Raspberry Pi Pico

The Raspberry Pi Pico is a tiny development board based on the Raspberry Pi RP2040 microcontroller.

Interfaces

Interface	Hardware Supported	TinyGo Support
GPIO	YES	YES
UART	YES	YES
SPI	YES	YES
I2C	YES	YES
ADC	YES	YES
PWM	YES	YES
USBDevice	YES	YES

Pins

Pin	Hardware pin	Alternative names	PWM
GP0	GPIO0	UART0_TX_PIN , UART_TX_PIN	PWM0 (channel A)
GP1	GPIO1	UART0_RX_PIN , UART_RX_PIN	PWM0 (channel B)
GP2	GPIO2	I2C1_SDA_PIN	PWM1 (channel A)
GP3	GPIO3	I2C1_SCL_PIN	PWM1 (channel B)
GP4	GPIO4	I2C0_SDA_PIN	PWM2 (channel A)
GP5	GPIO5	I2C0_SCL_PIN	PWM2 (channel B)
GP6	GPIO6		PWM3 (channel A)
GP7	GPIO7		PWM3 (channel B)
GP8	GPIO8	UART1_TX_PIN	PWM4 (channel A)
GP9	GPIO9	UART1_RX_PIN	PWM4 (channel B)
GP10	GPIO10	SPI1_SCK_PIN	PWM5 (channel A)
GP11	GPIO11	SPI1_SDO_PIN	PWM5 (channel B)
GP12	GPIO12	SPI1_SDI_PIN	PWM6 (channel A)

Pin	Hardware pin	Alternative names	PWM
GP13	GPIO13		PWM6 (channel B)
GP14	GPIO14		PWM7 (channel A)
GP15	GPIO15		PWM7 (channel B)
GP16	GPIO16	SPI0_SDI_PIN	PWM0 (channel A)
GP17	GPIO17		PWM0 (channel B)
GP18	GPIO18	SPI0_SCK_PIN	PWM1 (channel A)
GP19	GPIO19	SPI0_SDO_PIN	PWM1 (channel B)
GP20	GPIO20		PWM2 (channel A)
GP21	GPIO21		PWM2 (channel B)
GP22	GPIO22		PWM3 (channel A)
GP26	GPIO26	ADC0	PWM5 (channel A)
GP27	GPIO27	ADC1	PWM5 (channel B)
GP28	GPIO28	ADC2	PWM6 (channel A)
LED	GPIO25		PWM4 (channel B)
ADC3	GPIO29		PWM6 (channel B)

Machine Package Docs

Documentation for the machine package for the Pico

Flashing

UF2

The Pico comes with the UF2 bootloader already installed.

CLI Flashing

- Flash your TinyGo program to the board using this command:

```
tinygo flash -target=pico [PATH TO YOUR PROGRAM]
```

- The Pico board should restart and then begin running your program.

Troubleshooting

Any troubleshooting tips go here.

Notes

You can use the USB port to the Pico as a serial port.

You can refer to getting started with Raspberry Pi Pico documentation on how to connect two Picos together (see Appendix A: Using Picoprobe) to debug and convert `UART0` output on target pico to USB output on picoprobe. You will need the Picoprobe UF2, available on the Pico's website under "About" tab.

Last modified September 17, 2022: microcontrollers: change to documentation with usbcdc assumption (b08bcf2)