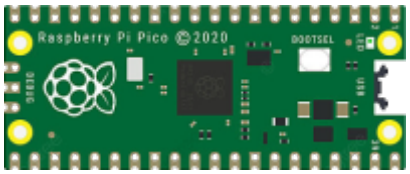
Waveshare RP2040 Zero

Jun 2026



Introduction

The RP2040-Zero mini development board is equipped with a Type-C female port, utilizes the RP2040A developed by Raspberry Pi as the core, and leading out all unoccupied pins in a very small form factor. Using castellated processing technology, it can be welded onto your custom board.

Features

- RP2040 microcontroller chip officially designed by Raspberry Pi
- Dual-core ARM Cortex M0+ processor, flexible clock running up to 133 MHz
- Built-in 264KB SRAM and 2MB Flash
- Type-C connector, keeps it up to date, easier to use
- Castellated module allows soldering directly to carrier boards
- USB1.1 host and device support
- Low-power sleep and dormant modes
- Drag-and-drop programming using mass storage over USB
- 29 GPIO pins of RP2040 (20 can be led out through pin headers, the rest can be led out only by soldering)

- SPI × 2
- I2C × 2
- UART × 2
- 12-bit ADC × 4
- Controllable PWM channel × 16

- Accurate clock and timer on-chip
- Temperature sensor
- On-chip accelerated floating-point library
- 8 × Programmable I/O (PIO) state machines for custom peripheral support