

PIN	Reset	Port type	Port structure	Notes	Port functions	
					Alternate functions	Additional functions
1	VSS	G			Ground	
20	VCC	S			Digital power supply	
8	PF0-OSC_IN-(PF0)	I/O	COM		SPI2_SCK	OSC_IN
					USART2_RX	
					TIM14_CH1	
					USART1_RX	
					USART2_TX	
					I2C_SDA	
9	PF1-OSC_OUT-(PF1)	I/O	COM		SPI2_MISO	OSC_OUT
					USART2_TX	
					USART1_TX	
					USART2_RX	
					I2C_SCL	
					SP1_NSS	
					TIM14_CH	
10	PF2-NRST	I/O	RST	(1)	MCO	NRST
					SPI2_MOSI	
					USART2_RX	
11	PA0	I/O	COM		SPI2_SCK	ADC_IN0 COMP1_INM
					USART1_CTS	
					LED_DATA_B	
					USART2_CTS	
					COMP1_OUT	
					TIM1_CH3	
					TIM1_CH1N	
					SPI1_MISO	
					USART2_TX	
					IR_OUT	
12	PA1	I/O	COM		SPI1_SCK	COMP1_INP ADC_IN1
					USART1_RTS	
					USART2_RTS	
					LED_DATA_C	
					EVENTOUT	
					SPI1_MOSI	
					USART2_RX	
					TIM1_CH4	
					TIM1_CH2N	
					MCO	

13	PA2	I/O	COM		SPI1_MOSI	COMP2_INM ADC_IN2
					USART1_TX	
					USART2_TX	
					LED_DATA_D	
					LPUART_TX	
					COMP2_OUT	
					SPI1_SCK	
					TIM3_CH1	
					I2C_SDA	
14	PA3	I/O	COM		SPI2_MISO	COMP2_INP ADC_IN3
					USART1_RX	
					USART2_RX	
					LED_DATA_E	
					EVENTOUT	
					SPI1_MOSI	
					TIM1_CH1	
					I2C_SCL	
15	PA4	I/O	COM		SPI1_NSS	ADC_IN4
					USART1_CK	
					SPI2_MOSI	
					LED_DATA_F	
					TIM14_CH1	
					USART2_CK	
					ENENTOUT	
					RTC_OUT	
					TIM3_CH3	
					USART2_TX	
7	PA5	I/O	COM		SPI1_SCK	ADC_IN5
					LED_DATA_G	
					LPTIM_ETR	
					EVENTOUT	
					TIM3_CH2	
					USART2_RX	
					MCO	
6	PA6	I/O	COM		SPI1_MISO	ADC_IN6
					TIM3_CH1	
					TIM1_BKIN	
					LED_DATA_DP	
					TIM16_CH1	
					EVENTOUT	
					LPUART_CTS	
					COMP1_OUT	
					USART1_CK	
					RTC_OUT	

16	PA7	I/O	COM		SPI1_MOSI	ADC_IN7
					TIM3_CH2	
					TIM1_CH1N	
					TIM14_CH1	
					TIM17_CH1	
					EVENTOUT	
					COMP2_OUT	
					USART1_TX	
					USART2_TX	
					I2C_SDA	
					SPI1_MISO	
17	PB0	I/O	COM		SPI1_NSS	ADC_IN8
					TIM3_CH3	
					TIM1_CH2N	
					EVENTOUT	
					COMP1_OUT	
19	PB1	I/O	COM		TIM14_CH1	COMP1_INM ADC_IN9
					TIM3_CH4	
					TIM1_CH3N	
					LPUART_RTS	
					EVENTOUT	
18	PB2	I/O	COM		USART1_RX	COMP1_INP
					USART2_RX	
					SPI2_SCK	
4	PB3	I/O	COM_L		SPI1_SCK	COMP2_INM
					TIM1_CH2	
					USART1_RTS	
					USART2_RTS	
					LED_COM1	
					EVENTOUT	
5	PB6	I/O	COM		USART1_TX	COMP2_INP
					TIM1_CH3	
					TIM16_CH1N	
					USART2_TX	
					SPI2_MISO	
					I2C_SCL	
					LPTIM_ETR	
					EVENTOUT	
5	PF4-BOOT0	I/O	COM	(3)	-	BOOT0

2	PA13(SWDIO)	I/O	COM	(2)	SWDIO	-
					IR_OUT	
					EVENTOUT	
					SPI1_MISO	
					TIM1_CH2	
					USART1_RX	
					MCO	
3	PA14(SWCLK)	I/O	COM	(2)	SWCLK	-
					USART1_TX	
					USART2_TX	
					EVENTOUT	
					MCO	

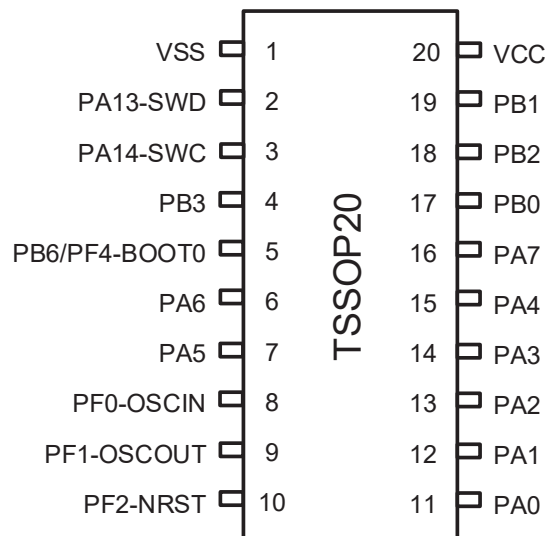
Note :

(1) Selecting PF2 or NRST is configured through option bytes .

(2) After reset, the two pins of PA13 and PA14 are configured as SWDIO and SWCLK AF function, the former internal pull-up resistor, the latter internal pull-down resistor is activated.

(3) PF4-BOOT0 is the default digital input mode, and the pull-down is enabled.

Types		Symbol	Definition
Port type		S	Supply pin
		G	Ground pin
		I/O	Input / output pin
		NC	Undefined
Port structure		COM	5V port, support analogue input and output function
		RST	Reset port, with internal weak pull-up resistor, does not support analogue input and output function
		_L	LED COM port, support analogue input and output function
Notes			Unless otherwise specified by a note, all ports are set as floating inputs during and after reset.
Port functions	Alternate functions		Functions selected through GPIOx_AFR registers
	Additional functions		Functions directly selected or enabled through peripheral registers.



TSSOP20 Pinout1 PY32F002AF15P

## 4.1. Port A alternate functions mapping

Table 4-4 Port A alternate functions mapping

Port	AF0	AF1	AF2	AF3	AF4	AF5	AF6	AF7
PA0	SPI2_SCK	USART1_CTS	-	LED_DATA_B	USART2_CTS	-	-	COMP1_OUT
	AF8	AF9	AF10	AF11	AF12	AF13	AF14	AF15
	-	USART2_TX	SPI1_MISO	-	-	TIM1_CH3	TIM1_CH1N	IR_OUT
PA1	AF0	AF1	AF2	AF3	AF4	AF5	AF6	AF7
	SPI1_SCK	USART1_RTS	-	LED_DATA_C	USART2_RTS	-	-	EVENTOUT
	AF8	AF9	AF10	AF11	AF12	AF13	AF14	AF15
PA2	-	USART2_RX	SPI1_MOSI	-	-	TIM1_CH4	TIM1_CH2N	MCO
	AF0	AF1	AF2	AF3	AF4	AF5	AF6	AF7
	SPI1_MOSI	USART1_TX	-	LED_DATA_D	USART2_TX	-	-	COMP2_OUT
PA3	AF8	AF9	AF10	AF11	AF12	AF13	AF14	AF15
	-	-	SPI1_SCK	-	I2C_SDA	TIM3_CH1	-	-
	AF0	AF1	AF2	AF3	AF4	AF5	AF6	AF7
PA4	SPI2_MISO	USART1_RX	-	LED_DATA_E	USART2_RX	-	-	EVENTOUT
	AF8	AF9	AF10	AF11	AF12	AF13	AF14	AF15
	-	-	SPI1_MOSI	-	I2C_SCL	TIM1_CH1	-	-
PA5	AF0	AF1	AF2	AF3	AF4	AF5	AF6	AF7
	SPI1_NSS	USART1_CK	SPI2_MOSI	LED_DATA_F	TIM14_CH1	USART2_CK	-	EVENTOUT
	AF8	AF9	AF10	AF11	AF12	AF13	AF14	AF15
PA6	-	USART2_TX	-	-	-	TIM3_CH3	-	RTC_OUT
	AF0	AF1	AF2	AF3	AF4	AF5	AF6	AF7
	SPI1_SCK	-	-	LED_DATA_G	-	LPTIM1_ETR	-	EVENTOUT
PA7	AF8	AF9	AF10	AF11	AF12	AF13	AF14	AF15
	-	USART2_RX	-	-	-	TIM3_CH2	-	MCO
	AF0	AF1	AF2	AF3	AF4	AF5	AF6	AF7
PA13	SPI1_MISO	TIM3_CH1	TIM1_BKIN	LED_DATA_DP	-	TIM16_CH1	-	COMP1_OUT
	AF8	AF9	AF10	AF11	AF12	AF13	AF14	AF15
	USART1_CK	-	-	-	-	-	-	RTC_OUT
PA14	AF0	AF1	AF2	AF3	AF4	AF5	AF6	AF7
	SPI1_MOSI	TIM3_CH2	TIM1_CH1N	-	TIM14_CH1	TIM17_CH1	EVENTOUT	COMP2_OUT
	AF8	AF9	AF10	AF11	AF12	AF13	AF14	AF15
PA15	USART1_TX	USART2_TX	SPI1_MISO	-	I2C_SDA	-	-	-
	AF0	AF1	AF2	AF3	AF4	AF5	AF6	AF7
	SWDIO	IR_OUT	-	-	-	-	-	EVENTOUT
PA16	AF8	AF9	AF10	AF11	AF12	AF13	AF14	AF15
	USART1_RX	-	SPI1_MISO	-	-	TIM1_CH2	-	MCO
	AF0	AF1	AF2	AF3	AF4	AF5	AF6	AF7
PA17	SWCLK	USART1_TX	-	-	USART2_TX	-	-	EVENTOUT
	AF8	AF9	AF10	AF11	AF12	AF13	AF14	AF15
	-	-	-	-	-	-	-	MCO

PA13	AF0	AF1	AF2	AF3	AF4	AF5	AF6	AF7
	SWDIO	IR_OUT	-	-	-	-	-	EVENTOUT
	AF8	AF9	AF10	AF11	AF12	AF13	AF14	AF15
PA14	USART1_RX	-	SPI1_MISO	-	-	TIM1_CH2	-	MCO
	AF0	AF1	AF2	AF3	AF4	AF5	AF6	AF7
	SWCLK	USART1_TX	-	-	USART2_TX	-	-	EVENTOUT
PA15	AF8	AF9	AF10	AF11	AF12	AF13	AF14	AF15
	-	-	-	-	-	-	-	MCO
	AF0	AF1	AF2	AF3	AF4	AF5	AF6	AF7

## 4.2. Port B alternate functions mapping

Table 4-5 Port B alternate functions mapping

Port	AF0	AF1	AF2	AF3	AF4	AF5	AF6	AF7
PB0	SPI1_NSS	TIM3_CH3	TIM1_CH2N	-	-	EVENTOUT	-	COMP1_OUT
PB1	TIM14_CH1	TIM3_CH4	TIM1_CH3N	-	-	-	-	EVENTOUT
PB2	USART1_RX	SPI2_SCK	-	USART2_RX	-	-	-	-
PB3	<b>AF0</b>	<b>AF1</b>	<b>AF2</b>	<b>AF3</b>	<b>AF4</b>	<b>AF5</b>	<b>AF6</b>	<b>AF7</b>
	SPI1_SCK	TIM1_CH2	-	USART1_RTS	USART2_RTS	-	LED_COM1	EVENTOUT

PB6	<b>AF0</b>	<b>AF1</b>	<b>AF2</b>	<b>AF3</b>	<b>AF4</b>	<b>AF5</b>	<b>AF6</b>	<b>AF7</b>
	USART1_TX	TIM1_CH3	TIM16_CH1N	SPI2_MISO	USART2_TX	LPTIM_ETR	I2C_SCL	EVENTOUT

## 4.3. Port F alternate functions mapping

Table 4-6 Port F alternate functions mapping

Port	AF0	AF1	AF2	AF3	AF4	AF5	AF6	AF7
PF0-OSC_IN	-	-	TIM14_CH1	SPI2_SCK	USART2_RX	-	-	-
	<b>AF8</b>	<b>AF9</b>	<b>AF10</b>	<b>AF11</b>	<b>AF12</b>	<b>AF13</b>	<b>AF14</b>	<b>AF15</b>
	USART1_RX	USART2_TX	-	-	I2C_SDA	-	-	-
PF1-OSC_OUT	<b>AF0</b>	<b>AF1</b>	<b>AF2</b>	<b>AF3</b>	<b>AF4</b>	<b>AF5</b>	<b>AF6</b>	<b>AF7</b>
	-	-	-	SPI2_MISO	USART2_TX	-	-	-
	<b>AF8</b>	<b>AF9</b>	<b>AF10</b>	<b>AF11</b>	<b>AF12</b>	<b>AF13</b>	<b>AF14</b>	<b>AF15</b>
	USART1_TX	USART2_RX	SPI1_NSS	-	I2C_SCL	TIM14_CH1	-	-
PF2-NRST	<b>AF0</b>	<b>AF1</b>	<b>AF2</b>	<b>AF3</b>	<b>AF4</b>	<b>AF5</b>	<b>AF6</b>	<b>AF7</b>
	-	-	-	SPI2_MOSI	USART2_RX	-	MCO	-

PF4-BOOT0	<b>AF0</b>	<b>AF1</b>	<b>AF2</b>	<b>AF3</b>	<b>AF4</b>	<b>AF5</b>	<b>AF6</b>	<b>AF7</b>
	-	-	-	-	-	-	-	-