



RP2040 is manufactured on a modern 40nm process node, delivering high performance, low dynamic power consumption, and low leakage, with a variety of low-power modes to support extended-duration operation on battery power.

Features:

1. Dual ARM Cortex-M0+ @ 133MHz
2. 264kB on-chip SRAM in six independent banks
3. RP2040 microcontroller with 4MB Flash
4. 3-pin ARM Serial Wire Debug (SWD) port
5. 8 × Programmable I/O (PIO) state machines for custom peripheral support Micro-USB B port for power and data
6. 27 GPIO pins, 4 of which can be used as analog inputs

Peripherals:

- 2 UARTs
- 2 SPI controllers
- 2 I2C controllers
- 16 PWM channels
- USB 1.1 controller and PHY, with host and device support
- 8 PIO state machines

Advantages:

- Cheap and great for first timers
- Great for real time applications
- Low power consumption