

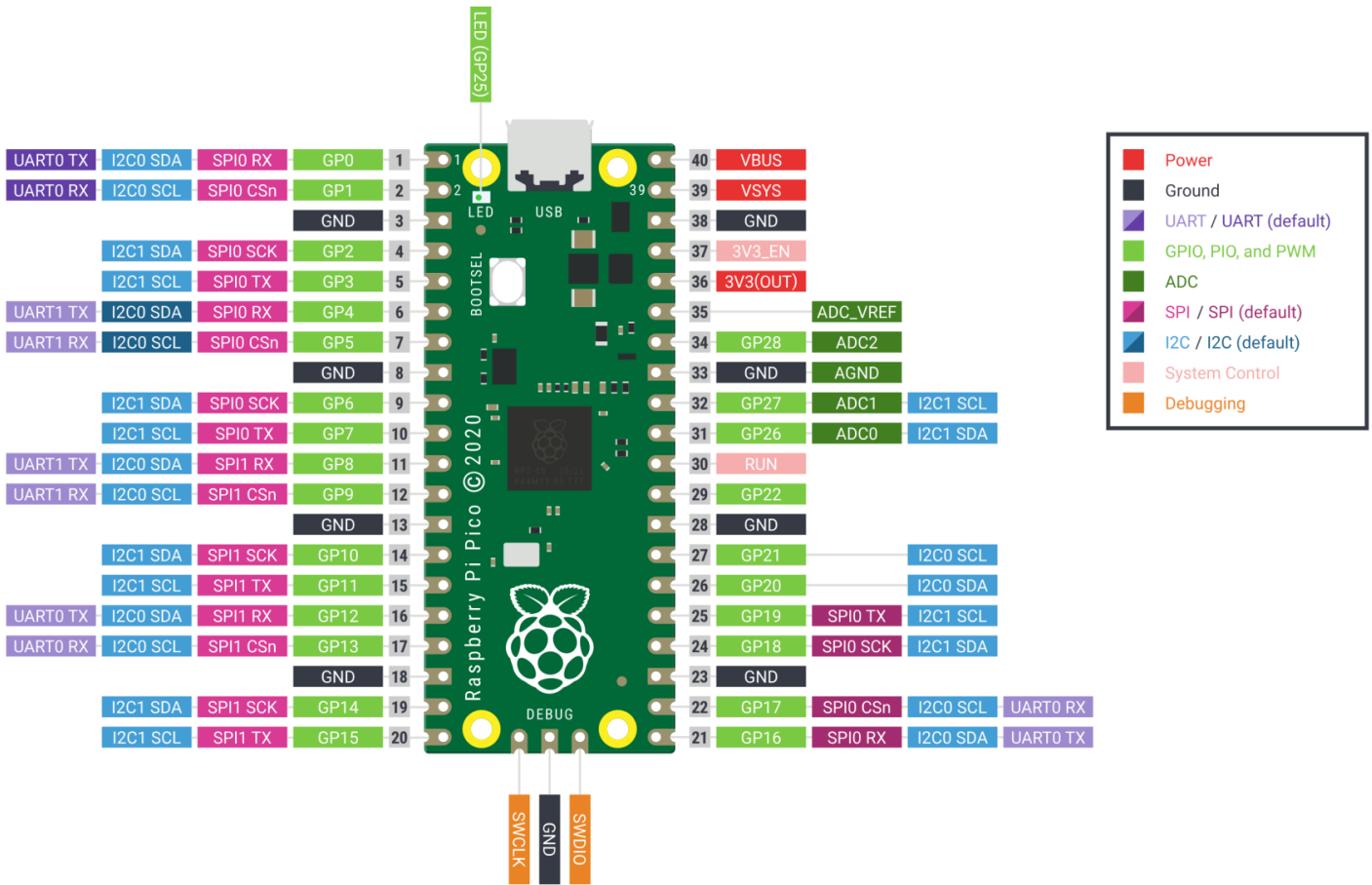
Raspberry Pi Pico H

Specs

- Dual core Arm Cortex M0+ 133 MHz
- 264kB multi-bank high performance SRAM
- 2MiB external flash
- Datasheet: [pico-datasheet.pdf](https://datasheets.raspberrypi.com/pico-datasheet.pdf)

Pinout

- **VBUS 40** - micro-USB input voltage, connected to micro-USB port pin 1. This is nominally 5V (or 0V if the USB is not connected or not powered).
- **VSYS 39** - main system input voltage, which can vary in the allowed range 1.8V to 5.5V, and is used by the on-board SMPS to generate the 3.3V for the RP2040 and its GPIO.
- **GND 38** - ground.
- **UART TX 1 / RI 2**
- **LED (GP25)** - LED is connected to GPIO 25.



Rust

Dependencies

```
rustup target install thumbv6m-none-eabi
cargo install flip-link
cargo install --locked elf2uf2-rs
```

Set up mount point for RP2 device in `/etc/fstab`:

```
LABEL="RPI-RP2" /mnt/rp2 auto defaults,user,noauto,nosuid,nodev,noexec 0 0
```

Template project setup

Template project: <https://github.com/rp-rs/rp2040-project-template>

1. Uncomment `elf2uf2-rs -d` runner in `.cargo/config.toml`:

```
diff --git a/.cargo/config.toml b/.cargo/config.toml
index a565984..04a72c4 100644
--- a/.cargo/config.toml
+++ b/.cargo/config.toml
@@ -2,8 +2,8 @@
 # Choose a default "cargo run" tool (see README for more info)
 # - `probe-rs` provides flashing and defmt via a hardware debugger, and stack unwind
on panic
 # - elf2uf2-rs loads firmware over USB when the rp2040 is in boot mode
-runner = "probe-rs run --chip RP2040 --protocol swd"
-# runner = "elf2uf2-rs -d"
+#runner = "probe-rs run --chip RP2040 --protocol swd"
+runner = "elf2uf2-rs -d"

rustflags = [
  "-C", "linker=flip-link",
```

2. Connect (while holding `B00TSEL` button) and mount RP2 device: `mount /mnt/rp2`
3. Build and run: `cargo run --release`

zeptoforth

- Install doc: <https://github.com/tabemann/zeptoforth/wiki/Installing-and-Building-zeptoforth-and-Using-the-zeptoforth-Console>
 - Download latest release from tag: <https://github.com/tabemann/zeptoforth/releases>
 - Untar
 - Press **bootsel** and plug in Pico and mount USB volume
 - Copy `zeptoforth_full_usb-*.uf2` from `bin*/rp2040_big` to Pico USB volume
 - Use `tio /dev/ttyACM0` to connect to Forth console

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