

PA13



PY32F003L24D6TR DevLab Development Board

Professional electronic component

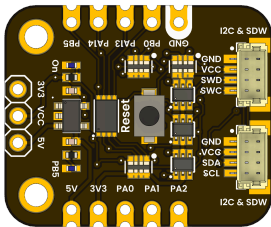
v1.0
2025-09-24
Rev. A

PRODUCT OVERVIEW

The DevLab Development Board based on the PY32F003L24D6TR microcontroller is designed for rapid prototyping, embedded systems education, IoT experimentation, and wearable devices. This board combines flexible power options, modern connectivity, and accessible interfaces to accelerate your hardware development. The microcontroller features a 32-bit ARM Cortex-M0 core, up to 24 MHz clock speed, 16KB Flash memory, and 2KB SRAM, making it suitable for a wide range of applications. With built-in peripherals like SPI, I2C, UART, and a 12-bit ADC, the board supports diverse project requirements.

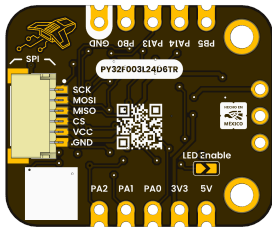
PRODUCT VIEWS

TOP VIEW



Component placement and connectors

BOTTOM VIEW



Underside components and connections

KEY TECHNICAL SPECIFICATIONS

CONNECTIVITY

Interfaces:	I ² C, SPI
Connector:	Qwiic + Pin Headers

PIN CONFIGURATION

FUNCTION / NOTES	
	Power Input
	Ground
	USART2_TX MISO
	USART2_RX SCK
	ADC_IN2 CS
	GPIO / NRST
	LED Built In / GPIO / MOSI
	SWDIO / I2C_SCL

KEY FEATURES

Microcontroller PY32F003L24D6TR (32-bit ARM Cortex-M0)	Clock Speed Internal Up to 24 MHz
ADC 12-bit ADC with multiple channels	Memory 16KB Flash, 2KB SRAM
SPI 1 channel	I2C 1 channel
UART 1 channel	

ADDITIONAL TECHNICAL INFORMATION

OVERVIEW

FEATURE	DESCRIPTION
Microcontroller	PY32F003L24D6TR (32-bit ARM Cortex-M0)
Memory	24KB Flash, 4KB SRAM
Flash (Kbytes)	16
SRAM (Kbytes)	2

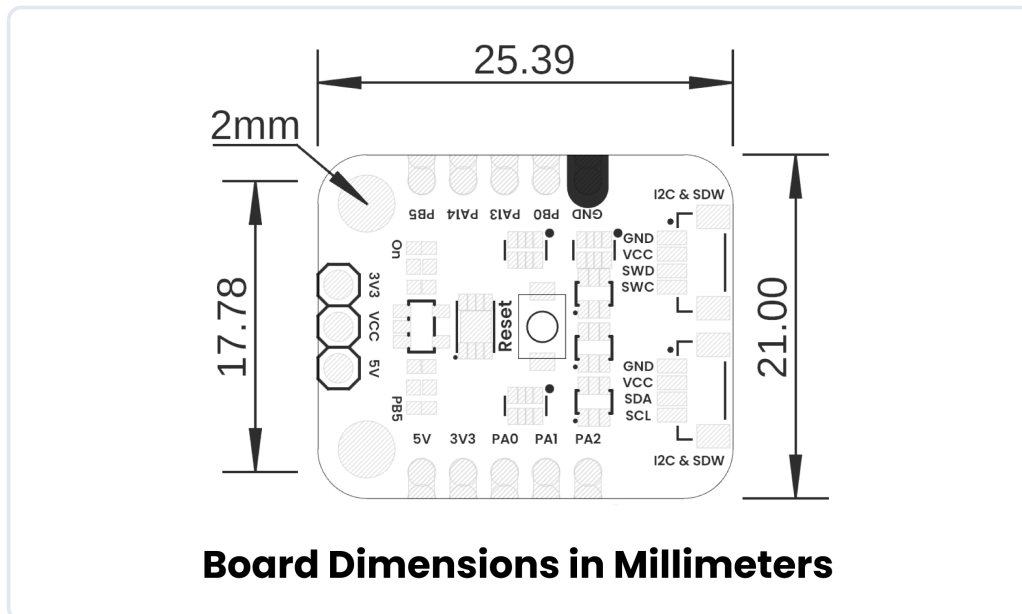
FEATURE		DESCRIPTION
Advanced Timers (16-bit)	1	
General Purpose Timers	4	
Low Power Timer	1	
SysTick	1	
Watchdog	2	
SPI	1	
I2C	1	
USART	1	
DMA Channels	3	
RTC	Yes	
GPIOs	7	
12-bit ADC (ext+int)	4+2	
Comparators	2	
Max. CPU Frequency (MHz)	24	
Operating Voltage (V)	1.7 ~ 5.5	

1. HARDWARE CONNECTIONS

PIN	DESCRIPTION	NOTES
VCC	3.3V or 5V supply	Power supply
GND	Ground	Common ground
SDA	I2C Data Line (SDA)	Connect to microcontroller I2C SDA pin
SCL	I2C Clock Line (SCL)	Connect to microcontroller I2C SCL pin
D0	Digital I/O (separate connection)	Not included in QWIIC connector, must be connected separately

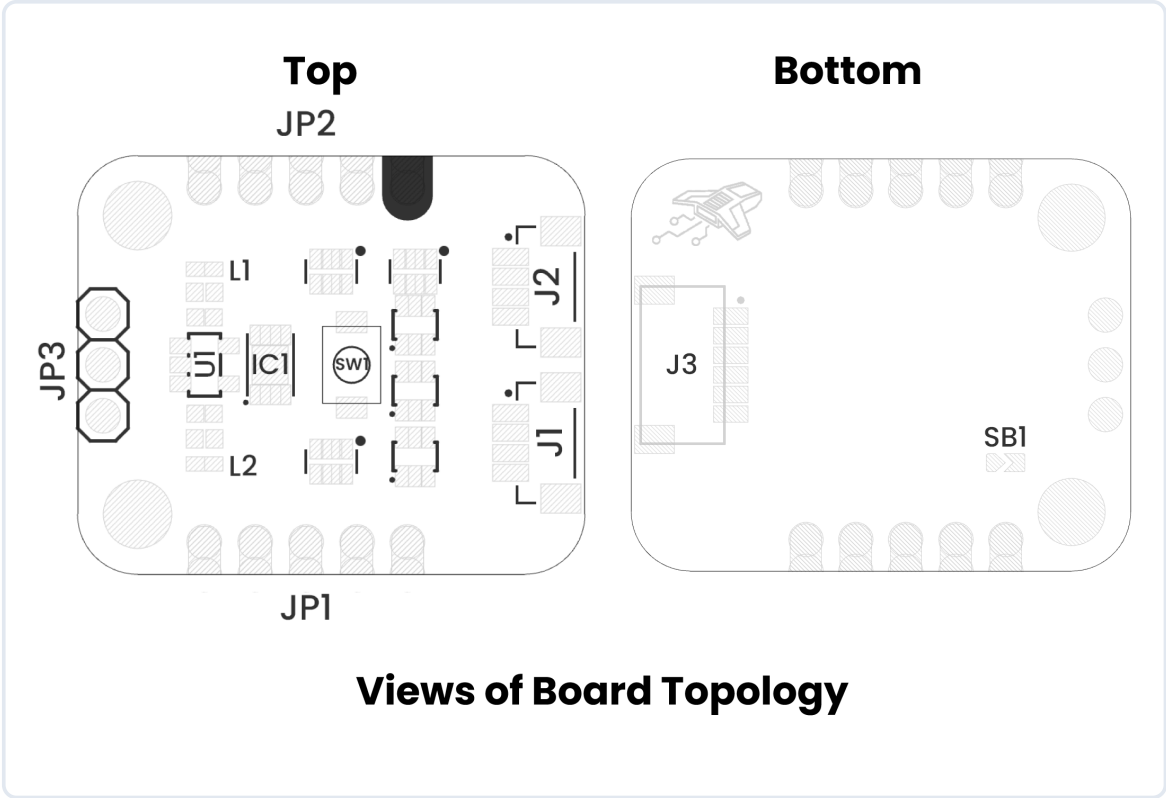
HARDWARE DOCUMENTATION

MECHANICAL DIMENSIONS



Physical dimensions and mounting specifications (measurements in millimeters)

SYSTEM TOPOLOGY



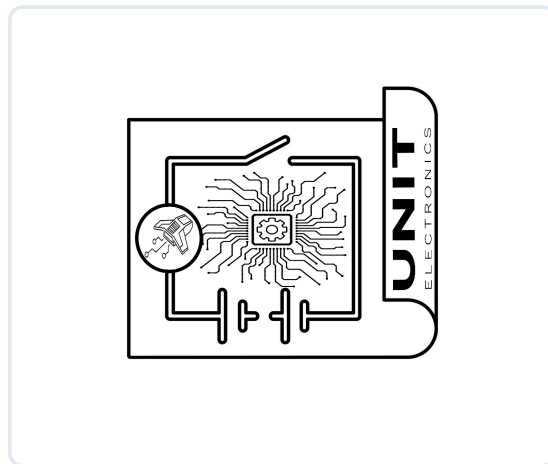
Connection topology and system integration diagram

[Click image to open in full size](#)

COMPONENT REFERENCE

REF.	DESCRIPTION
IC1	PY32f003L24D6TR Microcontroller
U1	AP2112K 3.3V Regulator
SW1	Reset Push Button
L1	Power On LED
L2	Built In LED to PB5
J1	JST 1mm Connector for I2C or JTAG
J2	JST 1mm Connector for I2C or JTAG
J3	JST 1mm Connector for SPI
JP1	Header for GPIOs
JP2	Header for GPIOs
JP3	Header for Power Supply Selection
SB1	Solder Bridge to Enable LED Built In

CIRCUIT SCHEMATIC



Complete circuit schematic showing all component connections

[View Complete Schematic PDF](#)

PIN DESCRIPTION

Detailed pin assignment and electrical specifications

SIGNAL DESCRIPTION

PIN LABEL	FUNCTION / NOTES
VCC	Power Input
GND	Ground
PA0	USART2_TX MISO
PA1	USART2_RX SCK
PA2	ADC_IN2 CS
PB0 / PF2	GPIO / NRST
PB5	LED Built In / GPIO / MOSI
PA13 / PB6	SWDIO / I2C_SCL
PA14 / PA10	SWCLK / I2C_SDA

PIN CONFIGURATION LAYOUT

Physical connector layout and pin positioning



Pin Configuration Layout

Complete pin configuration diagram showing all connectors, pin assignments, and electrical connections for proper integration

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PA13 v1.0
Professional Technical Datasheet

Date: 2025-09-24
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