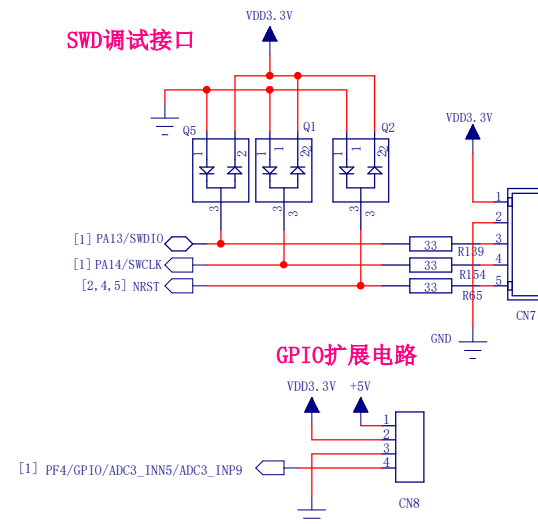
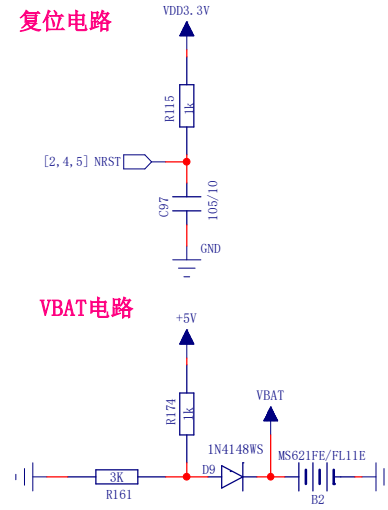
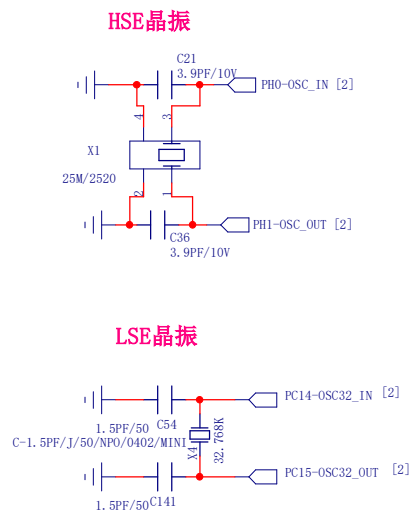
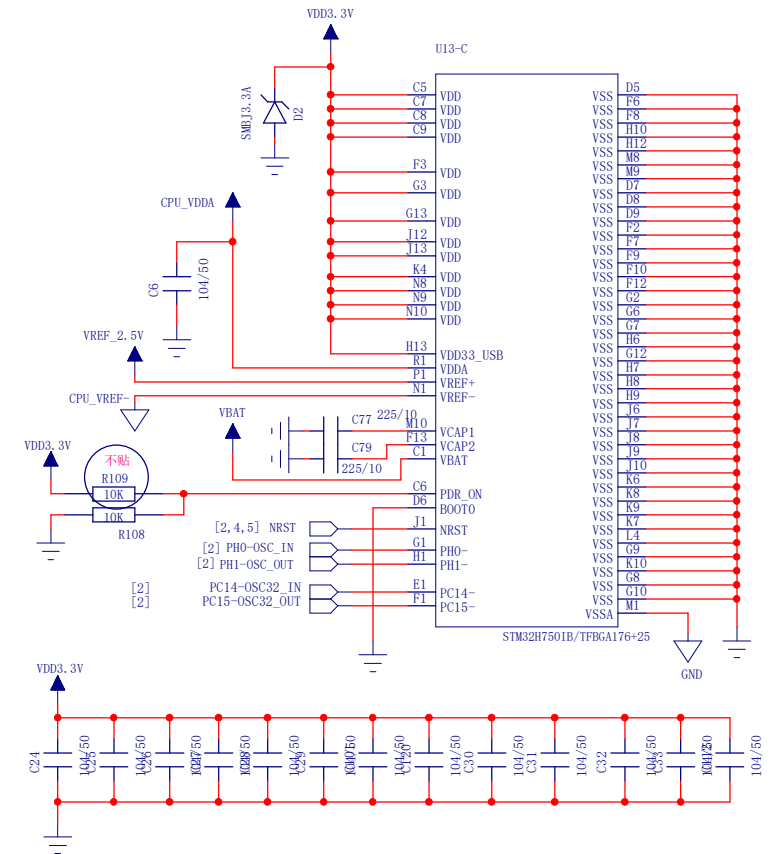
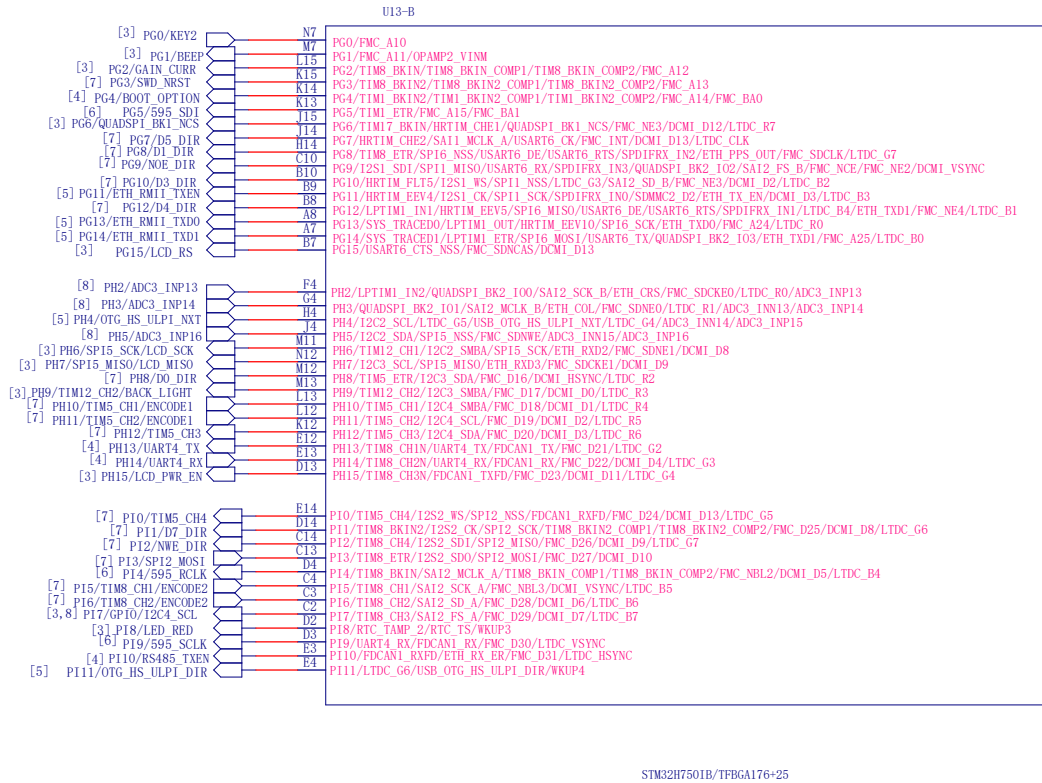


CPU GPIOA-F

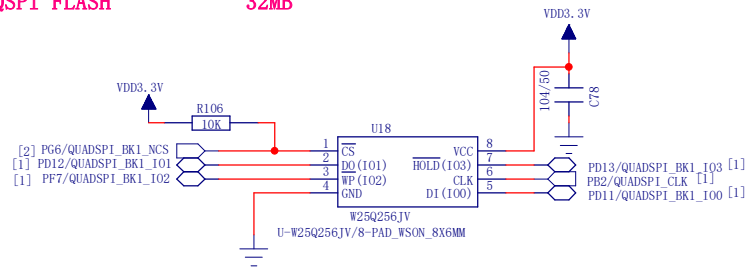
STM32H7501B(TPBGAI76-25)		
U13-A		
[7] PA0/TIM2_CH1	N3	PA0~WKUP(PA0)/TIM2_CH1/TIM2_ETR/TIM5_CH1/TIM8_ETR/TIM15_BKIN/UART4_TX/SDMMC2_CMD/SAI2_SD_B/ETH_CRS/ADCI1_INP16/WKUP0
[5] PA1/ETH_RMII_REF_CLK	N2	PA1/TIM2_CH2/TIM5_CH2/LPTIM3_OUT/TIM15_CHIN/USART2_DE/USART2_RTS/UART4_RX/QUADSPI_BK1_I03/SAI2_MCLK_B/ETH_REF_CLK/ETH_RX_CLK/LTDC_R2/ADCI1_INN16/ADCI1_INP17
[5] PA2/ETH_RMII_MDIO	P2	PA2/TIM2_CH3/TIM5_CH3/LPTIM4_OUT/TIM15_CHI/USART2_TX/SAI2_SCK_B/ETH_MDIO/MDIOS_MDIO/LTDC_R1/ADC12_INP14/WKUP1
[5] PA3/USB_OTG_HS_ULPI_D0	R2	PA3/TIM2_CH4/TIM5_CH4/LTIM5_OUT/TIM15_CH2/USART2_RX/LTDC_R2/USB_OTG_HS_ULPI_D0/ETH_COI/LTDC_B5/ADC12_INP15
[6] PA4/DCOOUT1	N4	PA4/TIM5_ETR/I2S1_WS/SP11_NSS/I2S3_WS/SP13_NSS/USART2_CK/SP16_NSS/USB_OTG_HS_SOF/DCMI_HSYNC/LTDC_VSYNC/ADC12_INP18/DAC1_OUT1
[5] PA5/USB_OTG_HS_ULPI_CK	P4	PA5/TIM2_CH1/TIM2_ETR/TIM8_CHIN/I2S1_CK/SP11_SCK/SP16_SCK/USB_OTG_HS_ULPI_CK/LTDC_R4/ADC12_INN18/ADC12_INP19/DAC1_OUT2
[3] PA6/ADC12_INP3	P3	PA6/TIM1_BKIN/TIM3_CH1/TIM8_BKIN/I2S1_SDI/SP11_MISO/SP16_MISO/TIM13_CH1/TIM8_BKIN_COMP1/TIM8_BKIN_COMP2/MDIOS_MDC/TIM1_BKIN_COMP1/TIM1_BKIN_COMP2/DCMI_PIXCLK/LTDC_G2/ADC12_INP3
[5] PA7/ETH_RMII_CRS_DV	F15	PA7/TIM1_CHIN/TIM3_CH2/TIM8_CHIN/I2S1_SDO/SP11_MOSI/SP16_MOSI/TIM14_CH1/ETH_CRS_DV/ETH_RX_DV/FMC_SDNWE/ADC12_INN3/ADC12_INP7/OPAMP1_VINM
[1, 4, 7] PA8/UART7_RX	E15	PA8/RCC_MCO_1/TIM1_CH1/HRTIM_CHB2/TIM8_BKIN2/I2C3_SCL/USART1_CK/USB_OTG_FS_SOF/UART7_RX/TIM8_BKIN2_COMP1/TIM8_BKIN2_COMP2/LTDC_B3/LTDC_R6
[1, 7] PA9/USART1_TX/PE13/FMC_D10	D15	PA9/TIM1_CH2/HRTIM_CHC1/LPUART1_RX/I2C3_SMBA/I2S2_CK/SP12_SCK/USART1_TX/FDCAN1_RX/FD/ETH_TX_ER/DCMI_D0/LTDC_R5/OTG_FS_VBUS
[1, 7] PA10/USART1_RX/PE14/FMC_D11	D15	PA10/TIM1_CH3/HRTIM_CHC2/LPUART1_RX/USART1_RX/FDCAN1_TX/FD/ETH_TX_ER/DCMI_D0/LTDC_R5/OTG_FS_VBUS
[1, 4] PA11/CAN1_RX/PB8/FMC_D13	C15	PA11/TIM1_CH4/HRTIM_CHD1/LPUART1_CTS/I2S2_WS/SP12_NSS/UART4_RX/FDCAN1_RX/USB_OTG_FS_DM/LTDC_R4
[1, 4] PA12/CAN1_TX/PE15/FMC_D12	B15	PA12/TIM1_ETR/HRTIM_CHD2/LPUART1_DE/LPUART1_RTS/I2S2_CK/SP12_SCK/UART4_TX/USART1_DE/USART1_RTS/SAI2_FS_B/FDCAN1_TX/USB_OTG_FS_DP/LTDC_R5
[2] PA13/SWDIO	A15	PA13(SYS_JTMS-SWDIO)/SYS_JTMS-SWDIO
[2] PA14/SWCLK	A14	PA14(SYS_JTCK-SWCLK)/SYS_JTCK-SWCLK
[7] PA15/UART7_TX	A13	PA15(SYS_JTD1)/TIM2_CH1/TIM2_ETR/HRTIM_FLT1/CEC/I2S1_WS/SP11_NSS/I2S3_WS/SP13_NSS/SP16_NSS/UART4_DE/UART4_RTS/UART7_TX
[5] PB0/USB_OTG_HS_ULPI_D1	R5	PB0/TIM1_CH2N/TIM3_CH3/TIM8_CH2N/DFSDM1_CKOUT/UART4_CTS/LTDC_R3/USB_OTG_HS_ULPI_D1/ETH_RXD2/LTDC_G1/ADC12_INN5/ADC12_INP9/OPAMP1_VINP/COMP_1_INP
[5] PB1/USB_OTG_HS_ULPI_D2	R4	PB1/TIM1_CH3N/TIM3_CH4/TIM8_CH3N/DFSDM1_DATIN1/LTDC_R6/USB_OTG_HS_ULPI_D2/ETH_RXD3/LTDC_G0/ADC12_INP5/COMP_1_INM
[3] PB2/QUADSPI_CLK	M6	PB2/SAI1_D1/DFSDM1_CKIN1/SAI1_SD_A/I2S3_SDO/SP13_MOSI/SAI4_SD_A/QUADSPI_CLK/SAI4_D1/ETH_TX_ER
[4] PB3/SDMMC2_D2	A10	PB3/SYS_JTDO-SWO/TIM2_CH2/HRTIM_FLT4/I2S1_CK/SP11_SCK/SP13_SCK/I2S3_CK/SP13_SCK/SP16_SCK/SDMMC2_D2/UART7_RX
[4] PB4/SDMMC2_D3	A9	PB4/SYS_JTRST/TIM6_BKIN/TIM3_CH1/HRTIM_CHB1/I2S1_SDI/SP11_MISO/SP16_MISO/SP12_NSS/SP16_MISO/SDMMC2_D3/UART7_TX
[5] PB5/USB_OTG_HS_ULPI_D7	A6	PB5/TIM17_BKIN/TIM6_CH2/HRTIM_EV9/I2C1_SMBA/I2S1_SDO/SP11_MOSI/I2C4_SCK/SAI2_SDO/SP13_MOSI/SP16_MOSI/FDCAN2_RX/USB_OTG_HS_ULPI_D7/ETH_PPS_OUT/FMC_SDCKE1/DCMI_D10/UART5_RX
[3] PB6/LCD_RST	D6	PB6/TIM16_CH1N/TIM4_CH1/HRTIM_EEV8/I2C1_SCL/CEC/I2C4_SCL/USART1_TX/LPUART1_TX/FDCAN2_TX/QUADSPI_BK1_NCS/DFSDM1_DATIN5/FMC_SDNEL/DCMI_D5/UART5_TX
[7] PB7/TIM4_CH2	A5	PB7/TIM17_CH1N/TIM4_CH2/HRTIM_EEV9/I2C1_SDA/I2C4_SDA/USART1_RX/LPUART1_RX/FDCAN2_TX/FD/DFSDM1_CKIN5/FMC_NL/DCMI_VSYNC/PVD_IN
[4] PB8/SDIO_D4	B4	PB8/TIM16_CH1/TIM4_CH3/DFSDM1_CKIN7/I2C1_SCL/I2C4_SCL/SDMMC1_CKIN/UART4_RX/FDCAN1_RX/SDMMC2_D4/ETH_TXD3/SDMMC1_D4/DCMI_D6/LTDC_B6
[4] PB9/SDIO_D5	R12	PB9/TIM17_CH1/TIM4_CH4/DFSDM1_DATIN7/I2C1_SDA/I2S2_NSS/SP12_NSS/I2C4_SDA/SDMMC1_CD1R/UART4_TX/FDCAN1_TX/SDMMC2_D5/I2C4_SMBA/SDMMC1_D5/DCMI_D7/LTDC_B7
[5] PB10/USB_OTG_HS_ULPI_D3	R13	PB10/TIM2_CH3/HRTIM_SCOUT/LPTIM2_IN1/I2C2_SCL/I2S2_CK/SP12_SCK/DFSDM1_DATIN7/USART3_TX/QUADSPI_BK1_NCS/USB_OTG_HS_ULPI_D3/ETH_RX_ER/LTDC_G4
[5] PB11/USB_OTG_HS_ULPI_D4	P12	PB11/TIM2_CH4/HRTIM_SCIN/LPTIM2_ETR/I2C2_SDA/DFSDM1_CKIN7/USART3_RX/USB_OTG_HS_ULPI_D4/ETH_TX_EN/LTDC_G5
[5] PB12/USB_OTG_HS_ULPI_D5	P12	PB12/TIM1_BKIN/I2C2_SMBA/I2S2_WS/SP12_NSS/DFSDM1_DATIN1/ADCA3_CK/SPDIFRX_IN0/SDMMC2_D0/USB_OTG_HS_ID/TIM1_BKIN_COMP1/TIM1_BKIN_COMP2/UART5_RX
[5] PB13/USB_OTG_HS_ULPI_D6	P13	PB13/TIM1_CH1N/LPTIM2_OUT/I2S2_CK/SP12_SCK/DFSDM1_CKIN1/FDCAN2_TX/USB_OTG_HS_ULPI_D6/ETH_TXD1/UART5_TX/OTG_HS
[4] PB14/SDMMC2_D0	R14	PB14/TIM1_CH2N/TIM2_CH1/TIM8_CH2N/USART1_TX/I2S2_SDI/SP12_MISO/DFSDM1_DATIN2/USART3_DE/USART3_RTS/UART4_DE/UART4_RTS/SDMMC2_D0/USB_OTG_HS_DM
[4] PB15/SDMMC2_D1	R15	PB15/RTC_REFIN/TIM1_CH3N/TIM2_CH2/TIM8_CH3N/USART1_RX/I2S2_SDO/SP12_MOSI/DFSDM1_CKIN2/UART4_CTS/SDMMC2_D1/USB_OTG_HS_DP
[5] PC0/USB_OTG_HS_ULPI_STP	M2	PC0/DFSDM1_CKIN0/DFSDM1_DATIN4/SAI2_FS_B/USB_OTG_HS_ULPI_STP/FMC_SDNWE/LTDC_R5/ADC123_IP10
[5] PC1/ETH_RMII_MDC	M4	PC1/SYS_TRACED0/SAI1_D1/DFSDM1_DATIN0/DFSDM1_CKIN4/I2S2_SDO/SP12_MOSI/SAI1_SD_A/SAI4_SD_A/SDMMC2_CK/SAI4_D1/ETH_MDC/MDIOS_MDC/ADC123_INN10/ADC123_INP11/RTC_TAMP_3/WKUP5
[6] PC2_C/ADC3_INN1/ADC3_INP0/[ADC123_INN11/INP12]	M5	PC2/DFSDM1_CKIN1/I2S2_SDI/SP12_MISO/DFSDM1_CKOUT/USB_OTG_HS_ULPI_DIR/ETH_TXD2/FMC_SDN0/ADC123_INN11/ADC123_INP12
[6] PC3_C/ADC3_INP1/[PC3/ADC12_INN12/ADC12_INP13]	N5	PC3/DFSDM1_DATIN1/I2S2_SDO/SP12_MOSI/USB_OTG_HS_ULPI_NXT/ETH_TX_CLK/FMC_SDCKE0/ADC12_INN12/ADC12_INP13
[5] PC4/ETH_RMII_RXD0	P5	PC4/DFSDM1_CKIN2/I2S1_MCK/SPDIFRX_IN2/COMP1_VOI/COMP1_OUT/COMP1_IN2
[5] PC5/ETH_RMII_RXD1	P5	PC5/SAI1_D3/DFSDM1_DATIN2/SPDIFRX_IN3/SAI4_D3/ETH_RXD1/FMC_SDCKE0/COMP1_OUT/ADC12_INN4/ADC12_INP8/OPAMP1_VINM
[4] PC6/SDIO_D6	H15	PC6/HRTIM_CHA1/TIM3_CH1/TIM8_CH1/DFSDM1_CKIN3/I2S2_MCK/USART6_TX/SDMMC1_D0D1R/FMC_NWA1/SDMMC2_D6/SDMMC1_D6/DCMI_D0/LTDC_HSYNC/SWP11_I0
[4] PC7/SDIO_D7	G15	PC7/SYS_TRG10/HRTIM_CHA2/TIM3_CH2/TIM8_CH2/DFSDM1_DATIN3/I2S3_MCK/USART6_RX/SDMMC1_D123D1R/FMC_NEL/SDMMC2_D7/SWP11_I1/SDMMC1_D7/SDMMC1_D7/DCMI_D1/LTDC_G6
[4] PC8/SDIO_D0	F14	PC8/SYS_TRACED1/HRTIM_CHB1/TIM3_CH3/TIM8_CH3/USART6_CK/UART5_DE/UART5_RTS/FMC_NCE/FMC_NE2/SWP11_RX/SDMMC1_D0/DCMI_D2
[4] PC9/SDIO_D1	B14	PC9/RCC_MCO_2/TIM3_CH4/TIM8_CH4/I2C3_SDA/I2S_CKIN/UART5_CTS/QUADSPI_BK1_I00/LTDC_G3/SWP11_SUSPEND/SDMMC1_D1/DCMI_D3/LTDC_B2
[4] PC10/SDIO_D2	B13	PC10/HRTIM_EEV1/DFSDM1_CKIN5/I2S3_CK/SP13_SCK/USART3_TX/UART4_TX/QUADSPI_BK1_I01/SDMMC1_D2/DCMI_D8/LTDC_R2
[4] PC11/SDIO_D3	A12	PC11/HRTIM_FLT2/DFSDM1_DATIN5/I2S3_SDI/SP13_MISO/USART3_RX/UART4_RX/QUADSPI_BK2_NCS/SDMMC1_D3/DCMI_D4
[4] PC12/SDIO_CK	D1	PC12/SYS_TRACED3/HRTIM_EEV2/I2S3_SDO/SP13_MOSI/USART3_CK/UART5_TX/SDMMC1_CK/DCMI_D9
[8] PC13/TVCC_ON/OFF	D1	PC13/RTC_TAMP_1/RTC_TS/WKUP2
[7] PD0/FMC_D2	B12	PD0/DFSDM1_CKIN6/SAI3_SCK_A/UART4_RX/FDCAN1_RX/FMC_D2/FMC_D42
[7] PD1/FMC_D3	C12	PD1/DFSDM1_DATIN6/SAI3_SD_A/UART4_TX/FDCAN1_TX/FMC_D3/FMC_D43
[4] PD2/SDIO_CMD	D12	PD2/SYS_TRACED2/TIM3_ETR/UART5_RX/SDMMC1_CMD/DCMI_D11
[7] PD3/SP12_SCK	D10	PD3/DFSDM1_CKOUT/I2S2_CK/SP12_SCK/USART2_CTS_NSS/FMC_CLK/DCMI_D5/LTDC_G7
[7] PD4/FMC_NOE	C11	PD4/HRTIM_FLT3/SAI3_FS_A/USART2_DE/USART2_RTS/FDCAN1_RX/FD/FMC_NOE
[7] PD5/FMC_NWE	B11	PD5/HRTIM_EEV3/USART2_TX/FDCAN1_TX/FD/FMC_NWE
[4] PD6/SDMMC2_CK	A11	PD6/SAI1_D1/DFSDM1_CKIN4/DFSDM1_DATIN1/I2S3_SDO/SP13_MOSI/SAI1_SD_A/USART2_RX/SAI4_SD_A/FDCAN2_RX/FD/SAI4_D1/SDMMC2_CK/FMC_NWA1/DCMI_D10/LTDC_B2
[4] PD7/SDMMC2_CMD	P15	PD7/DFSDM1_DATIN4/I2S1_SDO/SP11_MOSI/DFSDM1_CKIN1/USART2_CK/SPDIFRX_IN0/SDMMC2_CMD/FMC_NE1
[1, 4] PA11/CAN1_RX/PD8/FMC_D13	P14	PD8/DFSDM1_CKIN3/SAI3_SCK_B/USART3_TX/SPDIFRX_IN1/FMC_D13/FMC_D413
[7] PD9/D2_DIR	N15	PD9/DFSDM1_DATIN3/SAI3_SD_B/USART3_RX/FDCAN2_RX/FD/FMC_D14/FMC_D414
[7] PD10/D6_DIR	N14	PD10/DFSDM1_CKOUT/SAI3_FS_B/USART3_CK/FDCAN2_TX/FD/FMC_D15/FMC_D415/LTDC_B3
[3] PD12/QUADSPI_BK1_I01	N13	PD11/LPTIM2_IN2/I2C4_SCL/USART3_CTS_NSS/QUADSPI_BK1_I00/SAI2_SD_A/FMC_A16
[3] PD13/QUADSPI_BK1_I03	M15	PD12/LPTIM1_IN1/TIM1_CH1/LPTIM2_IN1/I2C4_SCL/USART3_DE/USART3_RTS/QUADSPI_BK1_I01/SAI2_FS_A/FMC_A17
[7] PD14/FMC_D0	M14	PD13/LPTIM1_OUT/TIM4_CH2/I2C4_SDA/QUADSPI_BK1_I03/SAI2_SCK_A/FMC_A18
[7] PD15/FMC_D1	L14	PD14/TIM4_CH3/SAI3_MCLK_B/UART8_CTS/FMC_D0/FMC_D40
		PD15/TIM4_CH4/SAI3_MCLK_A/UART8_DE/UART8_RTS/FMC_D1/FMC_D41
[4] PE0/UART8_RX	A4	PE0/LPTIM1_ETR/TIM4_ETR/HRTIM_SCIN/LPTIM2_ETR/UART8_RX/FDCAN1_RX/FD/SAI2_MCLK_A/FMC_NBL0/DCMI_D2
[3] PE1/LCD_CS	A3	PE1/LPTIM1_IN2/HRTIM_SCOUT/UART8_TX/FDCAN1_TX/FD/FMC_NBL1/DCMI_D3
[7] PE2/SP14_SCK	A2	PE2/SYS_TRACELK/SAI1_CK1/SP14_SCK/SAI1_MCLK_A/SAI4_MCLK_A/QUADSPI_BK1_I02/SAI4_CK1/ETH_TXD3/FMC_A23
[6] PE3/65130_SW	A1	PE3/SYS_TRACED0/TIM15_BKIN/SAI1_SD_B/SAI4_SD_B/FMC_A19
[7] PE4/SP14_NSS	B2	PE4/SYS_TRACED1/SAI1_D2/DFSDM1_DATIN3/TIM15_CHIN/SP14_NSS/SAI1_FS_A/SAI4_FS_A/SAI4_D2/FMC_A20/DCMI_D4/LTDC_B0
[7] PE5/SP14_MISO	B3	PE5/SYS_TRACED2/SAI1_CK2/DFSDM1_CKIN3/TIM15_CHI/SP14_MISO/SAI1_SCK_A/SAI4_SCK_A/SAI4_CK2/FMC_A21/DCMI_D6/LTDC_G0
[7] PE6/SP14_MOSI	R8	PE6/SYS_TRACED3/TIM1_BKIN2/SAI1_D1/TIM15_CH2/SP14_MOSI/SAI1_SD_A/SAI4_SD_A/SAI4_D1/SAI2_MCLK_B/TIM1_BKIN2_COMP1/TIM1_BKIN2_COMP2/FMC_A22/DCMI_D7/LTDC_G1
[7] PE7/FMC_D4	P8	PE7/TIM1_ETR/DFSDM1_DATIN2/UART7_RX/QUADSPI_BK2_I00/FMC_D4/FMC_D40/OPAMP2_VOI/COMP_2_INM
[7] PE8/FMC_D5	P9	PE8/TIM1_CH1N/DFSDM1_CKIN2/I2C4_SCL/QUADSPI_BK2_I02/FMC_D5/FMC_D40/OPAMP2_VINM
[7] PE9/FMC_D6	R9	PE9/TIM1_CH1/DFSDM1_CKOUT/UART7_DE/UART7_RTS/QUADSPI_BK2_I02/FMC_D6/FMC_D40/OPAMP2_VINP/COMP_2_INP
[7] PE10/FMC_D7	P10	PE10/TIM1_CH2N/DFSDM1_DATIN4/UART7_CTS/QUADSPI_BK2_I03/FMC_D7/FMC_D47/COMP_2_INM
[7] PE11/FMC_D8	P10	PE11/TIM1_CH2/DFSDM1_CKIN4/SP14_NSS/SAI2_SD_B/FMC_D8/FMC_D48/LTDC_G3/COMP_2_INP
[7] PE12/FMC_D9	N11	PE12/TIM1_CH3N/DFSDM1_DATIN5/SP14_SCK/SAI2_SCK_B/FMC_D9/FMC_D49/COMP1_OUT/LTDC_B4
[1, 4, 7] PA9/USART1_TX/PE13/FMC_D10	P11	PE13/TIM1_CH3/DFSDM1_CKIN5/SP14_MISO/SAI2_FS_B/FMC_D10/FMC_D410/COMP2_OUT/LTDC_DE
[1, 7] PA10/USART1_RX/PE14/FMC_D11	P11	PE14/TIM1_CH4/SP14_MOSI/SAI2_MCLK_B/FMC_D11/FMC_D411/LTDC_CLK
[1, 4] PA12/CAN1_TX/PE15/FMC_D12	R11	PE15/TIM1_BKIN/FMC_D12/FMC_D412/TIM1_BKIN_COMP1/TIM1_BKIN_COMP2/LTDC_R7
[7] PF0/I2C2_SDA	F2	PF0/I2C2_SDA/FMC_A0
[7] PF1/I2C2_SCL	H3	PF1/I2C2_SCL/FMC_A1
[3] PF2/KEY1	H2	PF2/I2C2_SMBA/FMC_A2
[3] PF3/ADC3_INP5/THERMAL_RESISTOR_TEST	J2	PF3/FMC_A3/ADC3_INP5
[2] PF4/GP10/ADC3_INN5/ADC3_INP9	J3	PF4/FMC_A4/ADC3_INN5/ADC3_INP9
[8] PF5/ADC3_INP4/CURRENT_TEST_SW0	K3	PF5/FMC_A5/ADC3_INP4
[4] PF6/ESP32-S_RESET	K2	PF6/TIM16_CH1/SP15_NSS/SAI1_SD_B/UART7_RX/SAI4_SD_B/QUADSPI_BK1_I03/ADC3_INN4/ADC3_INP8
[3] PF7/QUADSPI_BK1_I02	L1	PF7/TIM17_CH1/SP15_SCK/SAI1_MCLK_B/UART7_TX/SAI4_MCLK_B/QUADSPI_BK1_I02/ADC3_INP3
[3] PF8/ADC3_INN3/ADC3_INP7	L3	PF8/TIM16_CHIN/SP15_MISO/SAI1_SCK_B/UART7_DE/UART7_RTS/SAI4_SCK_B/TIM13_CH1/QUADSPI_BK1_I00/ADC3_INN3/ADC3_INP7
[1, 6] PF11/ADC1_INP2/PF9/ADC3_INP2/PF13/ADC2_INP2	R118	PF9/TIM17_CHIN/SP15_MOSI/SAI1_FS_B/UART7_CTS/SAI4_FS_B/TIM14_CH1/QUADSPI_BK1_I01/ADC3_INP2
[1, 6] PF12/ADC1_INN2/PF10/ADC3_INN2/PF14/ADC2_INN2	R27	PF10/TIM16_BKIN/SAI1_D3/QUADSPI_CLK/SAI4_D3/DCMI_D11/LTDC_DE/ADC3_INN2/ADC3_INP6
[1, 6] PF11/ADC1_INP2/PF9/ADC3_INP2/PF13/ADC2_INP2	R125	PF11/SP15_MOSI/SAI2_SD_B/FMC_SDNARS/DCMI_D12/ADC1_INP2
[1, 6] PF12/ADC1_INN2/PF10/ADC3_INN2/PF14/ADC2_INN2	R133	PF12/FMC_A6/ADC1_INN2/FMC
[1, 6] PF11/ADC1_INP2/PF9/ADC3_INP2/PF13/ADC2_INP2	R126	PF13/DFSDM1_DATIN6/I2C4_SMBA/FMC_A7/ADC2_INP2
[1, 6] PF12/ADC1_INN2/PF10/ADC3_INN2/PF14/ADC2_INN2	R134	PF14/DFSDM1_CKIN6/I2C4_SCL/FMC_A8/ADC2_INN2/ADC2_INP6
[1, 6] PF12/ADC1_INN2/PF10/ADC3_INN2/PF14/ADC2_INN2	R134	PF15/I2C4_SDA/FMC_A9
[3, 8] PF15/I2C4_SDA	P7	

阅读提示： 网标旁边 内的数字表示该网标存在的页码

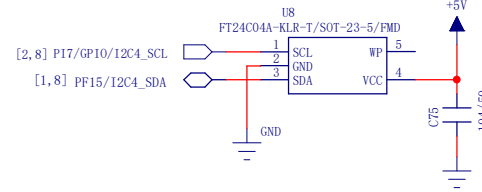
## CPU GPIO G-I



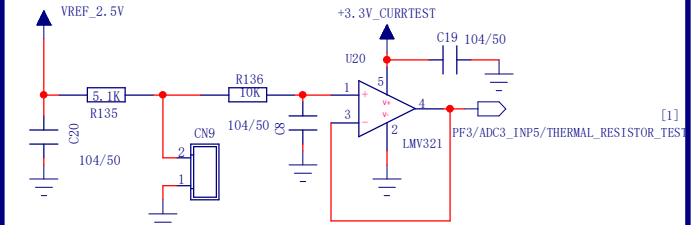
## QSPI FLASH 32MB



## I2C EEPROM 实际贴装的是24C16 (2K字节)



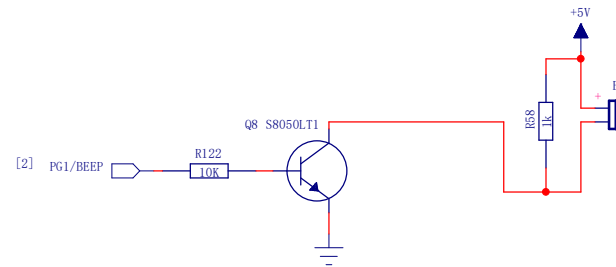
## 热敏电阻测温接口电路



## LCD屏\_按键\_LED

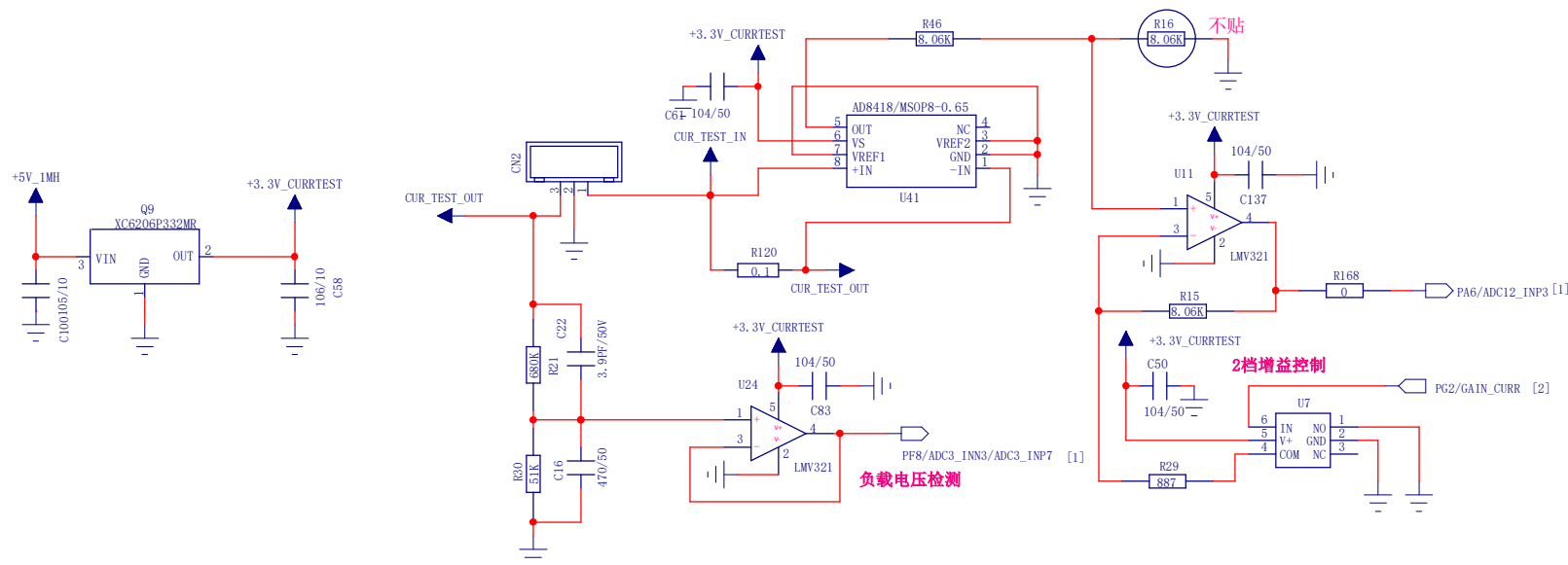


## 蜂鸣器电路



## 有源蜂鸣器

## 负载电流检测电路



## H7-T00L开发工具

D253-6 2019-09-30

SHEET NAME: 24C04\_QSPI\_LCD\_BEEP\_CURRTEST

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淘宝店: armfly.taobao.com

3 / 8

[illegible]

### CAN接口

[1] PA12/CAN1\_TX/PE15/FMC\_D12

[1] PA11/CAN1\_RX/PD8/FMC\_D13

U-TJF1051T/3/S08

The schematic diagram illustrates the EMCC circuit for the TH9EMDG5D11BAIL/TFBCA153 module. The module's pins are connected to various components as follows:

- Power and Ground:** VDD3.3V and GND connections are shown at the top and bottom of the module.
- Resistors:** R10, R12, R17, R18, R19, R40, and R8 are used for signal conditioning and voltage division.
- Capacitors:** C7, C10, C11, and C140 are used for decoupling and timing.
- Module Pins:** The module pins are labeled with their functions: DAT0, DAT1, DAT2, DAT3, DAT4, DAT5, DAT6, DAT7, EMMC\_D0, EMMC\_D1, EMMC\_D2, EMMC\_D3, EMMC\_D4, EMMC\_D5, EMMC\_D6, EMMC\_D7, RSTN, PC12, CLK, CMD, DS, and VSS.
- Connections:** The module pins are connected to the resistors, capacitors, and the VDD3.3V and GND rails.
- Note:** When changing to the TH9EMDG5D11BAIL module, components C7 and C35 should be mounted.

**ESP32-S WiFi模块**

**兼容串口、SDIO接口两种连接模式**

VDD3.3V

VDD3.3V

[1] PF6/ESP32-S\_RESET

[1] PD6/SDMMC2\_CK

[1] PB3/SDMMC2\_D2

[1] PB4/SDMMC2\_D3

10K

10K/10

C421

C38

104/50

U33

36

37

38

1022

TXD0

35

34

33

32

31

30

29

28

27

26

25

24

23

22

21

20

GND

3.3V

EN

SENSOR\_VP

SENSOR\_VN

GP1034

GP1035

GP1032

GP1033

GP1025

GP1026

GP1027

MTMS/GP1014/SD\_CLK

MTD1/GP1012/SD\_DATA2

GND

MTCK/GP1013/SD\_DATA3

SHD/SD2

SWP/SD3

SCS/CMD

GP1019

GP1018

GP105

GP1017

GP1016

GP104/SD\_DATA1

GP100

GP102/SD\_DATA0

MTD0/GP1015/SD\_CMD

SD1/SD1

SD0/SD0

SCK/CLK

R25

R22

R23

R24

PH14/UART4\_RX [2]

PH13/UART4\_TX [2]

GP1017/U2TXD

GP1016/U2RXD

PH15/SDMMC2\_D1 [1]

PG4/BOOT\_OPTION

PB14/SDMMC2\_DO [2]

PD7/SDMMC2\_CMD [1]

R53

R55

VDD3.3V

不贴

ESP32\_S-2

RS485 (USART1)

VDD3.3V

+5V

[7] RS485\_CPU\_RX

[2] PI10/RS485\_TXEN

[1, 4, 7] PA9/USART1\_TX/PE13/FMC\_D10

保护电阻，用于GP10复用。

避免CPU复位期间，TX为高阻时影响总线数据

TP8485E-SR/SOP8/3PEAK

RS485\_B [7]

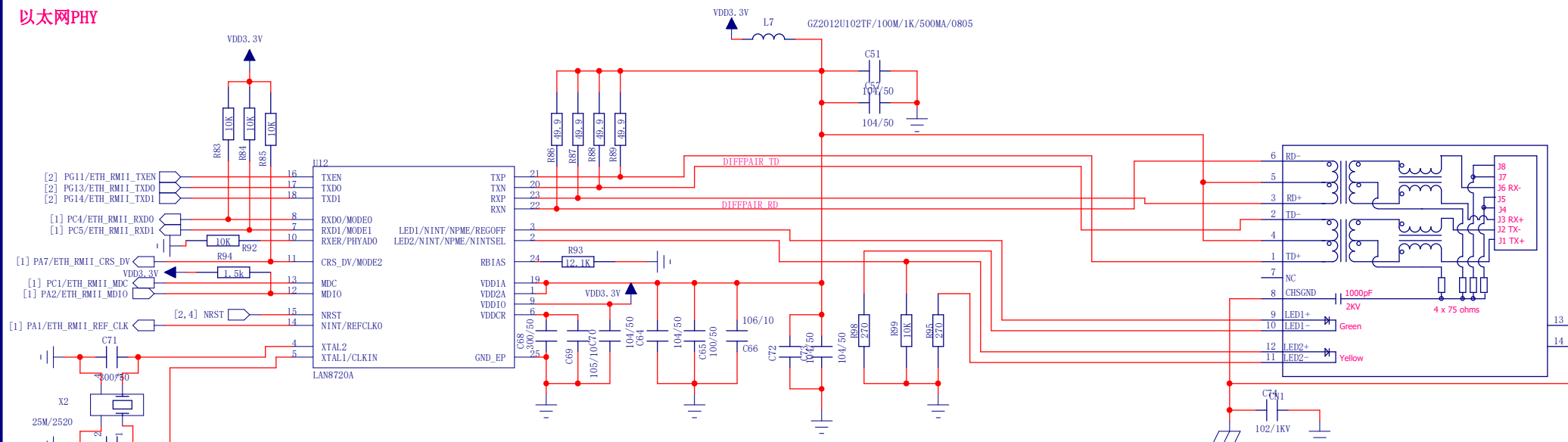
TVS-SM712/SOT23

RS485\_A [7]

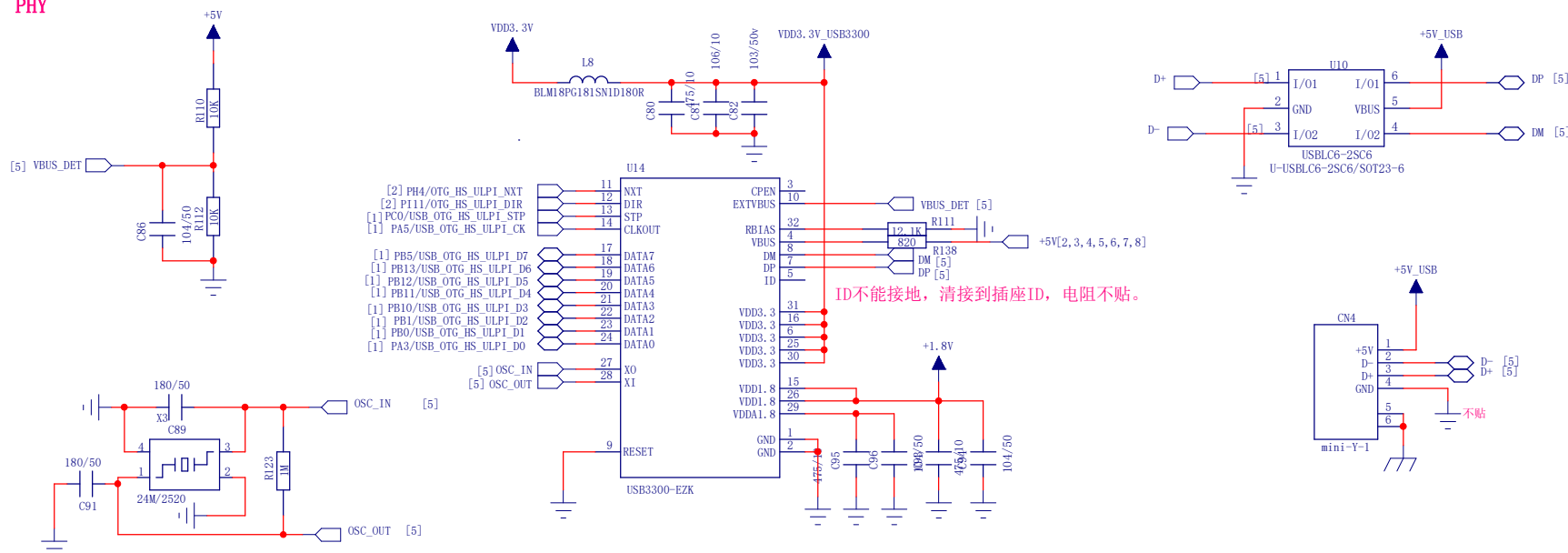
这3个电阻缺省不贴，客户根据需要自行贴装

## 4 / 8

## 以太网PHY



## USB PHY



## H7-T00L开发工具

D253-6

2019-09-30

SHEET NAME: [6]LAN\_USB

武汉安富莱电子有限公司

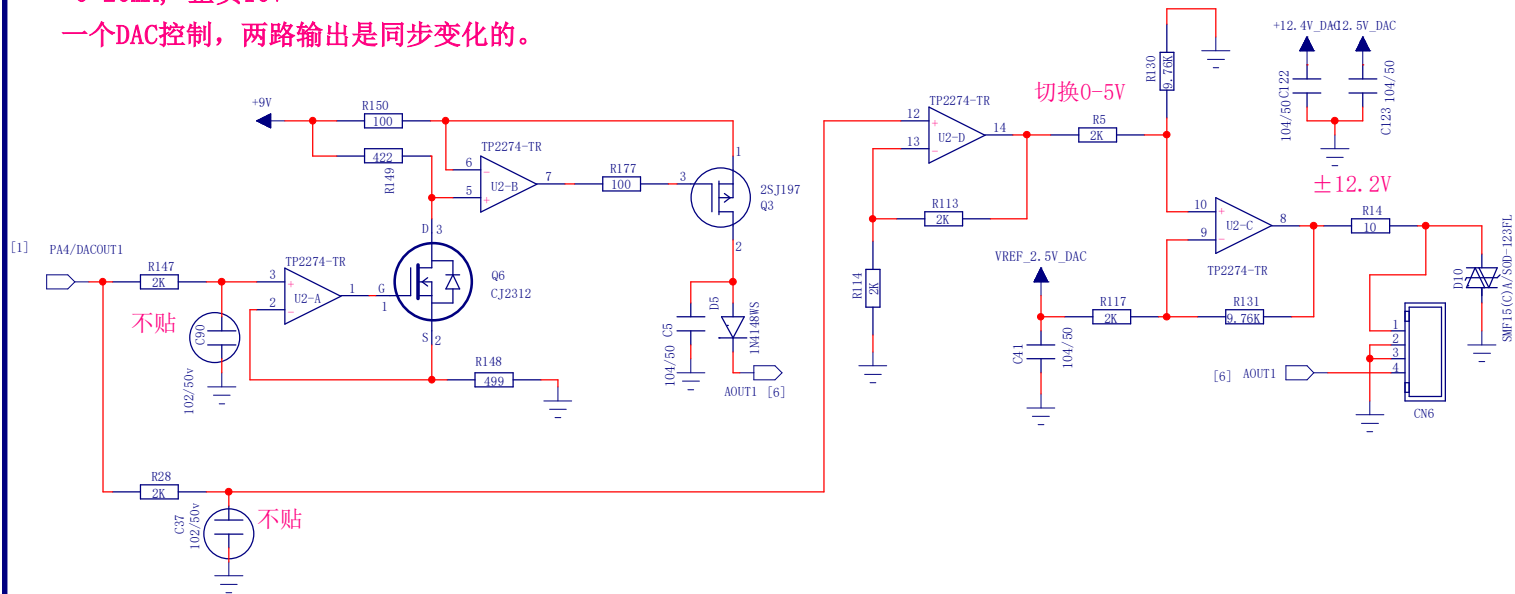
淘宝店: [armfly.taobao.com](http://armfly.taobao.com)

5 / 8

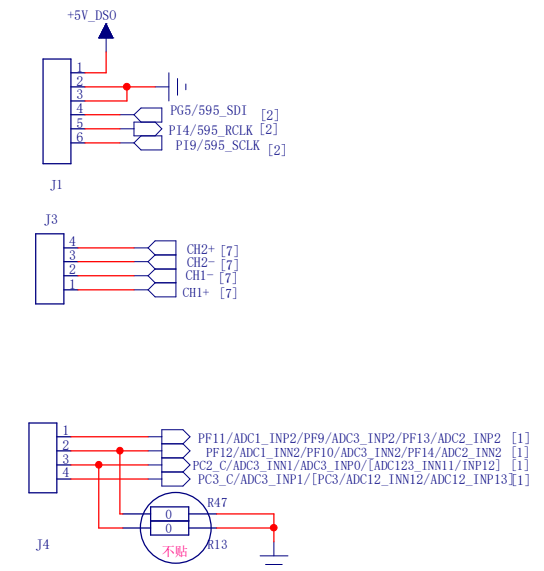
## DAC模拟量输出

0-20mA, 正负10V

一个DAC控制，两路输出是同步变化的。



## ADC示波器接口



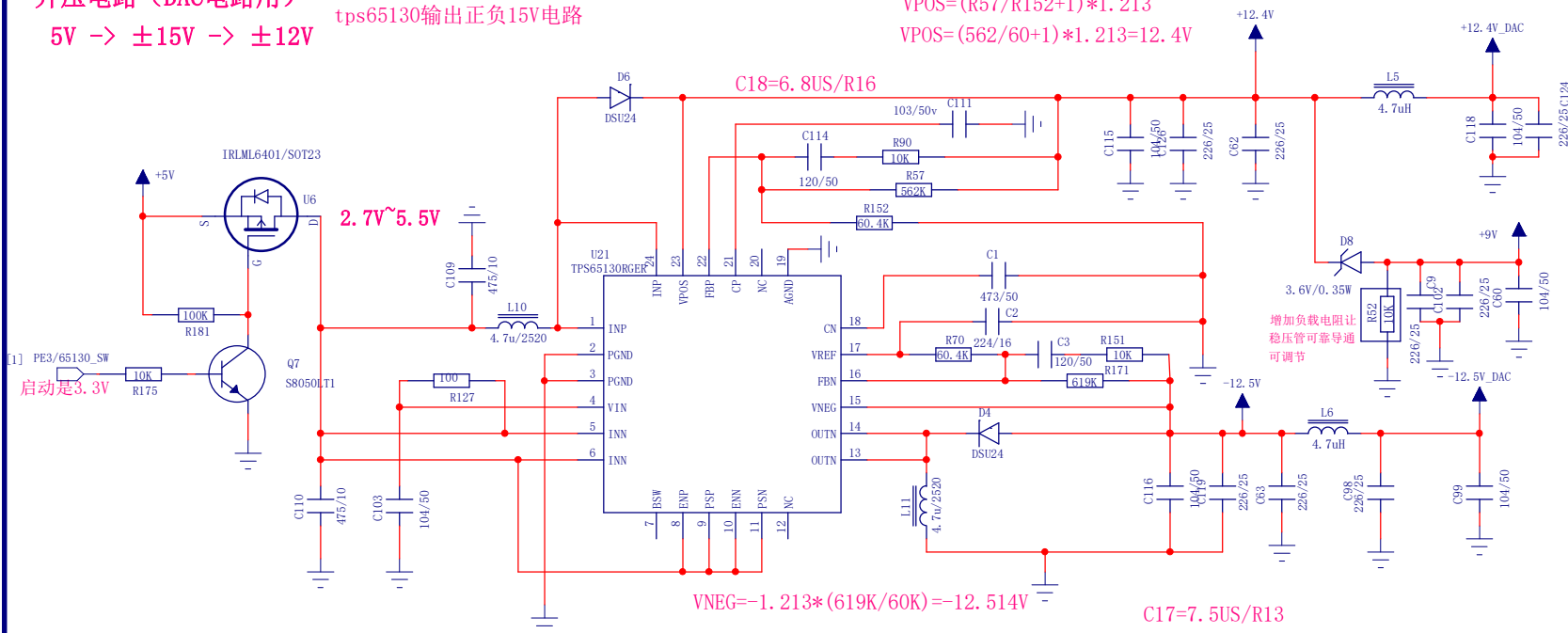
### 升压电路（DAC电路用）

5V  $\rightarrow$   $\pm 15V \rightarrow \pm 12V$

### tps65130输出正负15V电路

$$\text{VPOS} = (\text{R57}/\text{R152} + 1) * 1.213$$

$$V_{POS} = (562/60 + 1) * 1.213 = 12.4V$$



## H7-T00L开发工具

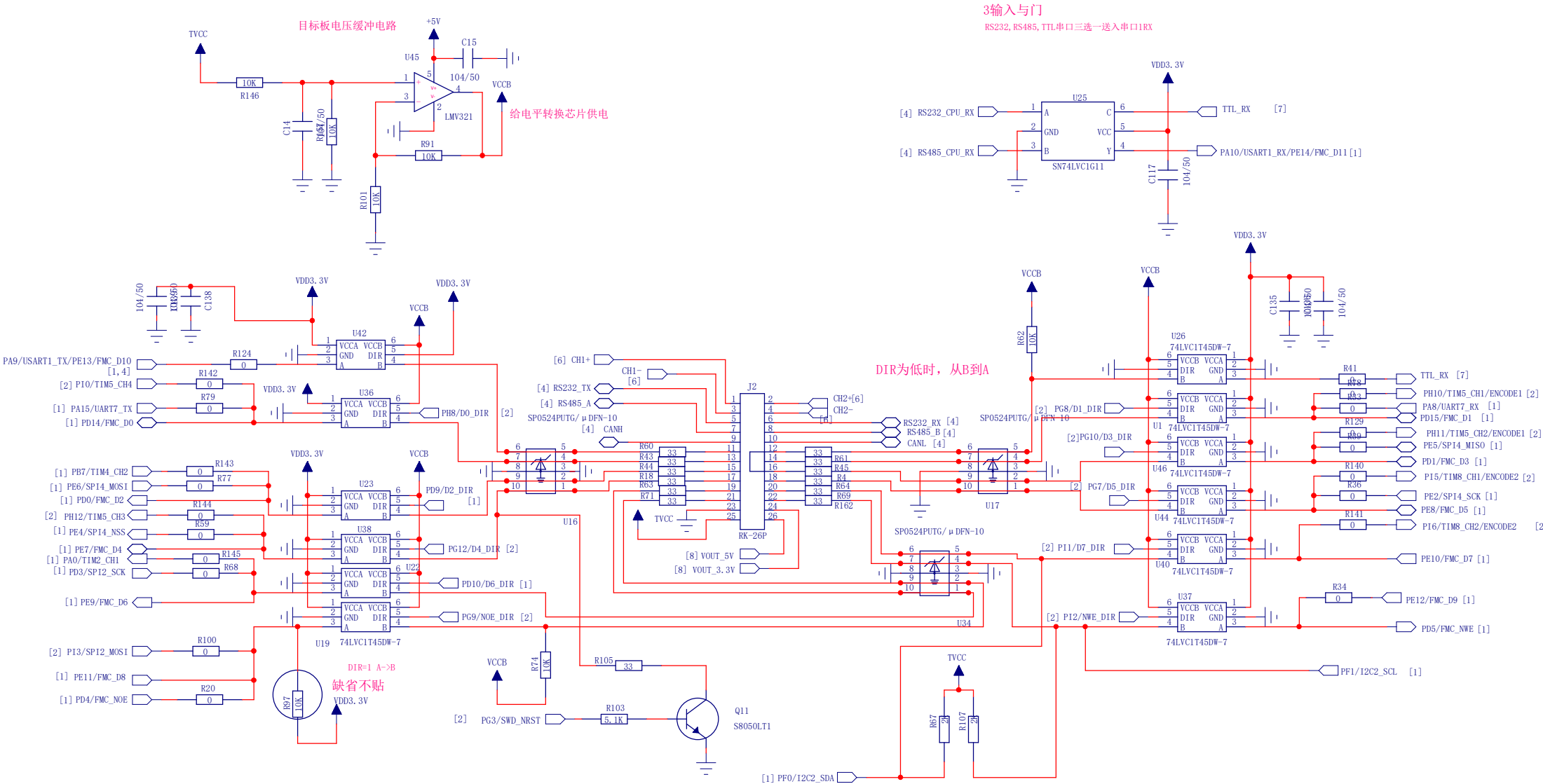
D253-6

2019-09-30

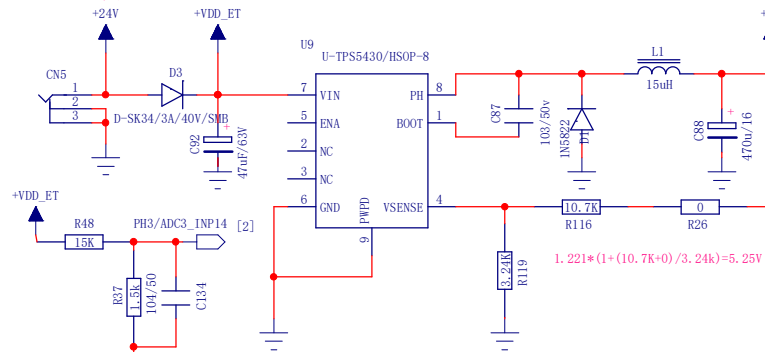
SHEET NAME: [8]DAC

武汉安富莱电子有限公司

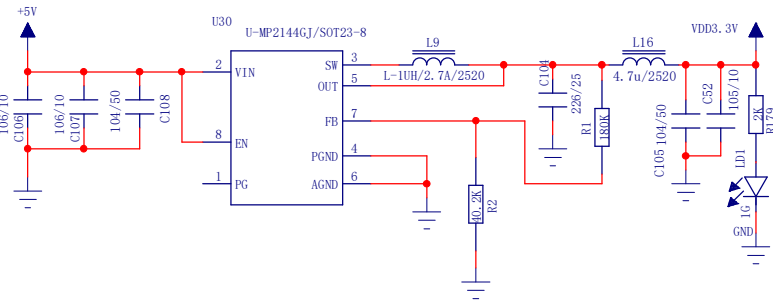
淘宝店: [armfly.taobao.com](http://armfly.taobao.com)



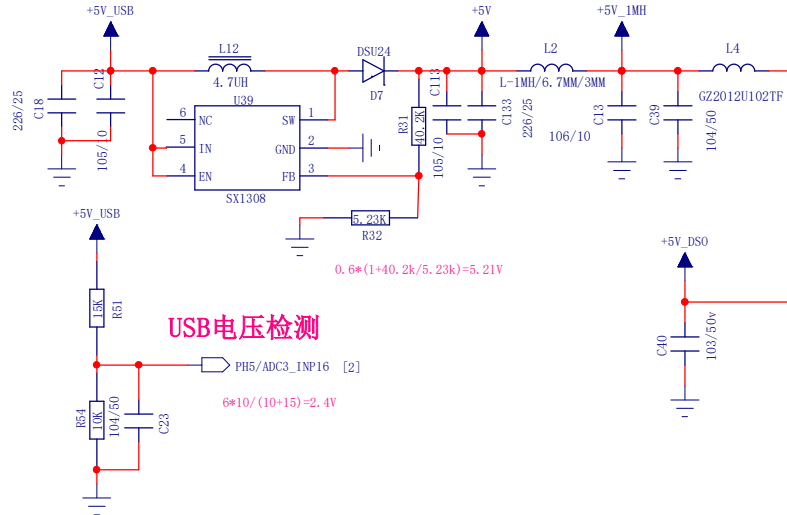
## 7-36V转5V



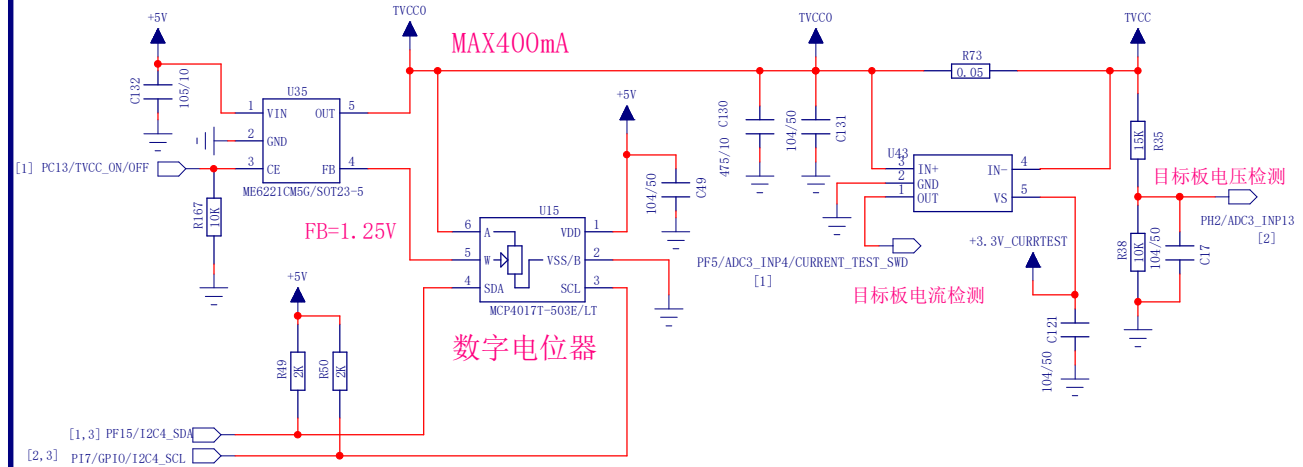
## 5V转3.3V 开关电源



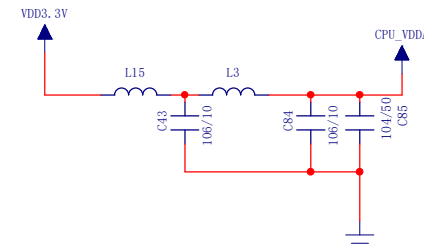
## USB 5V升压电路



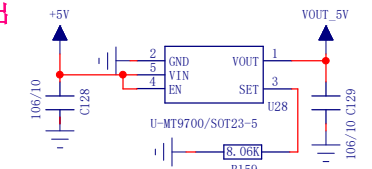
## TVCC 目标板电压 (I0电平) 及电压电流检测电路



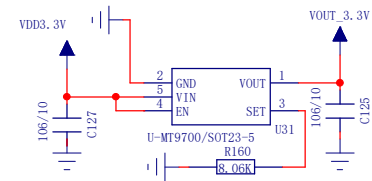
## CPU内部模拟部分电源



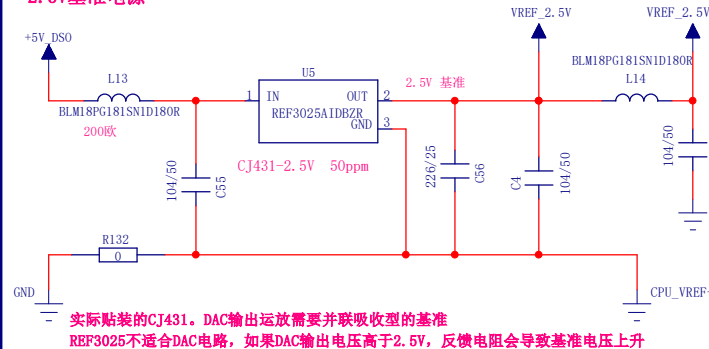
## 5V限流输出



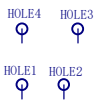
## 3.3V限流输出



## 2.5V基准电源



## 定位孔



## H7-T00L开发工具

D253-6 2019-09-30

SHEET NAME: [10]POWER

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