ESP32 Which Pins To Use?

GPIO	Other	Input	Output	Notes
EN	Connect to RTS of Serial programmer			
0	Must not be kept HIGH if bootloader is to work. Connect to DTR of Serial programmer. The ESP32 has a 45k ohm internal pull-up/pull-down resistor at GPIO0 (and other pins). If you want to connect a switch button to enter the boot mode, this has to be a strong pull-down. For example a 10k resistor to GND.	pulled up	OK	Outputs PWM signal at boot. The ESP32 will enter the serial bootloader when GPIO0 is held low on reset. Otherwise it will run the program in flash. GPIO0 has an internal pullup resistor, so if it is left unconnected then it will pull high. Many boards use a button marked “Flash” (or “BOOT” on some Espressif development boards) that pulls GPIO0 low when pressed.
1		TX pin	OK	Debug (HIGH) output at boot
2	Fails bootloader mode if kept HIGH. Must also be either left unconnected/floating, or driven Low, in order to enter the serial bootloader. In normal boot mode (GPIO0 high), GPIO2 is ignored.	OK	OK	Connected to on-board [blue] LED if present
3		OK	RX pin	HIGH at boot
4		OK	OK	
5	Must be HIGH during boot	OK	OK	Outputs PWM signal at boot
6	Do Not Use these GPIO pins	X	X	Connected to the integrated SPI flash
7		X	X	
8		X	X	
9		X	X	
10		X	X	
11		X	X	
12	**Must** be LOW during boot	OK	OK	If driven High, flash voltage (VDD_SDIO) is 1.8V not default 3.3V. Has internal pull-down, so unconnected = Low = 3.3V. May prevent flashing and/or booting if 3.3V flash is used and this pin is pulled high, causing the flash to brownout. See the datasheet for more details.
13		OK	OK	

ESP32 Which Pins To Use?

14		OK	OK	Outputs PWM (HIGH) signal at boot
15	Should be HIGH during boot if debug messages are to be shown on Serial output	OK	OK	Outputs PWM signal at boot. If driven Low**, silences boot messages** printed by the ROM bootloader. Has an internal pull-up, so unconnected = High = normal output.
16		OK	OK	
17		OK	OK	
18		OK	OK	
19		OK	OK	
21		OK	OK	
22		OK	OK	
23		OK	OK	
25		OK	OK	
26		OK	OK	
27		OK	OK	
32		OK	OK	
33		OK	OK	
34	These are input only pins. Connect to VCC (or GND) via a 10K resistor to use without spurious results.	OK	-	input only
35		OK	-	input only
36		OK	-	input only
39		OK	-	input only

See https://bit.ly/3TJ2IJR for further official Espressif information.