ESP32 pin finder tool

for ESP-32-WROOM-32E

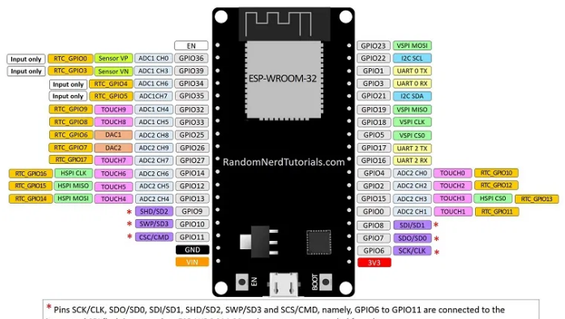
https://github.com/David-Nahorniak/ESP32-pin-finder-tool

Notes of my project			PIN				BASIC									BUS PROTOCOLS				
Use for	Connect to	Notes	GPIO	Number	Name	Type	priority rating	Input	ADC	Output	Strapping Pins	Capacitive touch	DAC	RTC	Attached	I2C (standard)	UART	SPI (VSPI and HSPI)	JTAG	SD/SDIO/MMC Host
			0	25	IO00	GPIO	0	No	ADC2_CH1	Yes!!	outputs PWM signal at boot, boot button	T1		RTC_GPIO11						
			1	35	TXD0	GPIO	0	No	No	Yes!!	debug output at boot						UART0 TX (U0TXD)			
			2	24	IO02	GPIO	0	Yes!!	ADC2_CH2	Yes	floarting or low for flashing	T2		RTC_GPIO12	LED on-board			HSPI QUADWP		HS2_DATA0
			3	34	RXD0	GPIO	0	Yes	No	No	HIGH at boot						UART0 RX (U0RXD)			
			4	26	IO04	GPIO	4	Yes	ADC2_CH0	Yes		T0		RTC_GPIO10				HSPI QUADHD		HS2_DATA1
			5	29	IO05	GPIO	1	Yes	No	Yes!!	outputs PWM signal at boot (but Andreas Spiess had no problems)							VSPICS (SS)		HS1_DATA6
			6	20	SCK/CLK*	Unusable	0	No	No	No	connected to the integrated SPI flash						U1CTS	SPICLK		HS1_CLK
			7	21	SDO/SD0*	Unusable	0	No	No	No	connected to the integrated SPI flash						U2RTS	SPIQ		HS1_DATA0
			8	22	SDI/SD1*	Unusable	0	No	No	No	connected to the integrated SPI flash						U2CTS	SPID		HS1_DATA1
			9	17	SHD/SD2*	Unusable	0	No	No	No	connected to the integrated SPI flash						U1RXD	SPIWP		HS1_DATA2
			10	18	SWP/SD3*	Unusable	0	No	No	No	connected to the integrated SPI flash						U1TXD	SPIWP		HS1_DATA3
			11	19	SCS/CMD*	Unusable	0	No	No	No	connected to the integrated SPI flash						U1RTS	SPICSO		HS1_CMD
			12	14	IO12	GPIO	1	Yes!!	ADC2_CH5	Yes	boot fail if pulled high	T5		RTC_GPIO15				HSPIMISO (SDO)	MTDI	HS2_DATA2
			13	16	IO13	GPIO	4	Yes	ADC2_CH4	Yes		T4		RTC_GPIO14				HSPIMOSI (SDA,DIN)	MTCK	HS2_DATA3
			14	13	IO14	GPIO	2	Yes	ADC2_CH6	Yes!!	outputs PWM signal at boot	T6		RTC_GPIO16				HSPISCLK (CLK, SCL, SCK)	MTMS	HS2_CLK
			15	23	IO15	GPIO	0	Yes!!	ADC2_CH3	Yes!!	if low then no boot consol log, outputs PWM s	T3		RTC_GPIO13				HSPICS (SS)	MTDO	HS2_CMD
			16	27	RX2	GPIO (no	3	Yes	No	Yes	Not available on WROVER						UART2 RX (U2RXD)			HS1_DATA4
			17	28	TX2	GPIO (no	3	Yes	No	Yes	Not available on WROVER						UART2 TX (U2TXD)			HS1_DATA5
			18	30	IO18	GPIO	3	Yes	No	Yes								VSPISCLK (CLK, SCL, SCK)		HS1_DATA7
			19	31	IO19	GPIO	3	Yes	No	Yes							(U0CTS)	VSPIMISO (SDO)		
			21	33	IO21	GPIO	3	Yes	No	Yes						I2C SDA		VSPI QUADHD		
			22	36	IO22	GPIO	3	Yes	No	Yes						I2CSCL	(U0RTS)	VSPI QUADWP		
			23	37	IO23	GPIO	3	Yes	No	Yes								VSPIMOSI (SDA,DIN)		HS1_STROBE
			25	10	IO25	GPIO	4	Yes	ADC2_CH8	Yes			DAC1	RTC_GPIO6						
			26	11	IO26	GPIO	4	Yes	ADC2_CH9	Yes			DAC2	RTC_GPIO7		I2C alter. SCL				
			27	12	IO27	GPIO	4	Yes	ADC2_CH7	Yes		T7		RTC_GPIO17		I2C alter. SDA				
			32	8	IO32	GPIO	5	Yes	ADC1_CH4	Yes		T9		RTC_GPIO9						
			33	9	IO33	GPIO	5	Yes	ADC1_CH5	Yes		T8		RTC_GPIO8						
			34	6	IO34	GPIO	2	Yes!	ADC1_CH6	No	No internal pullup			RTC_GPIO4						
			35	7	IO35	GPIO	2	Yes!	ADC1_CH7	No	No internal pullup			RTC_GPIO5						
			36	4	SENSOR_VP	GPIO	2	Yes!!	ADC1_CH0	No	No internal pullup			RTC_GPIO0	Hall sensor					
			39	5	SENSOR_VN	GPIO	2	Yes!!	ADC1_CH3	No	No internal pullup			RTC_GPIO3	Hall sensor					
				1	GND	Power														
				2	3V3	Power														
				3	EN	Power														
				15	GND	Power														
				32	NC	Power														
				38	GND	Power														
				39	GND	Power														

↓ ESP-WROOM-32 PINOUT DIAGRAM ↓

ESP32 DEVKIT V1 – DOIT

version with 36 GPIOs



* Pins SCK/CLK, SDO/SD0, SDI/SD1, SHD/SD2, SWP/SD3 and SCS/CMD, namely, GPIO6 to GPIO11 are connected to the integrated SPI flash integrated on ESP-WROOM-32 and are not recommended for other uses.

↑ https://randomnerdtutorials.com/esp32-pinout-reference-gpios/ ↑

↓ Explanation ↓

GPIO	5- the best of all	Yes	ADC1_*	Yes	from official documentation	T*	DAC_*	RTC_*		I2C *	UART0 *	VSPI *	MT*	HS1_*
	4- awesome	Yes!		Yes!	from the table by Andreas Spiess					I2C alternatively *	UART1 *	HSPI *		HS2_*
GPIO (no	3- yeah, but	Yes!!	ADC2_*	Yes!!	from randomnerdtutorials.com						UART2 *			
Unusable	2- rather not	No	No	No								SPI*		
Power	1- bad bad bad													
	0- no way													

↓ what it's for ↓

	My rating how difficult the pin is to work with. Based on data from the "basic use" chapter.		HOW TO: Reads Analog Values	HOW TO: PWM output (Analog Output)	Explains why there are exclamation marks next to input and output. All pins except those marked have internal pullup.	HOW TO: Capacitive Touch Sensor Pins	WHAT IS: Digital To Analog convertor	HOW TO: External Wake Up from Deep Sleep		HOW TO: I2C (Inter Integrated Circuit) HOW TO: I2S (Inter-IC Sound)	WHAT IS: UART	WHAT IS: SPI (Serial Peripheral Interface)	(PlatformIO debugging) HOW TO: Inline Debugging	

↓ NOTES ↓

			randomnerd tutorials bad data! ADC2_							standard SW changeable pin		HSPI [spi2] VSPI [spi3] standard libraries SPI [spi0, spi1] flash only		