

Introduction

The Beetle RP2350 is a coin-sized, high-performance development board powered by [Raspberry Pi RP2350](#) microcontroller. Featuring **dual-core processing (ARM Cortex-M33 & RISC-V)**, 520KB RAM, and 2MB Flash, it's perfect for space-constrained applications like wearables, smart home devices, and industrial IoT. With **built-in lithium battery management**, 11 accessible IOs, and support for C/C++, MicroPython, and [Arduino](#), it combines portability, efficiency, and ease of use—making it the ultimate solution for compact, power-efficient designs.

High-performance Raspberry Pi RP2350 Chip

The Beetle RP2350 is powered by the RP2350, a versatile microcontroller developed by Raspberry Pi. It features a unique dual-core and dual-architecture design, offering the flexibility to choose between an Arm Cortex-M33 core or a Hazard3 RISC-V core. Operating at a 150MHz main frequency, with 520KB of RAM and 2MB of Flash, it ensures fast data processing and smooth execution of complex tasks, making it suitable for high-speed computing applications.

Highly Integrated and Ultra-small Size

With a coin-sized footprint of $25 \times 20.5\text{mm}$, the Beetle RP2350 provides a high level of integration without sacrificing functionality. It includes 11 accessible IOs, allowing flexibility for various peripheral connections. Additionally, the board features built-in lithium battery charging management and voltage monitoring, ensuring uninterrupted operation by monitoring power levels and recharging when necessary.



Coin-sized development board - Beetle RP2350

Easy to Program and Integrate

Designed for ease of use, the Beetle RP2350 supports programming in C/C++, MicroPython, and Arduino, enabling efficient development with familiar languages. Its single-sided component layout and half-hole design make it compatible with surface-mount production, facilitating large-scale integration into compact and professional designs.

Features

High-performance Raspberry Pi RP2350 chip

Dual-core dual-architecture design (switchable between Arm Cortex-M33 and Hazard3 RISC-V cores)

Ultra-compact integrated design

Built-in lithium battery charging management and voltage monitoring

Supports C/C++, MicroPython, and Arduino programming

11 programmable I/O interfaces

Single-sided PCB layout with half-hole process for SMT production

Applications

DIY Retro Computers and Game Consoles

Programmable lighting control

Stage prop control

Specification

Core Frequency: 150MHz

Memory: 520KB RAM, 2MB Flash

Dimensions: 25×20.5mm (module size)

Operating Voltage: 3.3V

Input Voltage:

Type-C Port: 5V DC

VIN Pin: 5V DC

Operating Temperature: -10°C to 60°C

Documents

[Product wiki](#)

[Function Pin Diagram](#)

[Arduino Tutorial](#)

[RP2350 Chip Manual](#)

[Schematic Diagram](#)

[Dimensional Drawing](#)

[kicad_mod](#)

Shipping List

Beetle RP2350 Mini Development Board x1

10pin-2.54mm pitch pin header x2

[Raspberry Pi](#)

[Raspberry Pi Projects](#)