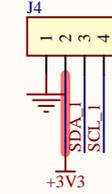
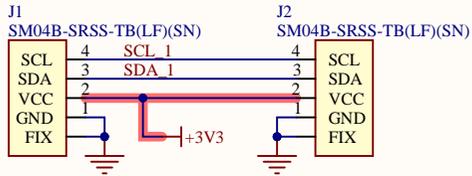
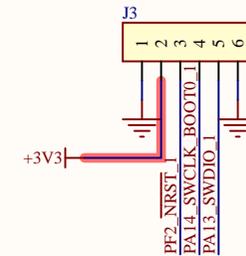
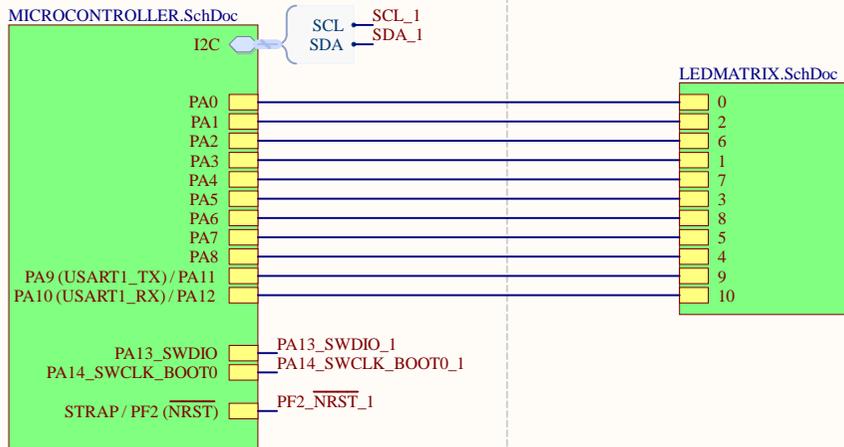


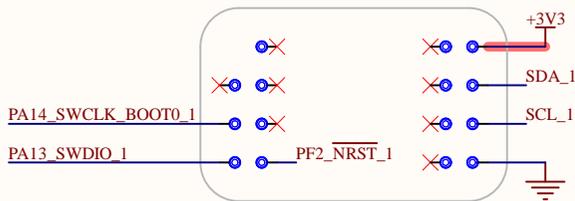
I2C CONNECTORS



MICROCONTROLLER



TEST POINTS BOTTOM VIEW



POWER LED



Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice. Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

Title: **TOP**

ID: ABX00152

Date: 23/03/2026

File: TOP.SchDoc

Version: **V0.3**

Time: 10:32:42

Sheet 1 of 3

Author: **Silvio Navaretti**



RevAuthor: **Silvio Navaretti**

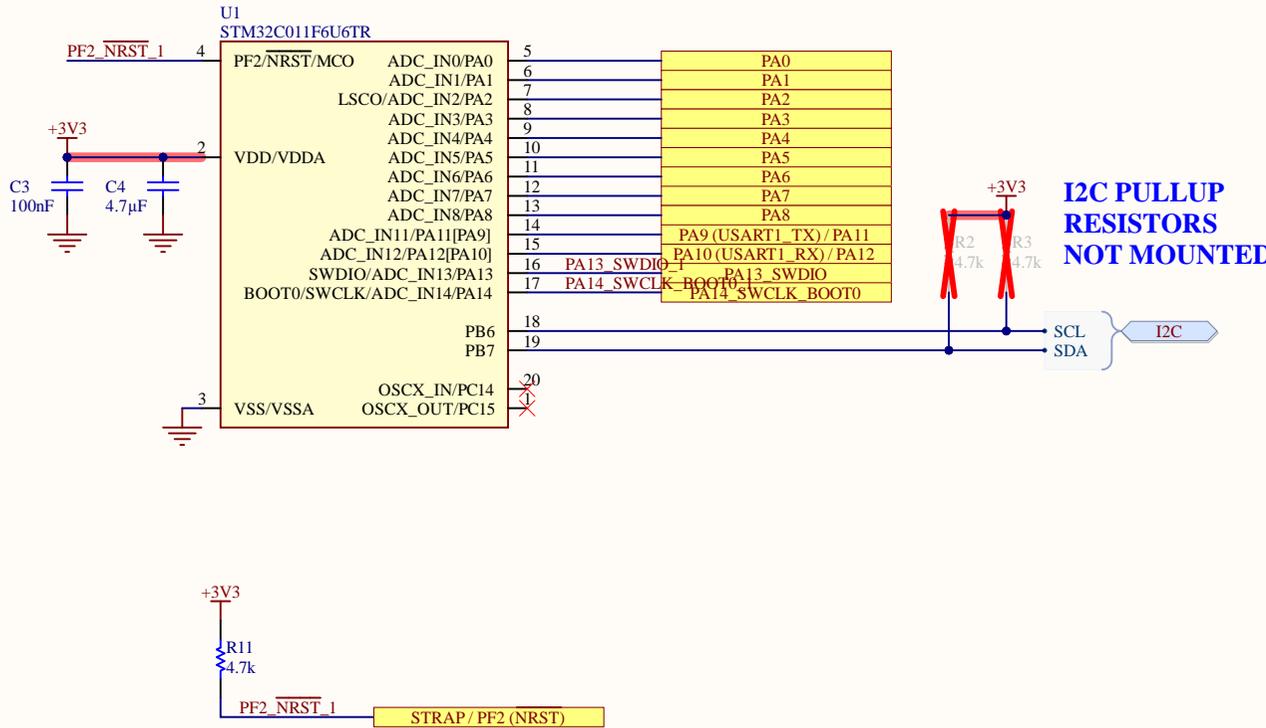
Table 11. Terms and symbols used in Table 12

Column	Symbol	Definition
Pin name		Terminal name corresponds to its by-default function at reset, unless otherwise specified in parenthesis under the pin name.
Pin type	S	Supply pin
	I	Input only pin
	I/O	Input / output pin
	FT	5 V tolerant I/O
I/O structure	RST	Bidirectional reset pin with embedded weak pull-up resistor
	Options for FT I/Os	
	_f	I/O, Fm+ capable
	_a	I/O, with analog switch function

Table 12. Pin assignment and description

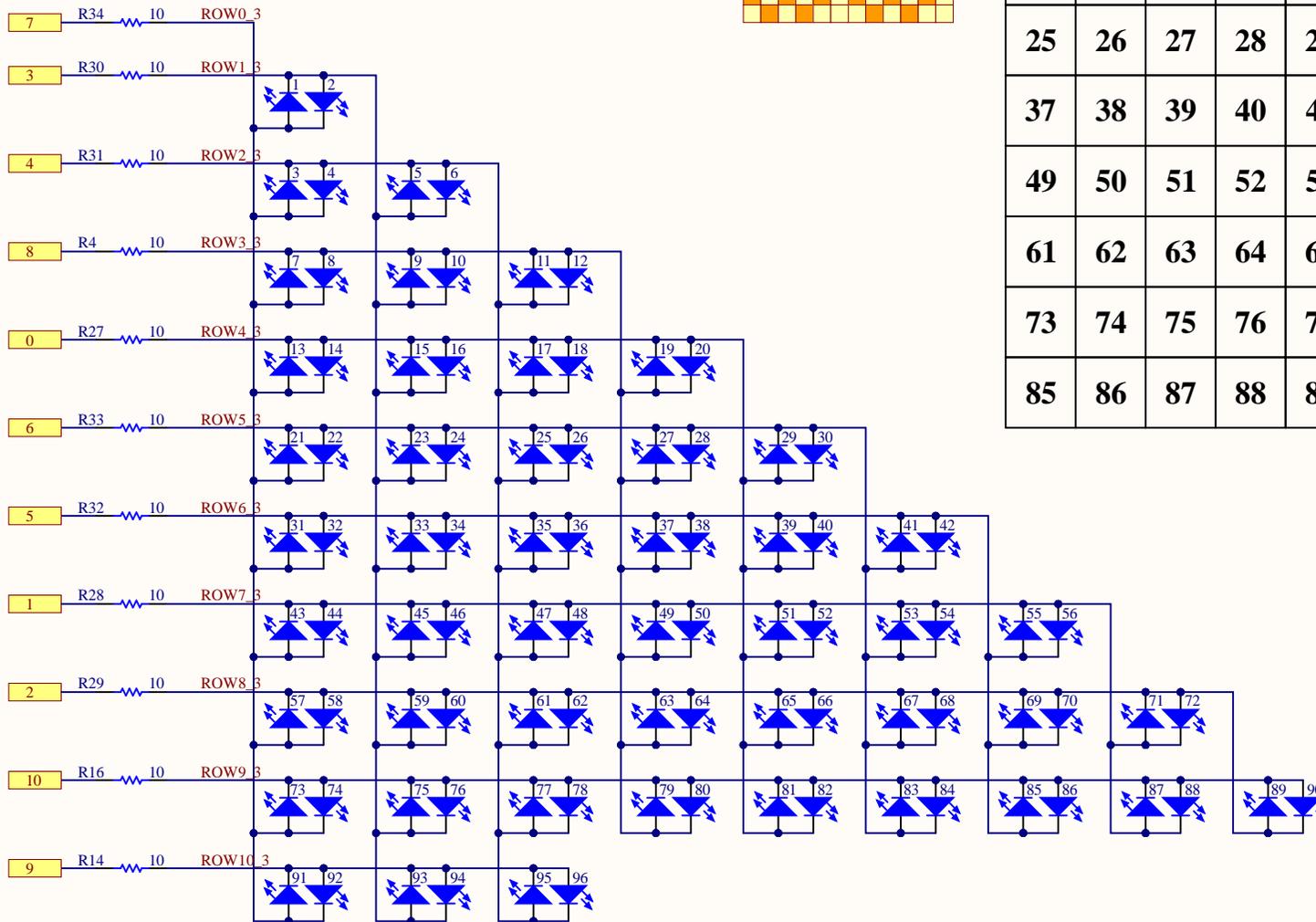
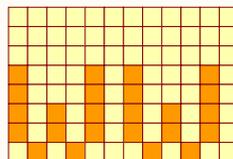
Pin	Pin name (function upon reset)	Pin type	I/O structure	Note	Alternate functions	Additional functions
20	PC14-OSCX_IN (PC14)	I/O	FT	-	USART1_TX, TIM1_ETR, TIM1_BRK2_IR_OUT, USART2_RTS_DE_CK, TIM17_CH1, TIM3_CH2, I2C1_SDA, EVENTOUT	OSCX_IN
1	PC15-OSCX_OUT (PC15)	I/O	FT	-	OSC32_EN, OSC_EN, TIM1_ETR, TIM9_CH3	OSCX_OUT
2	VDD/VDDA	S	-	-	-	-
3	VSS/VSSA	S	-	-	-	-
4	PF2-NRST	I/O	-	-	MCO, TIM1_CH4	NRST
5	PA0	I/O	FT	-	USART2_CTS, TIM16_CH1, USART1_TX, TIM1_CH1	ADC_IN0, WKUP1
6	PA1	I/O	FT	-	SP11_SCK/I2S1_CK, USART2_RTS_DE_CK, TIM17_CH1, USART1_RX, TIM1_CH2, I2C1_SMB, EVENTOUT	ADC_IN1
7	PA2	I/O	FT	-	SP11_MOSI/I2S1_SD, USART2_TX, TIM16_CH1N, TIM3_ETR, TIM1_CH3	ADC_IN2, WKUP4, LSCO
8	PA3	I/O	FT	-	USART2_RX, TIM1_CH1N, TIM1_CH4, EVENTOUT	ADC_IN3
9	PA4	I/O	FT	-	SP11_NSS/I2S1_WS, USART2_TX, TIM1_CH2N, TIM14_CH1, TIM17_CH1N, EVENTOUT	ADC_IN4, RTC_TS, RTC_OUT1, WKUP2
10	PA5	I/O	FT	-	SP11_SCK/I2S1_CK, USART2_RX, TIM1_CH3N, TIM1_CH1, EVENTOUT	ADC_IN5
11	PA6	I/O	FT	-	SP11_MISO/I2S1_MCK, TIM3_CH1, TIM1_BKIN, TIM16_CH1	ADC_IN6
12	PA7	I/O	FT	-	SP11_MOSI/I2S1_SD, TIM3_CH2, TIM1_CH1N, TIM14_CH1, TIM17_CH1	ADC_IN7
13	PA8	I/O	FT	-	MCO, USART2_TX, TIM1_CH1, EVENTOUT, SP11_NSS/I2S1_WS, TIM1_CH2N, TIM1_CH3N, TIM3_CH3, TIM3_CH4, TIM14_CH1, USART1_RX, MCO2	ADC_IN8
-	PA9	I/O	FT	(1)	MCO, USART1_TX, TIM1_CH2, TIM3_ETR, I2C1_SCL, EVENTOUT	-
-	PA10	I/O	FT	(1)	USART1_RX, TIM1_CH3, MCO2, TIM17_BKIN, I2C1_SDA, EVENTOUT	-
14	PA11 (PA9)	I/O	FT	(1)	SP11_MISO/I2S1_MCK, USART1_CTS, TIM1_CH4, TIM1_BKIN2	ADC_IN11
15	PA12 (PA10)	I/O	FT	(1)	SP11_MOSI/I2S1_SD, USART1_RTS_DE_CK, TIM1_ETR, I2S_CKIN	ADC_IN12
16	PA13	I/O	FT	(2)	SWDIO_IR_OUT, TIM3_ETR, USART2_RX, EVENTOUT	ADC_IN13
17	PA14-BOOT0	I/O	FT	(2)	SWCLK, USART2_TX, EVENTOUT, SP11_NSS/I2S1_WS, USART2_RX, TIM1_CH1, MCO2, USART1_RTS_DE_CK	ADC_IN14, BOOT0
18	PB6	I/O	FT	-	USART1_TX, TIM1_CH3, TIM16_CH1N, TIM3_CH3, USART1_RTS_DE_CK, USART1_CTS, I2C1_SCL, I2C1_SMB, SP11_MOSI/I2S1_MCK, SP11_MISO/I2S1_MCK, SP11_SCK/I2S1_CK, TIM1_CH2, TIM3_CH1, TIM3_CH2, TIM16_BKIN, TIM17_BKIN	WKUP3
19	PB7	I/O	FT	-	USART1_RX, TIM1_CH4, TIM17_CH1N, TIM3_CH4, I2C1_SDA, EVENTOUT, USART2_CTS, TIM16_CH1, TIM3_CH1, I2C1_SCL	RTC_REFIN

1. Pins PA9 and PA10 can be remapped in place of pins PA11 and PA12 (default mapping), using SYSCFG_CFR1 register.
 2. Upon reset, these pins are configured as SWD alternate functions, and the internal pull-up on PA13 pin and the internal pull-down on PA14 pin are activated.



Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice. Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

Title: *		Version: V0.3			
ID: ABX00152	Date: 23/03/2026	Time: 10:32:42	Sheet 2 of 3		
File: MICROCONTROLLER.SchDoc	Author: Silvio Navaretti		RevAuthor: Silvio Navaretti		



1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80	81	82	83	84
85	86	87	88	89	90	91	92	93	94	95	96

Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the We b Site or Materials is subject to change without notice. Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

Title: **LED MATRIX**

ID: ABX00152

Version: V0.3

Date: 23/03/2026

Time: 10:32:43

Sheet 3 of 3

File: LEDMATRIX.SchDoc

Author: Silvio Navaretti

RevAuthor: Silvio Navaretti

