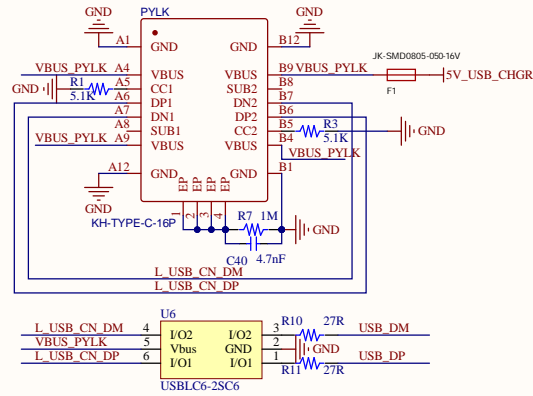
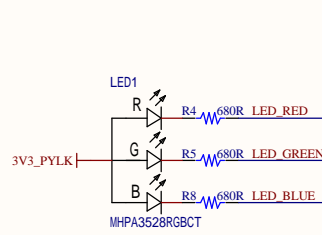


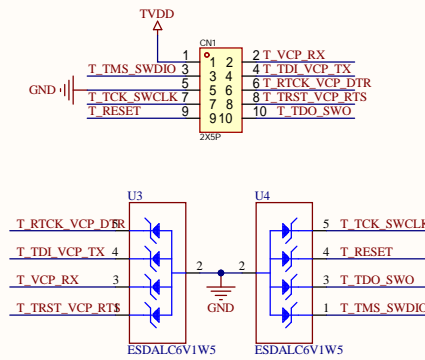
## USB



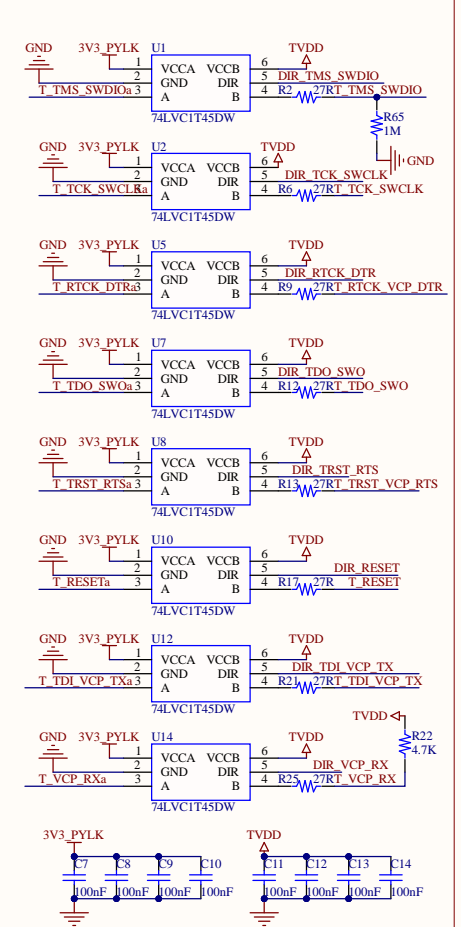
## LED



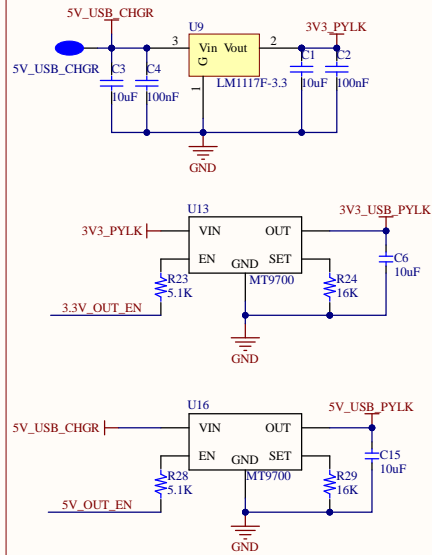
## Debug Connector



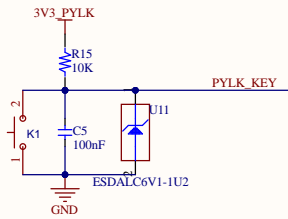
## Level Shift



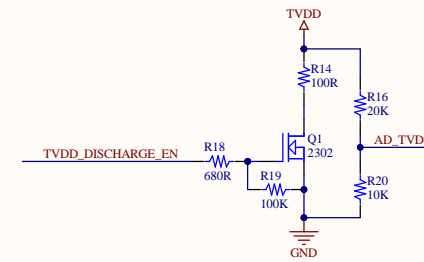
## Power



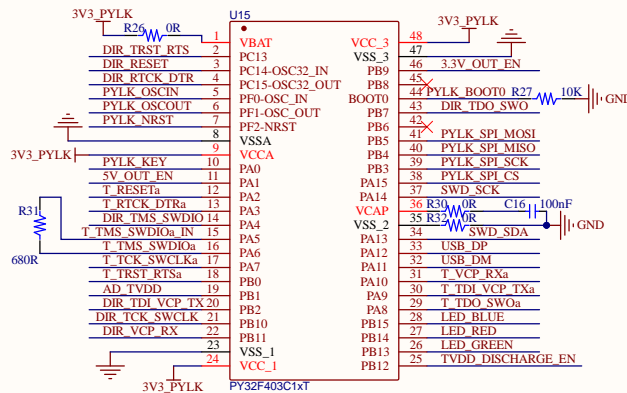
## Key



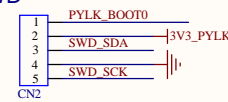
## ADC&Electric discharge



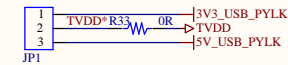
## MCU



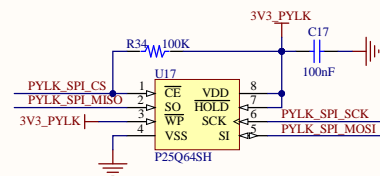
## SWD



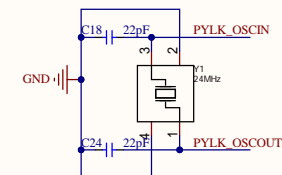
## TVDD\_Selection



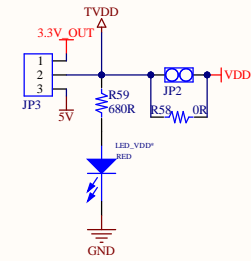
## Flash



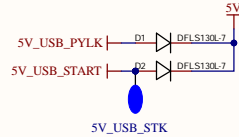
## OSC



The diagram illustrates a circuit for selecting the VDD supply voltage. It features a JP3 header with pins 1, 2, and 3. Pin 1 is connected to a 3.3V\_OUT signal, and pin 2 is connected to a 5V signal. The 3.3V\_OUT signal is also connected to a TVDD pin. A 680R resistor (R59) is connected between TVDD and a node. This node is connected to a 5V pin on a JP2 header. A 0R resistor (R58) is connected between the 5V pin on JP2 and a VDD pin. A LED\_VDDP RED LED is connected between the VDD pin and GND.



The diagram illustrates a logic circuit for selecting the 5V power source. Two input signals, `5V_USB_PYLK` and `5V_USB_START`, are connected to the anodes of diodes `D1` and `D2`. The cathodes of both diodes are connected to a common node, which is then connected to a `5V` supply through a resistor. The output of this network is labeled `5V_USB_STK`.



The diagram illustrates the MCU interface, showing the MCU pinout and the corresponding connections to the power supply and ground. The MCU is labeled U18 (PY32F040R1B17-EP).

**MCU Pinout:**

MCU Pin	MCU Label	MCU Label	MCU Pin	MCU Label	MCU Label
1	PF9		31	VSS	
2	PC13		32	VCC	
3	OSC32_IN				
4	OSC32_OUT				
5	OSC_IN				
6	OSC_OUT				
7	NRST				
8	PC0				
9	PC1				
10	PC2				
11	PC3				
12	VSSA				
13	VCCA				
14	PA0				
15	PA1				
16	PA2				
17	PA3				
18	PF3				
19	PF4				
20	PA4				
21	PA5				
22	PA6				
23	PA7				
24	PC4				
25	PC5				
26	PB0				
27	PB1				
28	PB2				
29	PB10				
30	PB11				
31	VSS				
32	VCC				

**Power Supply Connections:**

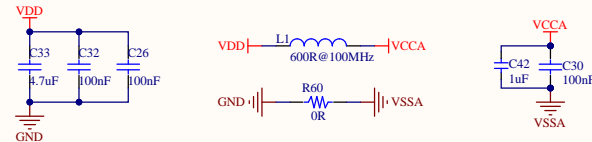
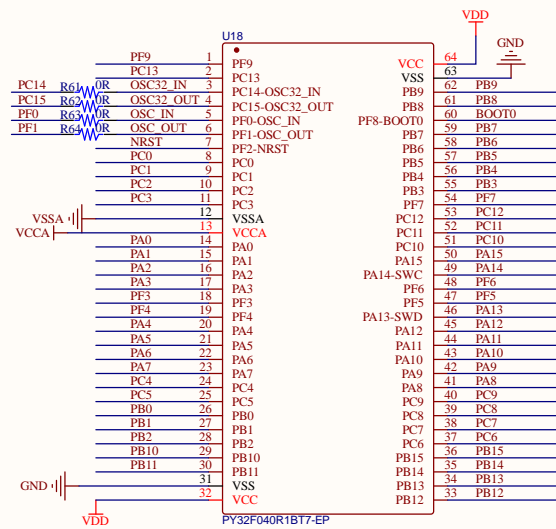
- VDD is connected to the MCU VCC pin (32).
- VSS is connected to the MCU VSS pin (31).
- VCCA is connected to the MCU VCCA pin (13).
- VSSA is connected to the MCU VSSA pin (12).

**Decoupling Components:**

- C33 (4.7uF) and C32 (100nF) are connected between VDD and GND.
- C26 (100nF) is connected between VCCA and VSSA.
- C42 (1uF) and C30 (100nF) are connected between VCCA and VSSA.

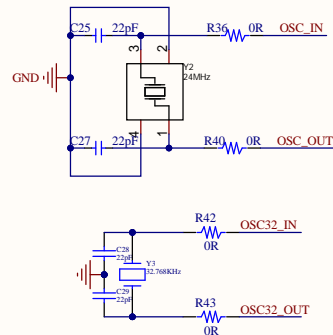
**MCU Pinout (Continued):**

MCU Pin	MCU Label	MCU Label	MCU Pin	MCU Label	MCU Label
33	PB12		61	PB8	
34	PB13		62	PB9	
35	PB14		63	BOOT0	
36	PB15		64	PB7	
37	PC6		65	PB6	
38	PC7		66	PB5	
39	PC8		67	PB4	
40	PC9		68	PB3	
41	PB8		69	PB2	
42	PB9		70	PB1	
43	PA10		71	PB0	
44	PA11		72	NRST	
45	PA12		73	OSC_OUT	
46	PA13		74	OSC_IN	
47	PF5		75	OSC32_OUT	
48	PF6		76	OSC32_IN	
49	PA14		77	PF9	
50	PA15		78	PC13	
51	PC10		79	PC1	
52	PC11		80	PC2	
53	PC12		81	PC3	
54	PF7		82	PC4	
55	PF8		83	PC5	
56	PB4		84	PB0	
57	PB5		85	PB1	
58	PB6		86	PB2	
59	PB7		87	PB10	
60	BOOT0		88	PB11	
61	PB8		89	PB12	
62	PB9		90	PB13	
63	BOOT0		91	PB14	
64	PB7		92	PB15	
65	PB6		93	PC6	
66	PB5		94	PC7	
67	PB4		95	PC8	
68	PB3		96	PC9	
69	PB2		97	PB8	
70	PB1		98	PB9	
71	PB0		99	PA10	
72	NRST		100	PA11	
73	OSC_OUT		101	PA12	
74	OSC_IN		102	PA13	
75	OSC32_OUT		103	PA14	
76	OSC32_IN		104	PA15	
77	PF9		105	PC10	
78	PC13		106	PC11	
79	PC1		107	PC12	
80	PC2		108	PF7	
81	PC3		109	PF8	
82	PC4		110	PF6	
83	PC5		111	PF5	
84	PB0		112	PF4	
85	PB1		113	PF3	
86	PB2		114	PA4	
87	PB10		115	PA5	
88	PB11		116	PA6	
89	PB12		117	PA7	
90	PB13		118	PC4	
91	PB14		119	PC5	
92	P				



The schematic diagram shows two sections of the circuit:

- OSC Section:** This section includes a crystal oscillator circuit. It features a crystal labeled Y2 with a frequency of 24M/Hz. The crystal is connected to a network of capacitors (C25, C27) and resistors (R36, R40). The input is labeled OSC\_IN and the output is labeled OSC\_OUT. Both input and output lines are terminated with 0R resistors.
- OSC32 Section:** This section includes a 32.768kHz crystal oscillator circuit. It features a crystal labeled Y3 with a frequency of 32.768KHz. The crystal is connected to a network of capacitors (C28, C29) and resistors (R42, R43). The input is labeled OSC32\_IN and the output is labeled OSC32\_OUT. Both input and output lines are terminated with 0R resistors.



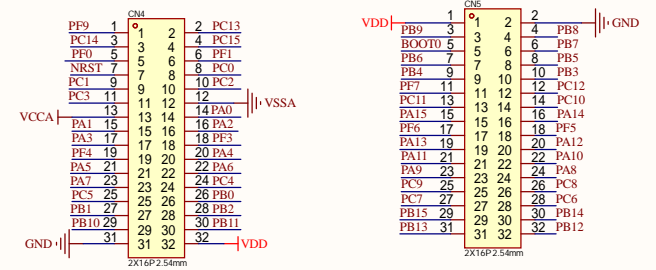
**Extension PIN**

**Left Pinout (Pins 1-32):**

Pin	Function
1	PF9
2	PC13
3	PC14
4	PC15
5	PF0
6	PF1
7	NKST1
8	PC0
9	PC1
10	PC2
11	PC3
12	PA0
13	PA1
14	PA2
15	PA3
16	PF3
17	PF4
18	PA4
19	PA5
20	PA6
21	PA7
22	PC4
23	PC5
24	PC6
25	PB0
26	PB1
27	PB2
28	PB3
29	PB10
30	PB11
31	GND
32	VDD

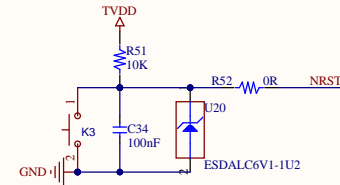
**Right Pinout (Pins 33-64):**

Pin	Function
33	VDD
34	PB9
35	BOOT0
36	PB6
37	PB4
38	PF7
39	PC11
40	PA15
41	PF6
42	PA13
43	PA11
44	PA9
45	PC9
46	PC7
47	PB15
48	PB13
49	GND
50	PB8
51	PB7
52	PB5
53	PB3
54	PC12
55	PC10
56	PA14
57	PF5
58	PA12
59	PA10
60	PA8
61	PC8
62	PC6
63	PB14
64	PB12



# NRST

The diagram shows the NRST pin configuration. The NRST pin is connected to a 0R resistor (R52) and a 10K resistor (R51) to TVDD. It is also connected to a 100nF capacitor (C34) to GND and a diode (U20) to ESDALC6V1-1U2.



## LED



BOOT\_SEL

JP4

TVDD

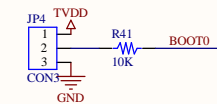
R41

10K

BOOT0

CON3

GND



## USB & POWER

