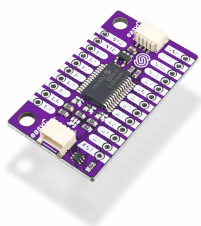


PRODUCT DATASHEET



IO Expander MCP23017 Breakout

333007

Expand your microcontroller's capabilities with the MCP23017 IO Expander, adding 16 configurable digital pins via I2C.

Full product documentation, files and tutorials: solde.red/333007

CORE ATTRIBUTES

SKU **333007**WEIGHT **7 g**BARCODE **732388675708**

DESCRIPTION

Running out of IO pins on your microcontroller? The MCP23017 I2C IO Expander is the perfect solution, allowing you to add 16 fully configurable digital IO pins to your project with just two wires (I2C protocol). The pins can be driven using our Arduino and MicroPython libraries. It's a powerful tool that enables you to build bigger and complex projects without upgrading your microcontroller. Whether you're driving multiple LEDs, reading a large array of buttons, or managing a complex sensor network, this IO expander provides the extra capacity you need.

Each pin can be individually configured as an input, output, or input with an internal pull-up resistor. The ability to change the I2C address via onboard jumpers means you can connect up to eight of these breakout boards to a single microcontroller, giving you a massive 128 additional IO pins. With the ability to sink or source up to 25mA per pin, you can directly drive LEDs and other components without the need for extra driver circuitry. This makes it perfect for students learning about digital electronics, makers building custom control panels, and engineers prototyping complex systems.

What makes this breakout special is its seamless integration into our Qwiic ecosystem, allowing for quick connections to your favorite boards and other I2C modules. As with all our products, it's open-source, with all design files available for you to modify and adapt. Plus, as with all our products, 2-year warranty and technical support are included.

TECHNICAL DETAILS

- **Standard current consumption:** 1 mA
- **Standby current consumption:** 1 μ A
- **Logic voltage level:** 5V
- **Operating voltage:** 1.8V to 5.5V

- **Communication:** I2C (address: 0x27)
- **Connectors:** Qwiic x2
- **Mounting holes:** 2
- **Dimensions:** 38 × 22 mm / 1.5 × 0.9 inch

SPECIFICATIONS

INTERFACE	I2C
QWIIC COMPATIBLE	Yes
I2C ADDRESS DEFAULT	0x27
I2C ADDRESS CHANGEABLE	Yes
BREADBOARD COMPATIBLE	Yes
IC PART NUMBER	MCP23017
SUPPLY VOLTAGE MIN V	3.3
SUPPLY VOLTAGE MAX V	5
LOGIC LEVEL	3V3 Or 5V
OPERATING CURRENT (mA)	1 mA
SLEEP CURRENT uA	1

LINKS

Arduino Library	https://github.com/SolderedElectronics/Soldered-MCP23017-Port-Expander-Arduino-Library
Open Source Hardware Files	https://github.com/SolderedElectronics/IO-expander-MCP23017-breakout-hardware-design
Full Documentation	https://docs.soldered.com/mcp23017/overview/
Arduino: Get Started	https://docs.soldered.com/mcp23017/arduino/getting-started/
Hardware Details	https://docs.soldered.com/mcp23017/hardware/
Arduino Library Documentation	https://docs.soldered.com/mcp23017/arduino/blink-led-example/
mim_package	https://checkmim.com/packages/solderedelectronics+Soldered-MCP23017-MicroPython-Library
MicroPython Module	https://github.com/SolderedElectronics/Soldered-MCP23017-MicroPython-Library
Pinout	https://cms.soldered.com/products/333007/media/333007_pinout-png_9fbde5.svg

GALLERY

