PicoBricks

PicoBricks is an electronic development board + software that is designed for use in maker projects. With ten detachable modules included, PicoBricks can be used to create various projects.

Modules on PicoBricks

- Raspberry Pi Pico
- OLED Screen
- RGB LED
- LED + Button
- DHT11 Temperature and Humidity Sensor
- Relay
- Motor Driver
- IoT Board
- Buzzer
- LDR
- Potentiometer

Specifications of The Modules

Description	Raspberry Pi Pico
Specifications	• **Dual-core Arm Cortex M0+ processor, flexible clock running up to 133 MHz** • **264KB of SRAM, and 2MB of on-board Flash memory** • **Castellated module allows soldering direct to carrier boards** • **USB 1.1 with device and host support** • **Low-power sleep and dormant modes** • **Drag-and-drop programming using mass storage over USB** • **26 × multi-function GPIO pins** • **2 × SPI, 2 × I2C, 2 × UART, 3 × 12-bit ADC, 16 × controllable PWM channels** • **Accurate clock and timer on-chip** • **Temperature sensor** • **Accelerated floating-point libraries on-chip** • **8 × Programmable I/O (PIO) state machines for custom peripheral support**

Description	OLED Screen
Specifications	• Monochrome 7-pin SSD1306 0.96” OLED display. • 128×64 pixel resolution with 160° viewing angle. • Supply voltage 3V – 5V (supports both 5V and 3.3V logic devices). • Uses SSD1306 for interfacing hence can communicate through SPI or IIC. • Multiple IIC devices are supported • Can be easily interfaced with Arduino, MicroPython, MicroBlocks. • Supports decent graphics of bitmap images.
Description	**DHT11 Temperature and Humidity Sensor**
Specifications	• Temperature Range: 0-50°C/ ± 2°C • Humidity Range: 20-80% / ± 5% • Sampling Rate: 1Hz • Body Size: 15.5 x 12 x 5.5mm • Operating Voltage: 3-5V • Max Current During Measuring: 2.5mA
Description	**Buzzer**
Specifications	• Max. Voltage: 30V DC • Rated current: <5mA @4000 Hz 5V • Buzzer Type: Externally Driven • Resonant Frequency: ~4000 Hz
Description	**LDR**
Specifications	• Can be used to sense Light • Easy to use on Breadboard or Perf Board • Easy to use with Microcontrollers or even with normal Digital/Analog IC • Has a paralel 100K resistor for voltage dividing.

Description	**L-KLS4-R0902N-B100K-L25 Potentiometer**
Specifications	• **Type: Rotary a.k.a Radio POT.** • **Power Rating: 0.05W** • **Maximum Input Voltage: AC 50V / DC 20V** • **Rotational Life: 15000 cycles** • **Resistance: 100K Ohms**
Description	**LED & Push Button**
Specifications	**LED:** • **5mm Round Standard Directivity** • **UV Resistant Eproxy** • **Forward Current (IF): 30mA** • **Forward Voltage (VF): 1.8V to 2.4V** • **Reverse Voltage: 5V** • **Operating Temperature: -30℃ to +85℃** • **Storage Temperature: -40℃ to +100℃** • **Luminous Intensity: 20mcd** **Button:** • **Mode of Operation: Tactile feedback** • **Power Rating: MAX 50mA 24V DC** • **Insulation Resistance: 100Mohm at 100v** • **Operating Force: 2.55±0.69 N** • **Contact Resistance: MAX 100mOhm** • **Operating Temperature Range: -20 to +70 ℃** • **Storage Temperature Range: -20 to +70 ℃**
Description	**Relay**
Specifications	• **Rated Coil Voltage: 5V/DC** • **Contact Current: 5A** • **Switched Voltage: max 30V/DC, max. 277V/AC** • **Coil Resistance: 125Ω** • **Coil Voltage Min: 3.25V/DC** • **Coil Voltage Max: 6.5V/DC** • **Operate Time: 10ms** • **Dimensions: 20.5x7.2x15.3mm** • **Release Time: 10ms** • **Coil Power Consumption: 200mW** • **Operating Temperature -40 - 85°C**

Description	**Dual L9110 Motor Driver**
Specifications	• **Operating Voltage: 2.2 - 6.5V/DC** • **Nominal Current Output: 1A** • **Rated Power: 500mW** • **Operating Temperature: -30 - 85°C**
Description	**IoT Board**
Specifications	• **Universal IR Infrared Receiver 38Khz** • **Supply Voltage: 0 - 6V/DC** • **Rated Current: 3.0 mA** • **Operating Temperature: -25 - 85°C** • **6-pin Bluetooth Module Connector that supports HM-10, HC-05, HC-06 modules**
Description	**WS2812B RGB LED**
Specifications	• **Addressable RGB LED** • **Supply Voltage: 3.7 - 5.3V/DC** • **Quiescent Current: 0.6 mA** • **Working Current: 12 mA** • **Brightness (max.): 1000 mcd** • **Communication: 24-bit Serial Data** • **Operating Temperature: -25 - 80°C**