

Pin connection diagram for the Raspberry Pi 4 Model B. The diagram shows the connection of various pins to a breadboard circuit. Key components include a 3.3V regulator (U1) with a 1k resistor (R1) and a 27R resistor (R2), a 27R resistor (R3), a 5V regulator (U2), and a 57R resistor (R4). The circuit is powered by a 5V supply (VREG_VOUT) and a 3.3V supply (VREG_IN). The Raspberry Pi pins are connected to the breadboard as follows: RUN (26) to 3.3V, DP (47) to 5V, DN (46) to 5V, CS (56) to 5V, SDO (53) to 5V, SD1 (55) to 5V, SD2 (54) to 5V, SD3 (51) to 5V, QSP_CLK (52) to 5V, XIN (20) to 5V, XOUT (21) to 5V, SWCLK (24) to 5V, SWD (25) to 5V, TESTEN (19) to 5V, and GND to GND. The breadboard components are connected as follows: U1 (3.3V regulator) with R1 (1k) and R2 (27R) in series, R3 (27R) in parallel with the output, and U2 (5V regulator) with R4 (57R) in series. The output of U2 is connected to the 5V supply (VREG_VOUT). The 3.3V supply (VREG_IN) is connected to the 3.3V pin of the Raspberry Pi. The 5V supply (VREG_VOUT) is connected to the 5V pin of the Raspberry Pi. The GND is connected to the GND pin of the Raspberry Pi.

●コンデンサは各ピン付近に配置する

Figure 1-10 shows the recommended capacitor configuration for the USB module. The diagram is divided into two main sections, each with a schematic and a corresponding note.

Top Section:

- Schematic:** A +3V3 supply is connected to a series of capacitors (C7, C8, C9, C10, C11, C12) connected to GND. The capacitors are labeled with their values: C7 (100nF), C8 (100nF), C9 (100nF), C10 (100nF), C11 (100nF), and C12 (100nF).
- Note:**
 - C7、C8、C9、C10、C11、C12の+3V3に配置する
 - C12はUSB_VDD (48)にも併用して接続する

Bottom Section:

- Schematic:** A +3V3 supply is connected to capacitor C13 (100nF) and a +1V1 supply is connected to capacitor C16 (100nF). The capacitors are labeled with their values: C13 (100nF) and C16 (100nF).
- Note:**
 - ADC_AVDD (43)の+3V3に配置する
 - VREG_VIN (44)の+3V3に配置する

Right Section:

- Schematic:** A +3V3 supply is connected to capacitor C14 (1uF) and a +1V1 supply is connected to capacitor C15 (1uF). The capacitors are labeled with their values: C14 (1uF) and C15 (1uF).
- Note:**
 - VREG_VOUT (45)の+1V1に配置する

●RP2040の信号線はできるだけ短く（30mm以下推奨）、長さが増える
●コンテナー+VCCピンに最近近接させる

Sheet: /
File: RP2040_KiCad_template.kicad_sch
Title: キーボード開発用RP2040テンプレート
Size: A4 Date:
KiCad E.D.A. 9.0.2