ESP32-PICO-V3-ZERO-DevKit

[中文]

This user guide provides information on ESP32-PICO-V3-ZERO-DevKit, an ESP32-PICO-V3-ZERO(ACK) based development board produced by Espressif.

ESP32-PICO-V3-ZERO-DevKit

The document consists of the following major sections:

- Getting Started: Provides an overview of the ESP32-PICO-V3-ZERO-DevKit and hardware/ software setup instructions to get started.
- Hardware Reference: Provides more detailed information about the ESP32-PICO-V3-ZERO-DevKit's hardware.

- Related Documents: Gives links to related documentation.

Getting Started

This section describes how to get started with ESP32-PICO-V3-ZERO-DevKit. It begins with a few introductory sections about the ESP32-PICO-V3-ZERO-DevKit, then Section Start Application Development provides instructions on how to start your development with ESP32-PICO-V3-ZERO-DevKit.

Overview

ESP32-PICO-V3-ZERO-DevKit is a development board based on ESP32-PICO-V3-ZERO(ACK) module. Its pin layout is compatible with that of Arduino Zero development board, therefore, this ESP32-PICO-V3-ZERO-DevKit can directly plug in Arduino Zero board, or connect with other host boards and peripherals via jumper.

Contents and Packaging

Retail orders

If you order a few samples, each ESP32-PICO-V3-ZERO-DevKit comes in an individual package in either antistatic bag or any packaging depending on your retailer.
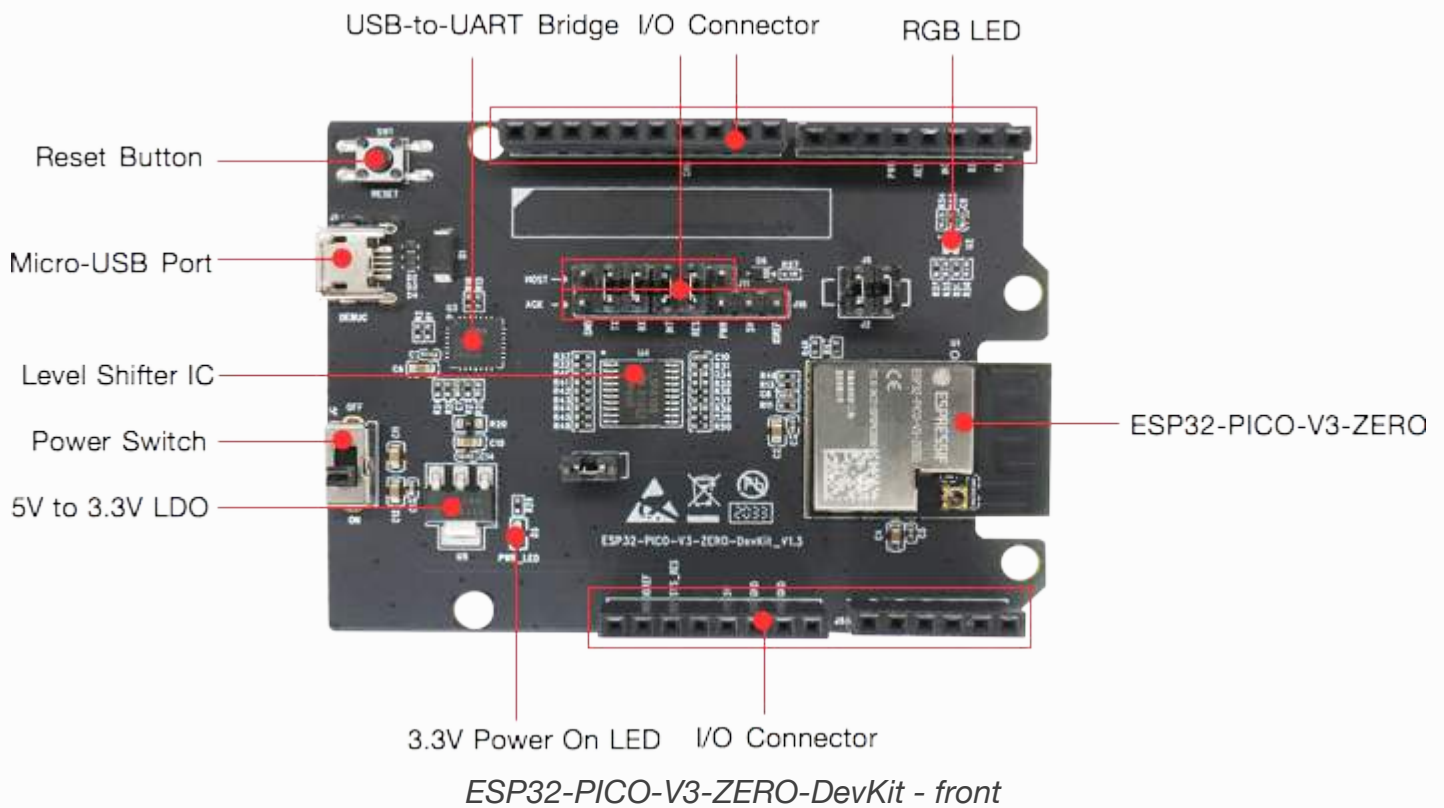
For retail orders, please go to https://www.espressif.com/en/company/contact/buy-a-sample.

Wholesale Orders

If you order in bulk, the boards come in large cardboard boxes.

For wholesale orders, please check Espressif Product Ordering Information (PDF)

Description of Components

ESP32-PICO-V3-ZERO-DevKit - front

Key Component	Description
ESP32-PICO-V3-ZERO(ACK)	ESP32-PICO-V3-ZERO(ACK) from Espressif is a powerful and general-purpose module that offers Wi-Fi and Bluetooth LE coexistence. It has a PCB antenna and a 4 MB external SPI flash.
I/O Connector	Populate part of GPIO pins to the pin headers on the board, for easy use.
3.3V Power On LED	Turns on when the board is powered on and the Power Switch is put to "ON".
5 V to 3.3 V LDO	Power regulator that converts a 5 V supply into a 3.3 V output.
Power Switch	Controls the power on and off of the board.
Level Shifter IC	Shifts I/O levels between signal lines that operate at different levels.
Micro-USB Port	USB interface. Power supply for the board as well as the communication interface between a computer and the ESP32-PICO-V3 chip.
Reset Button	Press this button to restart the system.
USB-to-UART Bridge	Single USB-to-UART bridge chip provides transfer rates up to 3 Mbps.
RGB LED	RGB LED (EAST1616RGBA3), driven by three GPIOs.

Start Application Development

Before powering up your ESP32-PICO-V3-ZERO-DevKit, please make sure that it is in good condition with no obvious signs of damage.

Required Hardware

- ESP32-PICO-V3-ZERO-DevKit
- QR code card for networking, provided in board package
- USB 2.0 cable (Standard-A to Micro-B)
- Computer running Windows, Linux, or macOS

Software Setup

This development board has been flashed with the default firmware. For more development resources and instructions, please check the official website of Amazon ACK:

https://developer.amazon.com/en-US/docs/alexa/ack/overview.html.

Hardware Reference

Block Diagram

A block diagram below shows the components of ESP32-PICO-V3-ZERO-DevKit and their interconnections.
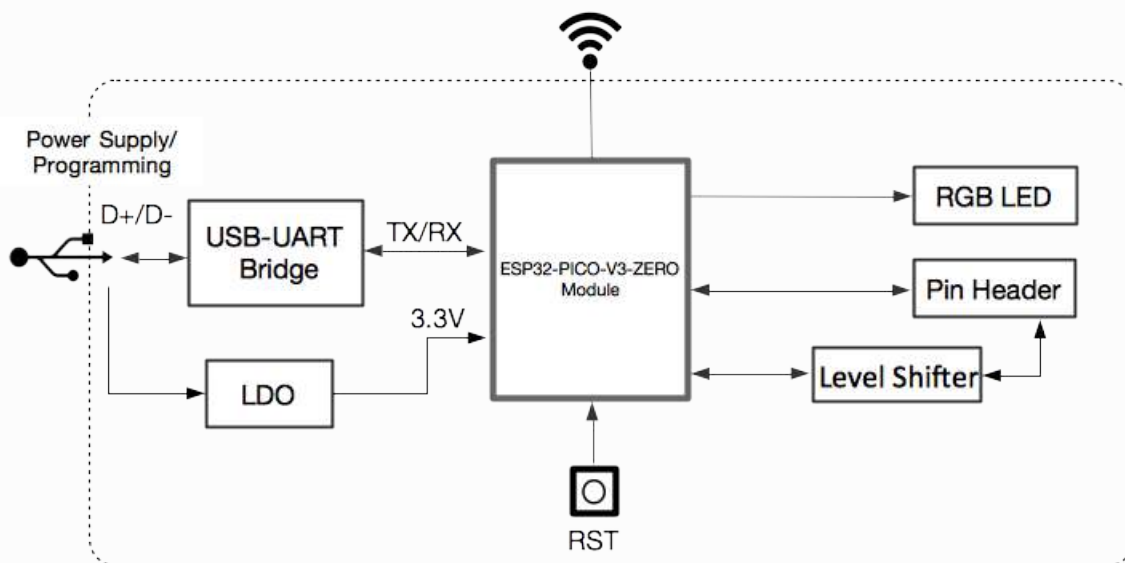
ESP32-PICO-V3-ZERO-DevKit (click to enlarge)

Power Supply Options

There are three mutually exclusive ways to provide power to the board:

- Micro USB port, default power supply
- 3V3 and GND header pins
- Or powered by its host board, when ESP32-PICO-V3-ZERO-DevKit works with the host board.

Related Documents

- Espressif Product Ordering Information (PDF)
- ESP32-PICO-V3-ZERO(ACK) Datasheet (PDF)

For other design documentation for the board, please contact us at sales@espressif.com.

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