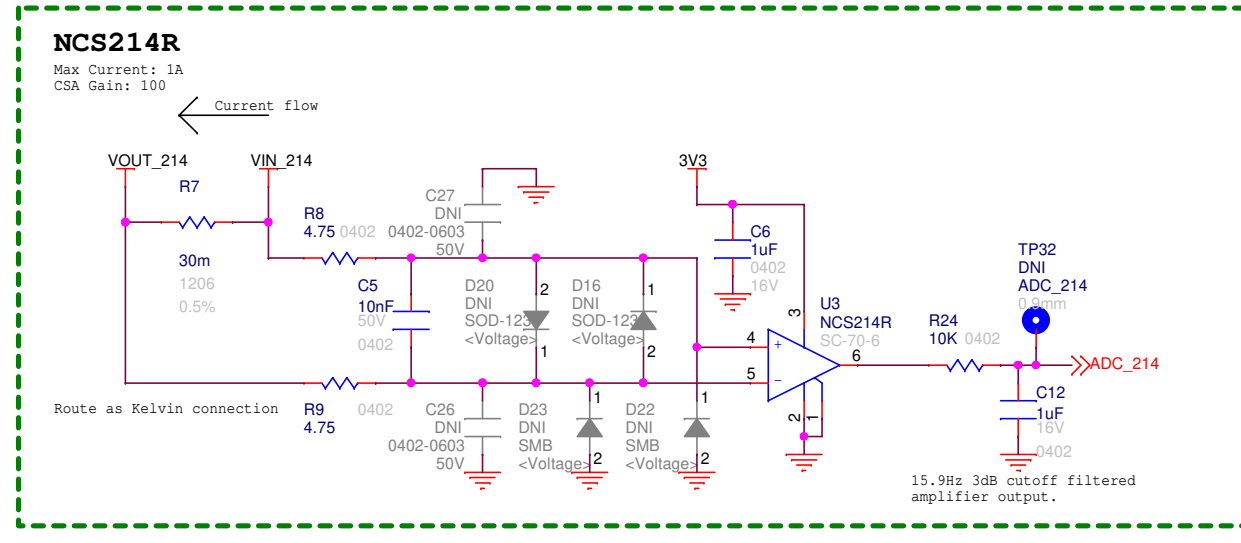
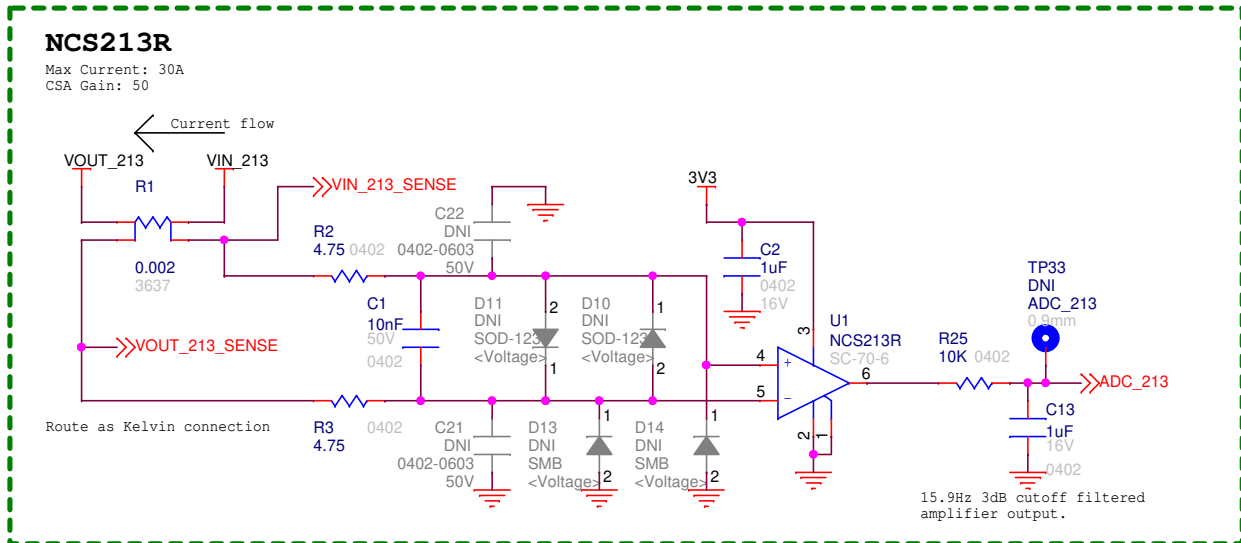
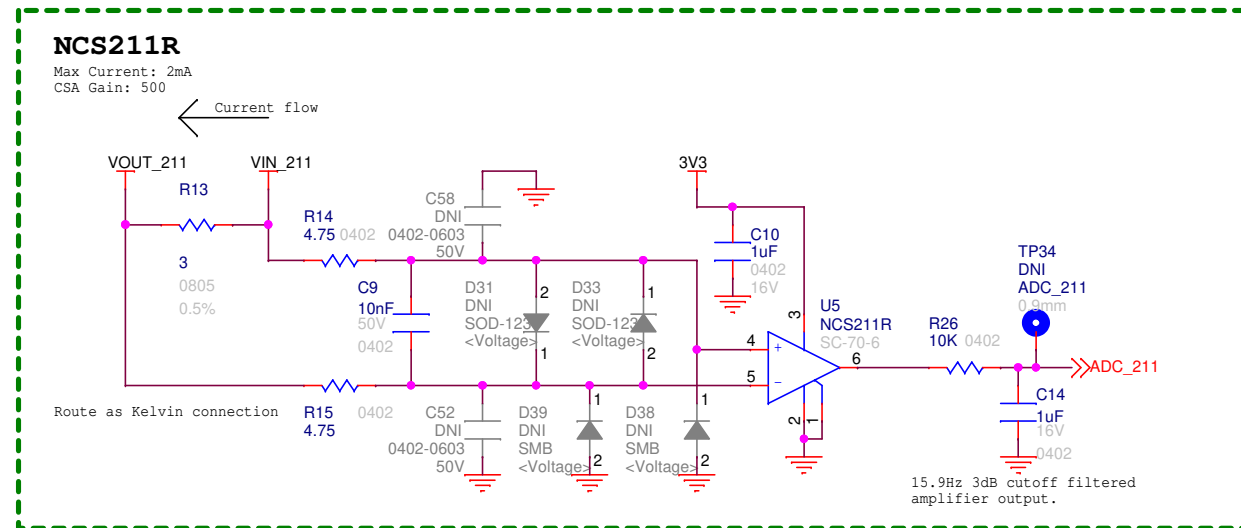
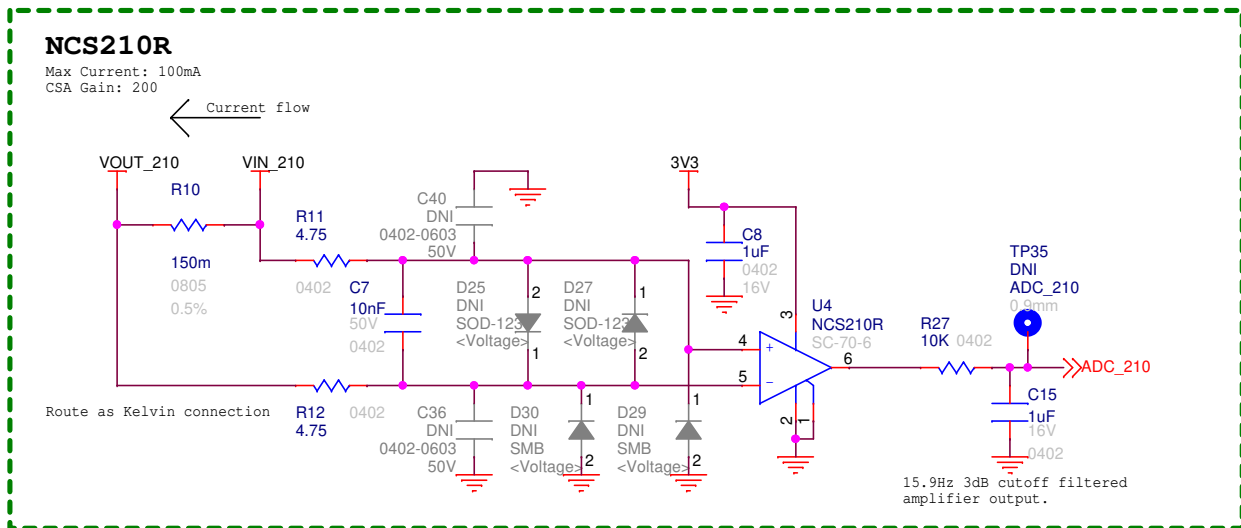
**ON Semiconductor®**

# Strata Current Sense

- Description
- Optional for Customer Design
- For Strata Connection Only. Not Required.

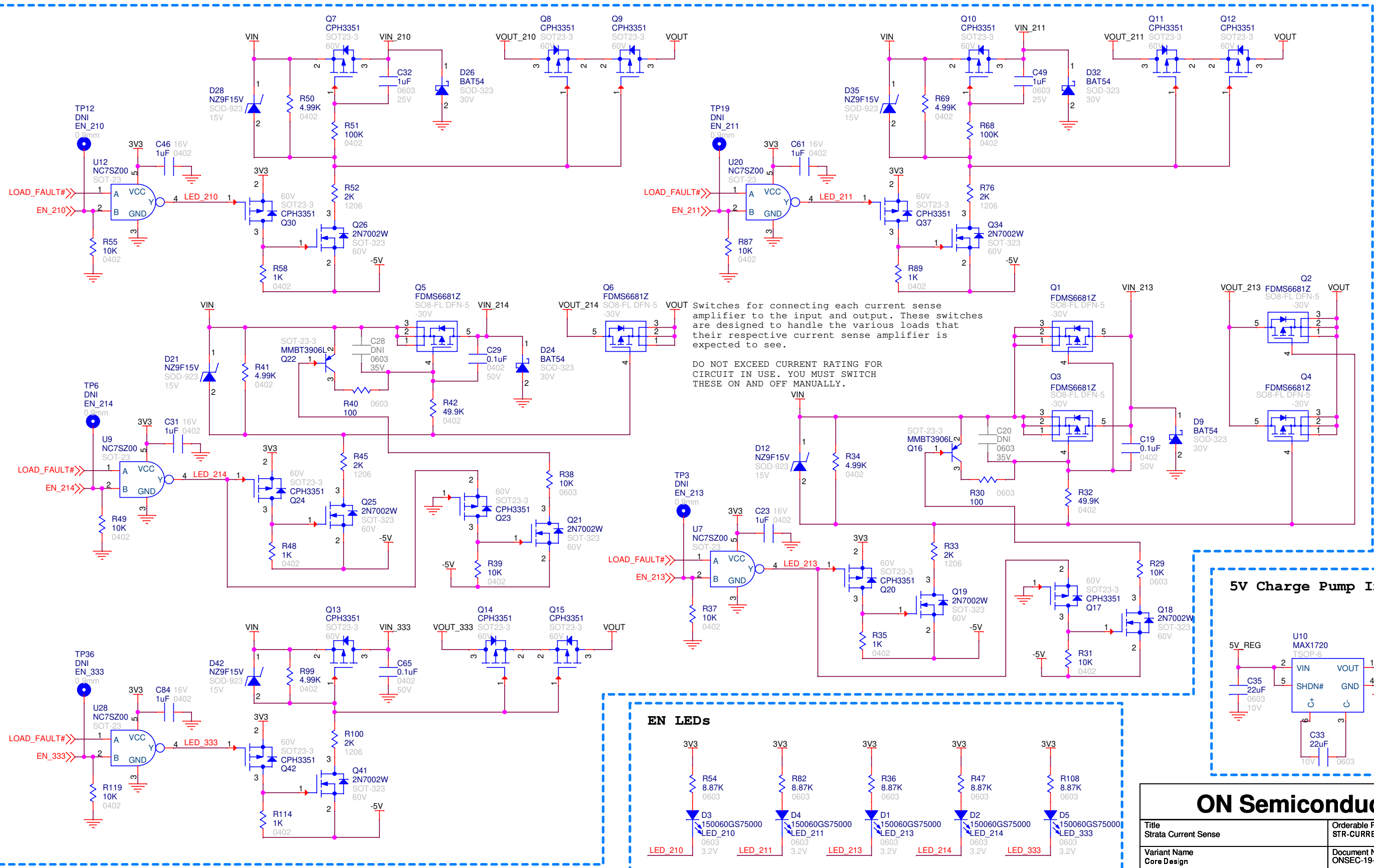
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# Current Sense



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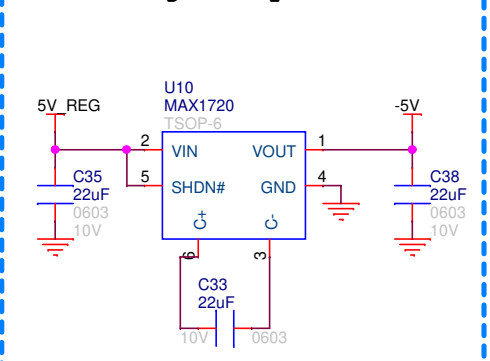
# Input / Output Switches



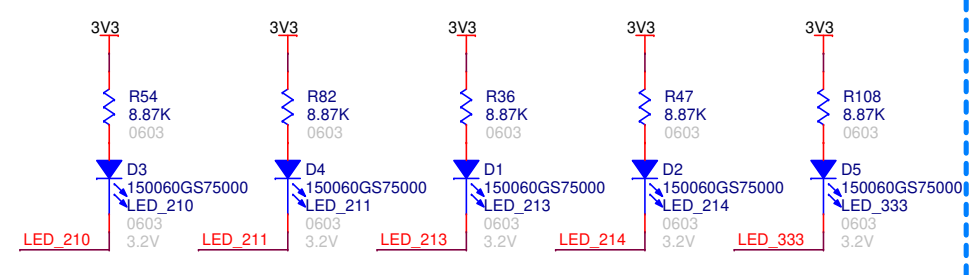
Switches for connecting each current sense amplifier to the input and output. These switches are designed to handle the various loads that their respective current sense amplifier is expected to see.

DO NOT EXCEED CURRENT RATING FOR CIRCUIT IN USE. YOU MUST SWITCH THESE ON AND OFF MANUALLY.

## 5V Charge Pump Inverter



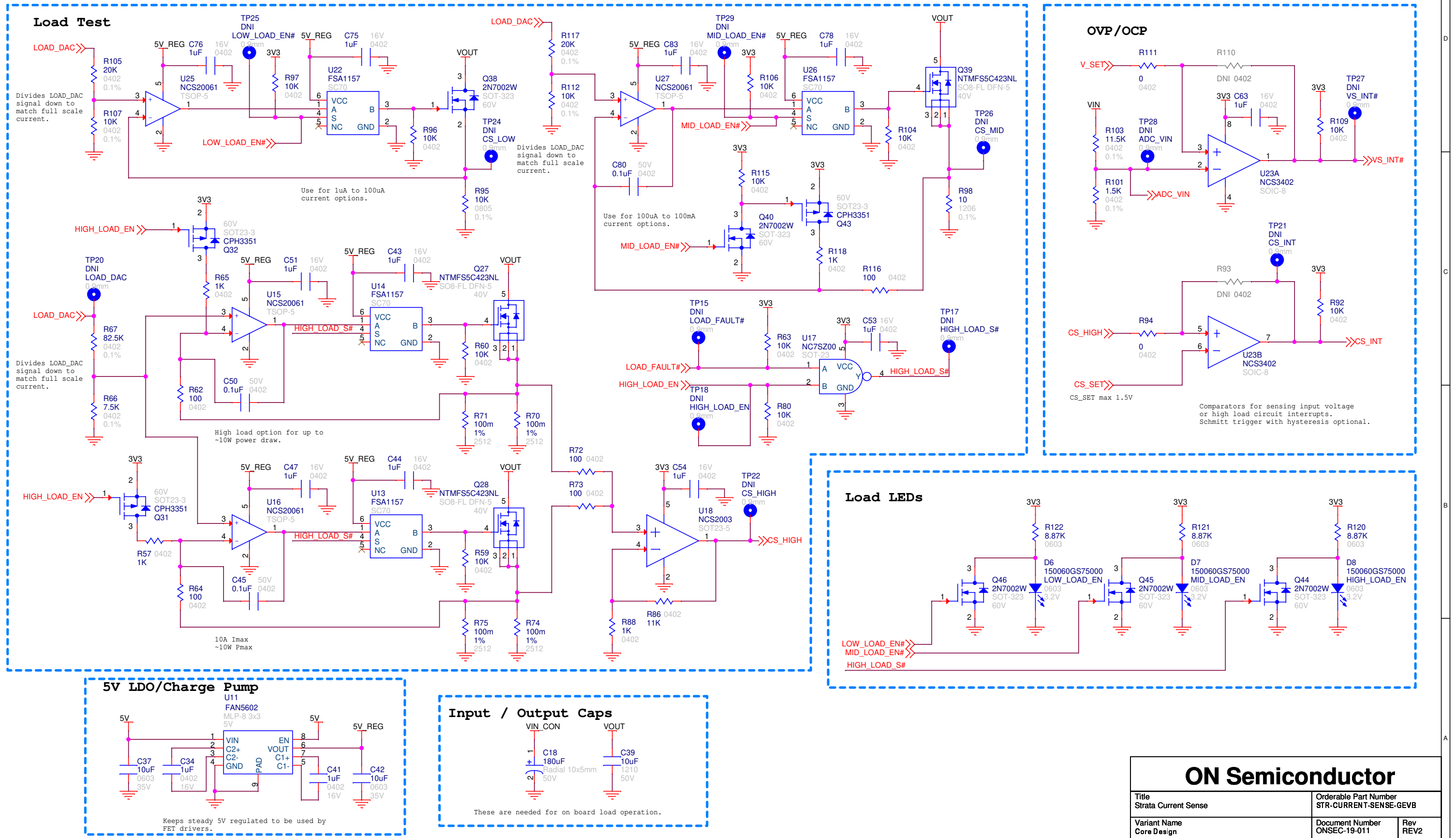
## EN LEDs



## ON Semiconductor

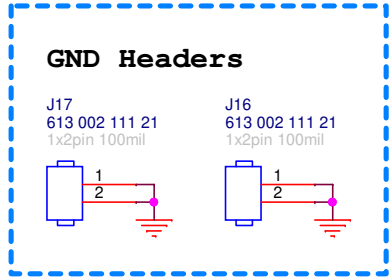
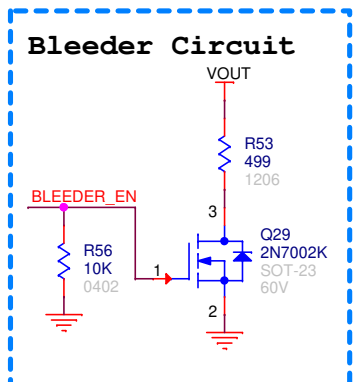
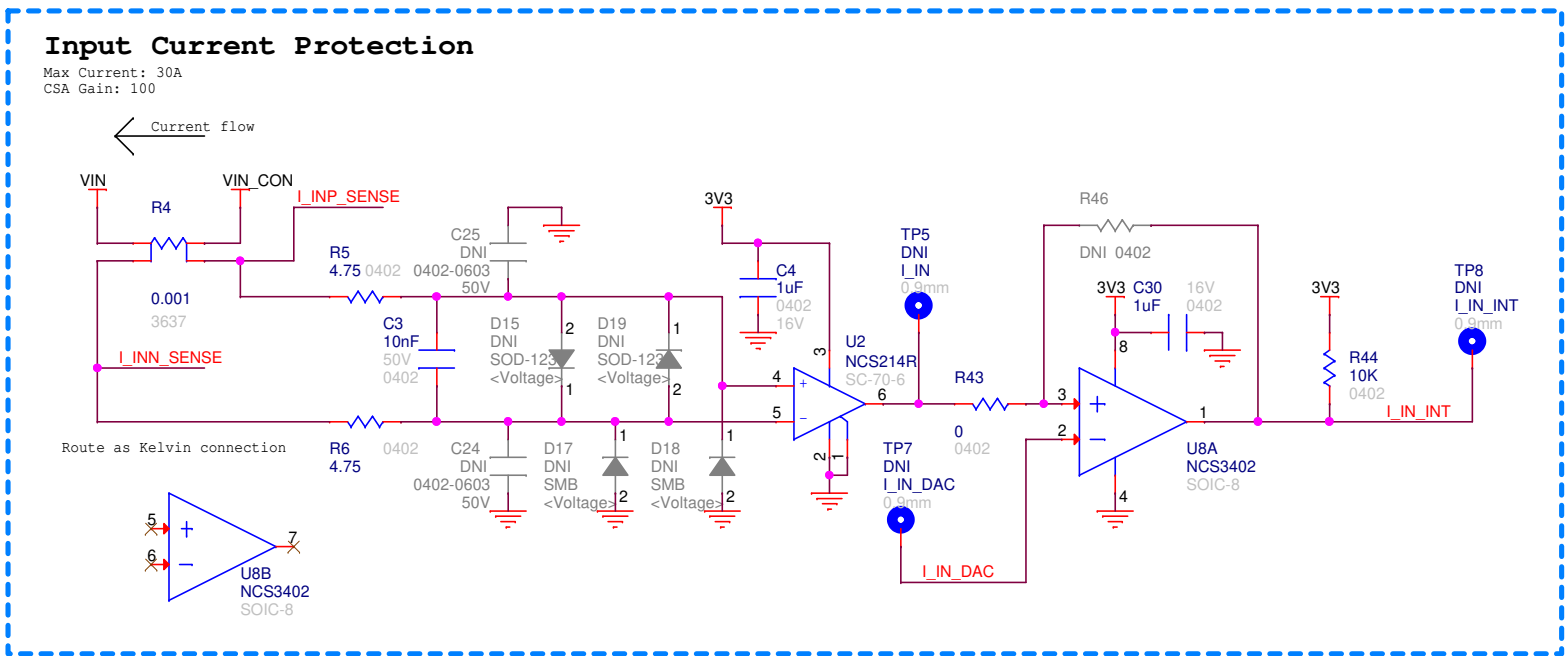
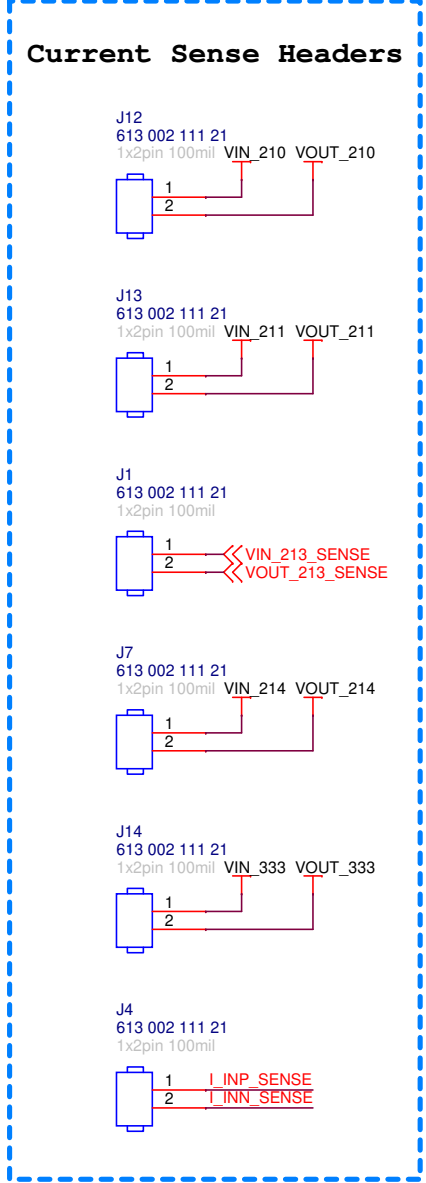
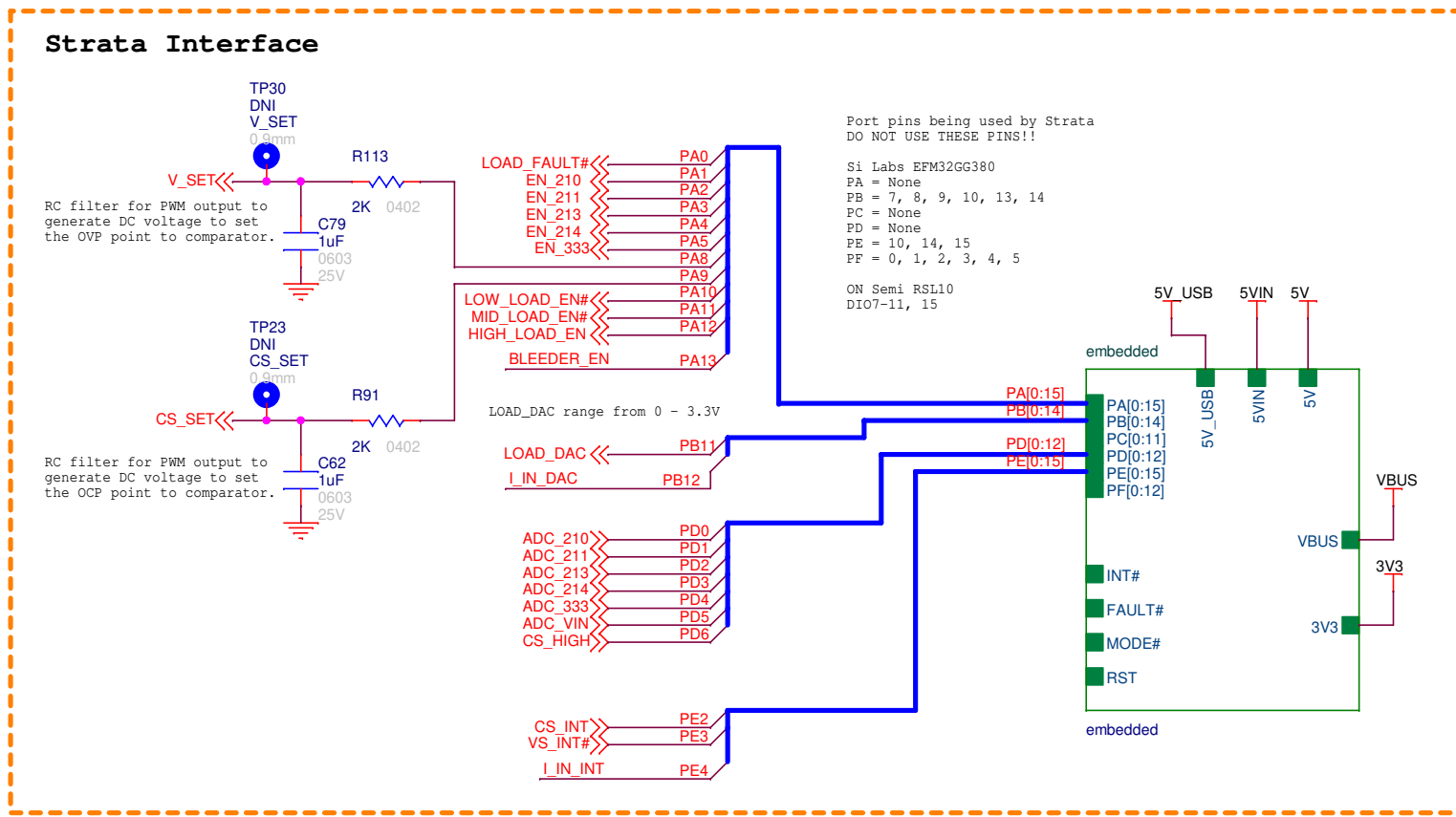
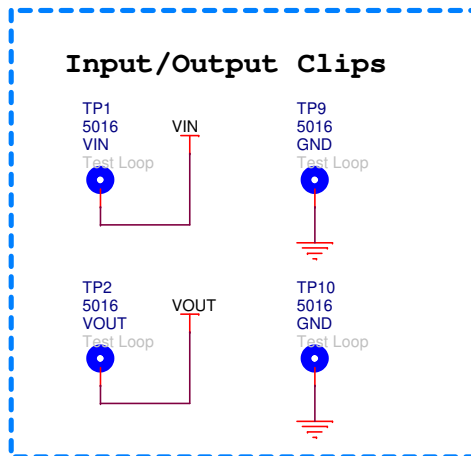
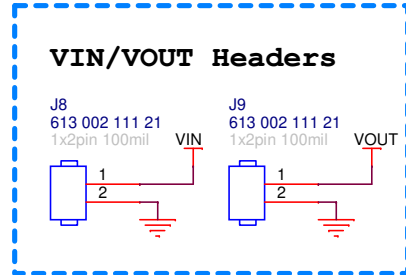
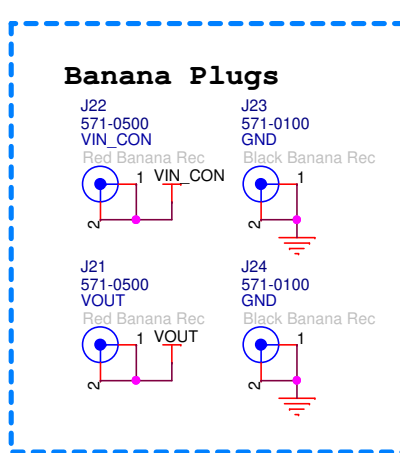
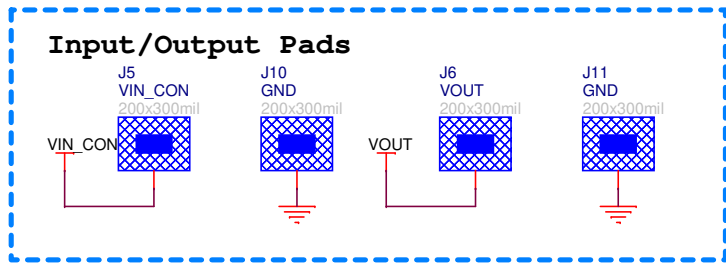
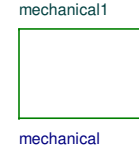
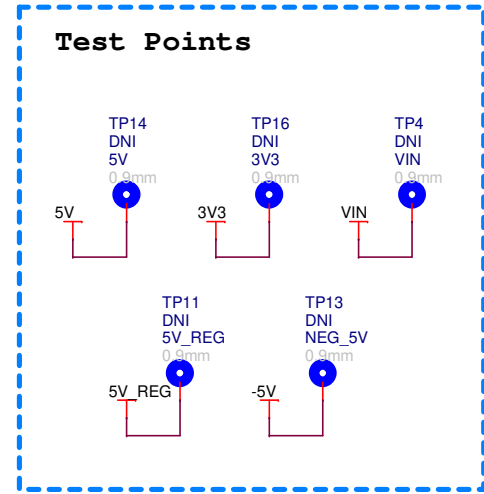
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# Programmable Load

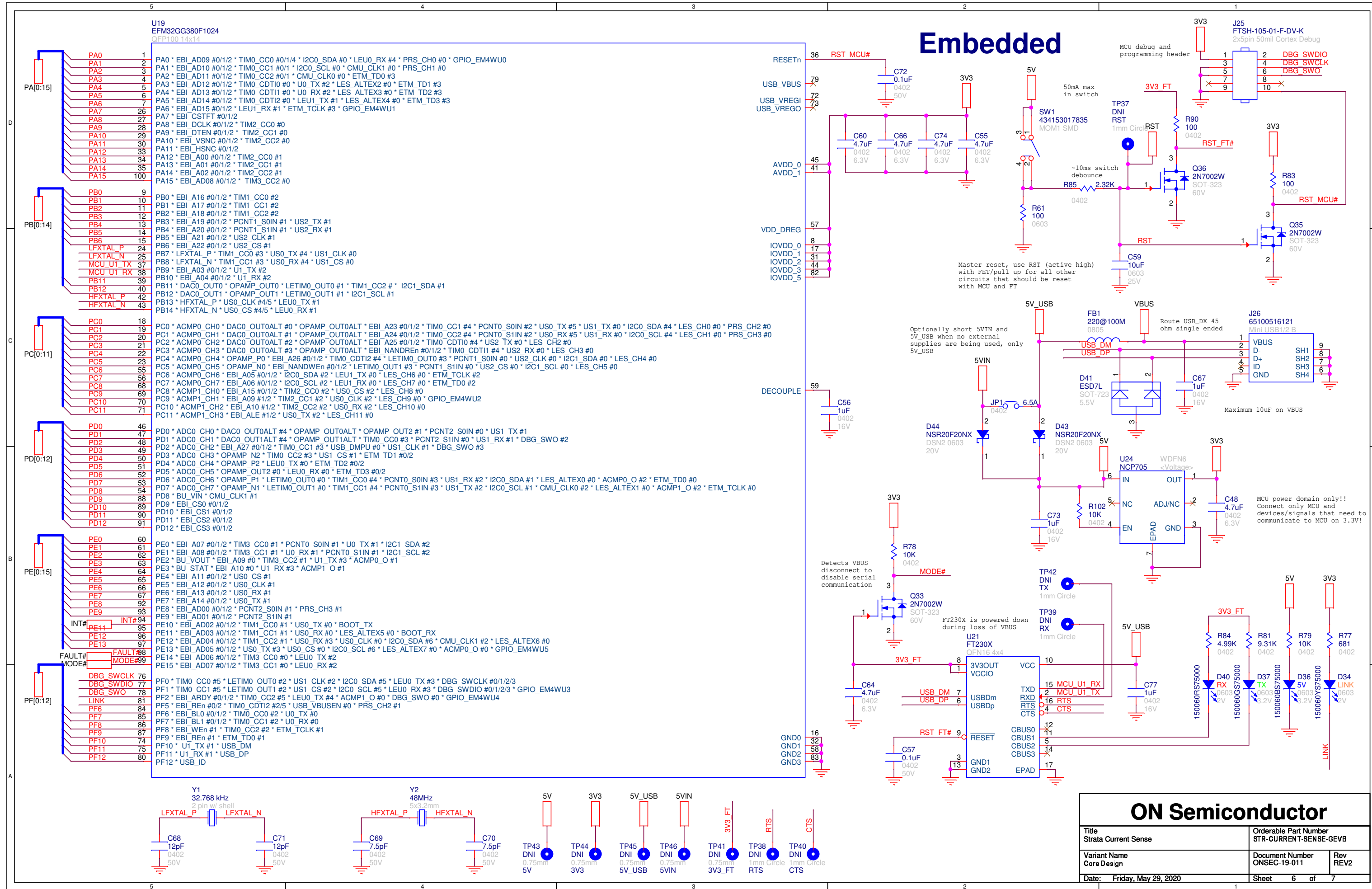


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# Strata Interface / Telemetry



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U19  
EFM32GG380F1024  
QFP100 14x14

PA0	1	PA0 * EBI_AD09 #0/1/2 * TIM0_CC0 #0/1/4 * I2C0_SDA #0 * LEU0_RX #4 * PRS_CH0 #0 * GPIO_EM4WU0
PA1	2	PA1 * EBI_AD10 #0/1/2 * TIM0_CC1 #0/1 * I2C0_SCL #0 * CMU_CLK1 #0 * PRS_CH1 #0
PA2	3	PA2 * EBI_AD11 #0/1/2 * TIM0_CC2 #0/1 * CMU_CLK0 #0 * ETM_TD0 #3
PA3	4	PA3 * EBI_AD12 #0/1/2 * TIM0_CDTI0 #0 * U0_TX #2 * LES_ALTEX2 #0 * ETM_TD1 #3
PA4	5	PA4 * EBI_AD13 #0/1/2 * TIM0_CDTI1 #0 * U0_RX #2 * LES_ALTEX3 #0 * ETM_TD2 #3
PA5	6	PA5 * EBI_AD14 #0/1/2 * TIM0_CDTI2 #0 * LEU1_TX #1 * LES_ALTEX4 #0 * ETM_TD3 #3
PA6	7	PA6 * EBI_AD15 #0/1/2 * LEU1_RX #1 * ETM_TCLK #3 * GPIO_EM4WU1
PA7	26	PA7 * EBI_CSTFT #0/1/2
PA8	27	PA8 * EBI_DCLK #0/1/2 * TIM2_CC0 #0
PA9	28	PA9 * EBI_DTEN #0/1/2 * TIM2_CC1 #0
PA10	29	PA10 * EBI_VSNCR #0/1/2 * TIM2_CC2 #0
PA11	30	PA11 * EBI_HSNCR #0/1/2
PA12	33	PA12 * EBI_A00 #0/1/2 * TIM2_CC0 #1
PA13	34	PA13 * EBI_A01 #0/1/2 * TIM2_CC1 #1
PA14	35	PA14 * EBI_A02 #0/1/2 * TIM2_CC2 #1
PA15	100	PA15 * EBI_AD08 #0/1/2 * TIM3_CC2 #0

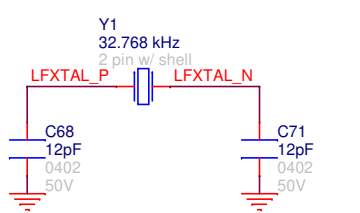
PB0	9	PB0 * EBI_A16 #0/1/2 * TIM1_CC0 #2
PB1	10	PB1 * EBI_A17 #0/1/2 * TIM1_CC1 #2
PB2	11	PB2 * EBI_A18 #0/1/2 * TIM1_CC2 #2
PB3	12	PB3 * EBI_A19 #0/1/2 * PCNT1_S0IN #1 * US2_TX #1
PB4	13	PB4 * EBI_A20 #0/1/2 * PCNT1_S1IN #1 * US2_RX #1
PB5	14	PB5 * EBI_A21 #0/1/2 * US2_CLK #1
PB6	15	PB6 * EBI_A22 #0/1/2 * US2_CS #1
LFXTAL_P	24	PB7 * LFXTAL_P * TIM1_CC0 #3 * US0_TX #4 * US1_CLK #0
LFXTAL_N	25	PB8 * LFXTAL_N * TIM1_CC1 #3 * US0_RX #4 * US1_CS #0
MCU_U1_TX	37	PB9 * EBI_A03 #0/1/2 * U1_TX #2
MCU_U1_RX	38	PB10 * EBI_A04 #0/1/2 * U1_RX #2
PB11	39	PB11 * DAC0_OUT0 * OPAMP_OUT0 * LETIM0_OUT0 #1 * TIM1_CC2 #2 * I2C1_SDA #1
PB12	40	PB12 * DAC0_OUT1 * OPAMP_OUT1 * LETIM0_OUT1 #1 * I2C1_SCL #1
HFXXTAL_P	42	PB13 * HFXXTAL_P * US0_CLK #4/5 * LEU0_TX #1
HFXXTAL_N	43	PB14 * HFXXTAL_N * US0_CS #4/5 * LEU0_RX #1

PC0	18	PC0 * ACMP0_CH0 * DAC0_OUT0ALT #1 * OPAMP_OUT0ALT * EBI_A23 #0/1/2 * TIM0_CC1 #4 * PCNT0_S0IN #2 * US0_TX #5 * US1_TX #0 * I2C0_SDA #4 * LES_CH0 #0 * PRS_CH2 #0
PC1	19	PC1 * ACMP0_CH1 * DAC0_OUT0ALT #1 * OPAMP_OUT0ALT * EBI_A24 #0/1/2 * TIM0_CC2 #4 * PCNT0_S1IN #2 * US0_RX #5 * US1_RX #0 * I2C0_SCL #4 * LES_CH1 #0 * PRS_CH3 #0
PC2	20	PC2 * ACMP0_CH2 * DAC0_OUT0ALT #2 * OPAMP_OUT0ALT * EBI_A25 #0/1/2 * TIM0_CDTI0 #4 * US2_TX #0 * LES_CH2 #0
PC3	21	PC3 * ACMP0_CH3 * DAC0_OUT0ALT #2 * OPAMP_OUT0ALT * EBI_A25 #0/1/2 * TIM0_CDTI0 #4 * US2_TX #0 * LES_CH2 #0
PC4	22	PC4 * ACMP0_CH3 * DAC0_OUT0ALT #3 * OPAMP_OUT0ALT * EBI_NANDREN #0/1/2 * TIM0_CDTI1 #4 * US2_RX #0 * LES_CH3 #0
PC5	23	PC4 * ACMP0_CH4 * OPAMP_P0 * EBI_A26 #0/1/2 * TIM0_CDTI2 #4 * LETIM0_OUT0 #3 * PCNT1_S0IN #0 * US2_CLK #0 * I2C1_SDA #0 * LES_CH4 #0
PC6	55	PC5 * ACMP0_CH5 * OPAMP_N0 * EBI_NANDWEN #0/1/2 * LETIM0_OUT1 #3 * PCNT1_S1IN #0 * US2_CS #0 * I2C1_SCL #0 * LES_CH5 #0
PC7	56	PC6 * ACMP0_CH6 * EBI_A05 #0/1/2 * I2C0_SDA #2 * LEU1_TX #0 * LES_CH6 #0 * ETM_TCLK #2
PC8	58	PC7 * ACMP0_CH7 * EBI_A06 #0/1/2 * I2C0_SCL #2 * LEU1_RX #0 * LES_CH7 #0 * ETM_TD0 #2
PC9	69	PC8 * ACMP1_CH0 * EBI_A15 #0/1/2 * TIM2_CC0 #2 * US0_CS #2 * LES_CH8 #0
PC10	70	PC9 * ACMP1_CH1 * EBI_A09 #1/2 * TIM2_CC1 #2 * US0_CLK #2 * LES_CH9 #0 * GPIO_EM4WU2
PC11	71	PC10 * ACMP1_CH2 * EBI_A10 #1/2 * TIM2_CC2 #2 * US0_RX #2 * LES_CH10 #0
		PC11 * ACMP1_CH3 * EBI_ALE #1/2 * US0_TX #2 * LES_CH11 #0

PD0	46	PD0 * ADC0_CH0 * DAC0_OUT0ALT #4 * OPAMP_OUT0ALT * OPAMP_OUT2 #1 * PCNT2_S0IN #0 * US1_TX #1
PD1	47	PD1 * ADC0_CH1 * DAC0_OUT1ALT #4 * OPAMP_OUT1ALT * TIM0_CC0 #3 * PCNT2_S1IN #0 * US1_RX #1 * DBG_SWO #3
PD2	48	PD2 * ADC0_CH2 * EBI_A27 #0/1/2 * TIM0_CC1 #3 * USB_DMPU #0 * US1_CLK #1 * DBG_SWO #3
PD3	49	PD3 * ADC0_CH3 * OPAMP_N2 * TIM0_CC2 #3 * US1_CS #1 * ETM_TD1 #0/2
PD4	50	PD4 * ADC0_CH4 * OPAMP_P2 * LEU0_TX #0 * ETM_TD2 #0/2
PD5	51	PD5 * ADC0_CH5 * OPAMP_OUT2 #0 * LEU0_RX #0 * ETM_TD3 #0/2
PD6	52	PD6 * ADC0_CH6 * OPAMP_P1 * LETIM0_OUT0 #0 * TIM1_CC0 #4 * PCNT0_S0IN #3 * US1_RX #2 * I2C0_SDA #1 * LES_ALTEX0 #0 * ACMP0_O #2 * ETM_TD0 #0
PD7	53	PD7 * ADC0_CH7 * OPAMP_N1 * LETIM0_OUT1 #0 * TIM1_CC1 #4 * PCNT0_S1IN #3 * US1_TX #2 * I2C0_SCL #1 * CMU_CLK0 #2 * LES_ALTEX1 #0 * ACMP1_O #2 * ETM_TCLK #0
PD8	54	PD8 * BU_VIN * CMU_CLK1 #1
PD9	88	PD9 * EBI_CS0 #0/1/2
PD10	89	PD10 * EBI_CS1 #0/1/2
PD11	90	PD11 * EBI_CS2 #0/1/2
PD12	91	PD12 * EBI_CS3 #0/1/2

PE0	60	PE0 * EBI_A07 #0/1/2 * TIM3_CC0 #1 * PCNT0_S0IN #1 * U0_TX #1 * I2C1_SDA #2
PE1	61	PE1 * EBI_A08 #0/1/2 * TIM3_CC1 #1 * U0_RX #1 * PCNT0_S1IN #1 * I2C1_SCL #2
PE2	62	PE2 * BU_VOUT * EBI_A09 #0 * TIM3_CC2 #1 * U1_TX #3 * ACMP0_O #1
PE3	63	PE3 * BU_STAT * EBI_A10 #0 * U1_RX #3 * ACMP1_O #1
PE4	64	PE4 * EBI_A11 #0/1/2 * US0_CS #1
PE5	65	PE5 * EBI_A12 #0/1/2 * US0_CLK #1
PE6	66	PE6 * EBI_A13 #0/1/2 * US0_RX #1
PE7	67	PE7 * EBI_A14 #0/1/2 * US0_TX #1
PE8	92	PE8 * EBI_AD00 #0/1/2 * PCNT2_S0IN #1 * PRS_CH3 #1
PE9	93	PE9 * EBI_AD01 #0/1/2 * PCNT2_S1IN #1
INT#	94	PE10 * EBI_AD02 #0/1/2 * TIM1_CC0 #1 * US0_TX #0 * BOOT_TX
PE11	95	PE11 * EBI_AD03 #0/1/2 * TIM1_CC1 #1 * US0_RX #0 * LES_ALTEX5 #0 * BOOT_RX
PE12	96	PE12 * EBI_AD04 #0/1/2 * TIM1_CC2 #1 * US0_RX #3 * US0_CLK #0 * I2C0_SDA #6 * CMU_CLK1 #2 * LES_ALTEX6 #0
PE13	97	PE13 * EBI_AD05 #0/1/2 * US0_TX #3 * US0_CS #0 * I2C0_SCL #6 * LES_ALTEX7 #0 * ACMP0_O #0 * GPIO_EM4WU5
FAULT#	98	PE14 * EBI_AD06 #0/1/2 * TIM3_CC0 #0 * LEU0_TX #2
MODE#	99	PE15 * EBI_AD07 #0/1/2 * TIM3_CC1 #0 * LEU0_RX #2

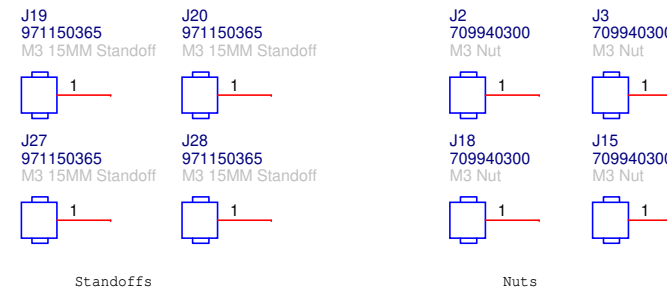
PF0	76	PF0 * TIM0_CC0 #5 * LETIM0_OUT0 #2 * US1_CLK #2 * I2C0_SDA #5 * LEU0_TX #3 * DBG_SWCLK #0/1/2/3
DBG_SWCLK	76	PF1 * TIM0_CC1 #5 * LETIM0_OUT1 #2 * US1_CS #2 * I2C0_SCL #5 * LEU0_RX #3 * DBG_SWDIO #0/1/2/3 * GPIO_EM4WU4
DBG_SWDIO	77	PF2 * EBI_ARDY #0/1/2 * TIM0_CC2 #5 * LEU0_TX #4 * ACMP1_O #0 * DBG_SWO #0 * GPIO_EM4WU4
DBG_SWO	78	PF5 * EBI_REN #0/2 * TIM0_CDTI2 #2/5 * USB_VBUSEN #0 * PRS_CH2 #1
LINK	81	PF6 * EBI_BLO #0/1/2 * TIM0_CC0 #2 * U0_TX #0
PF6	85	PF7 * EBI_BL1 #0/1/2 * TIM0_CC1 #2 * U0_RX #0
PF7	86	PF8 * EBI_WEN #1 * TIM0_CC2 #2 * ETM_TCLK #1
PF8	87	PF9 * EBI_REN #1 * ETM_TD0 #1
PF9	87	PF10 * U1_TX #1 * USB_DM
PF10	74	PF11 * U1_RX #1 * USB_DP
PF11	75	PF12 * USB_ID
PF12	80	



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# Mounting Holes, Standoffs, and Nuts



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