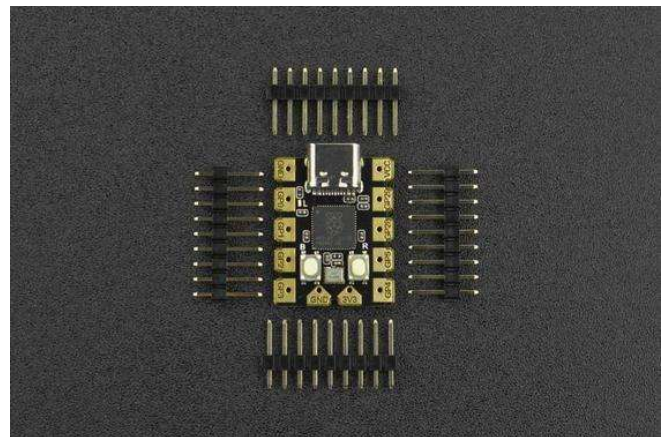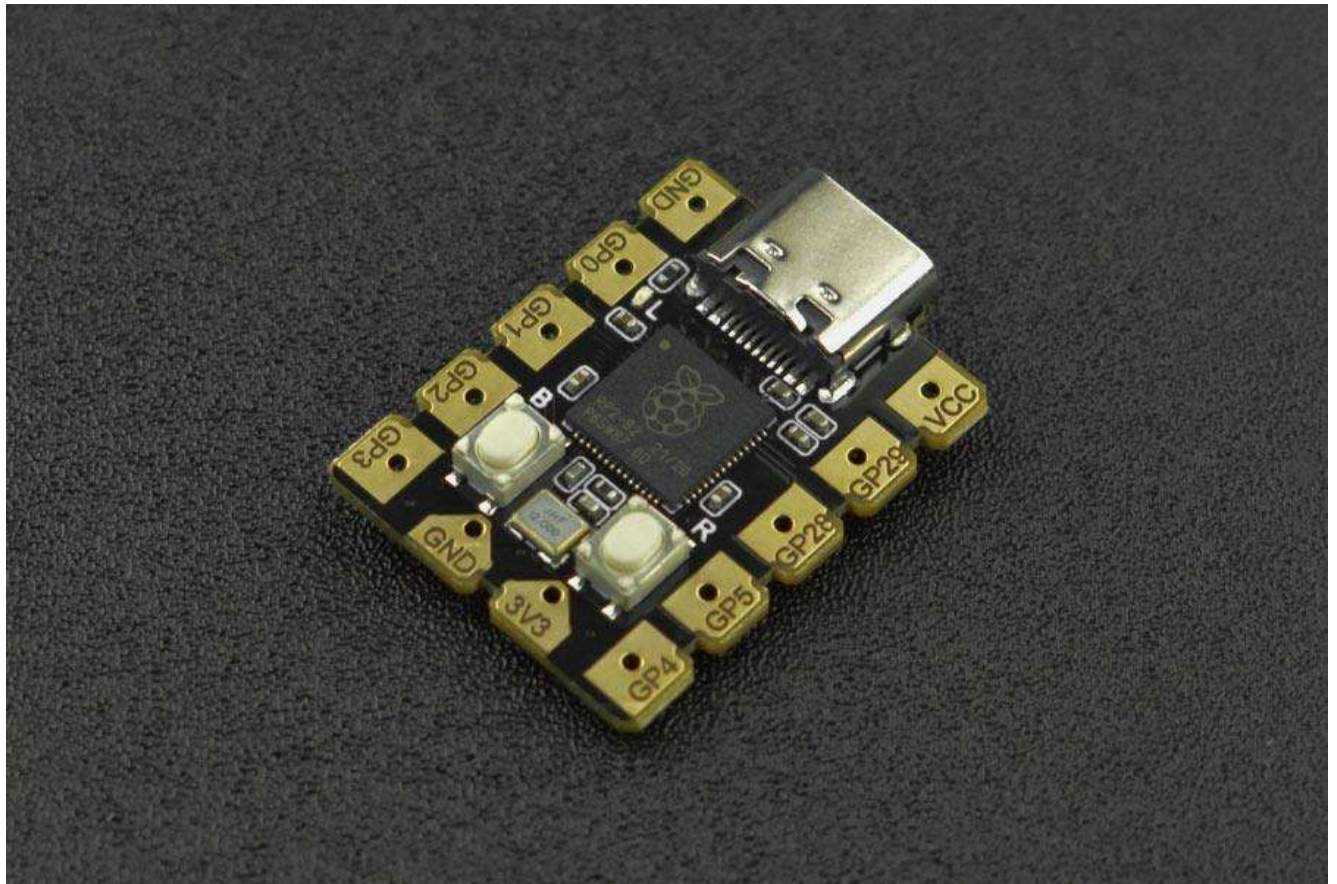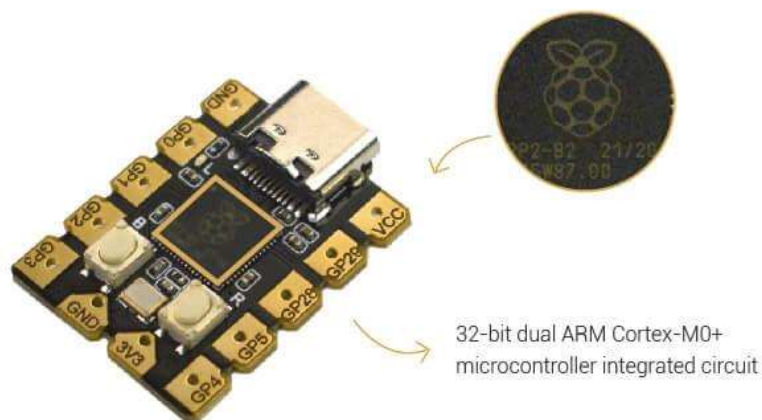# Beetle RP2040 Mini Development Board
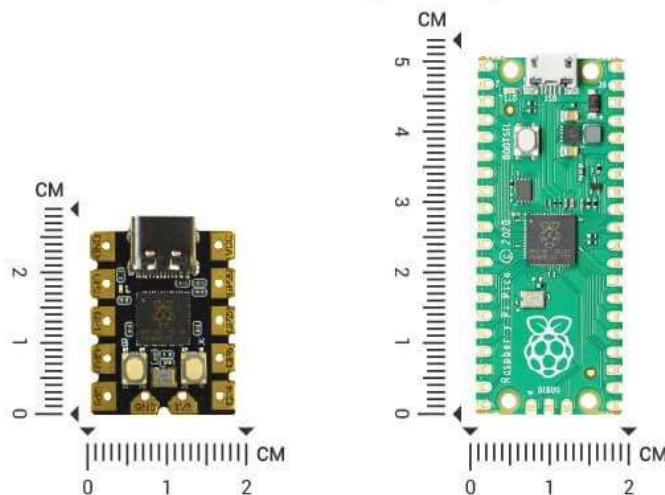
SKU: DFR0959

INTRODUCTION

Designed by Raspberry Pi, RP2040 features a dual-core ARM Cortex-M0+ processor with up to 133MHz clock and 264KB internal RAM, and supports USB 1.1 devices, which allows users to focus on function implementation instead of spending too much time and effort on improving codes.

DFRobot Beetle RP2040 is a development board built around the RP2040 chip. It has a compact size of **27mm×20mm**, which is easy to be embedded into small devices or projects.

RP2040 Microcontroller Chip

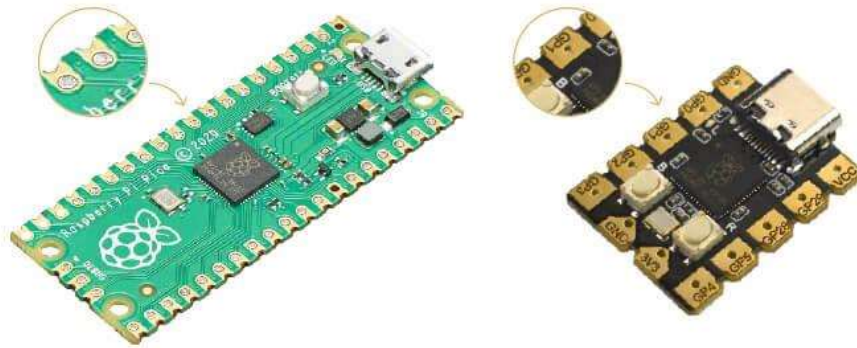32-bit dual ARM Cortex-M0+ microcontroller integrated circuit
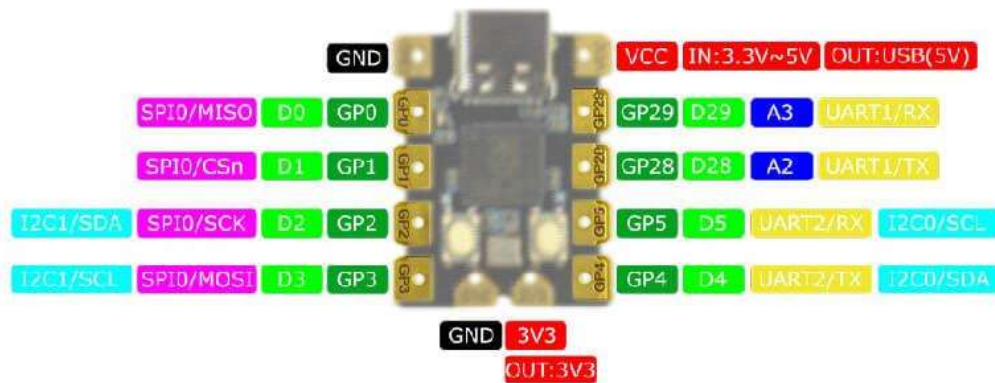

Smaller than Raspberry Pi Pico

The board adopts a beginner-friendly large pad design, effectively reducing the difficulty of soldering. And it provides 8 carefully-selected GPIO ports that can serve as I2C, UART, SPI, digital port, analog port, etc., more convenient and flexible for users to develop various applications.

Large Immersion Gold Pad for Easy Soldering

8 GPIO Ports

I2C, UART, SPI, Digital port, Analog port

FEATURES

- RP2040 microcontroller chip designed by Raspberry Pi
- 2M FLASH storage

- Small size of 27mm x 20mm

- Immersion gold pad for easy soldering

- Support C++, MicroPython, and Arduino C programming

- 8 GPIO pins, I2C × 2, UART × 2, SPI × 1, digital port × 8, analog port × 2

- Onboard BLINK_LED light

- USB TYPE-C interface

- Work well with USB 1.1 device

APPLICATIONS

- Programmable light control and home appliance control

- Stage props control

- Desktop equipment

- Node data collecting and AI analysis

- Computer USB devices

SPECIFICATION

- MCU: Raspberry Pi RP2040

- Main Frequency: 133MHz

- RAM: 264K

- FLASH: 2M

- Power Supply: DC 3.3V~5V

- System Level: 3.3V

- USB Interface: TYPE-C

- GPIO: ×8

- I2C: ×2

- UART: ×2

- SPI: ×1

- Digital Port: ×8

- Analog Port: ×2

- Reset Button: ×1

- BOOT Button: ×1

- LED: ×1

- USB Device: USB 1.1

- Programming Method: C++, MicroPython, Arduino C, Mind+ graphical programming

- Soldering Pad Size: 4×3.5mm

- Pad Pitch: 2.54mm

- PCB Material: FR-4

- PCB Copper Clad Process: immersion gold

- Solder Material: environment-friendly and lead-free

- Dimension(without package): 27×20×4.91mm (at the highest point)/1.06×0.79×0.19"

DOCUMENTS

- Product wiki

- RP2040 Datasheet

- Schematic

- SDK

SHIPPING LIST

- Beetle RP2040 x1