

Microcontroller USB host module USB HOST module CH374U module supports multiple devices



Description

CH374 is a universal interface chip for USB bus, supports USB-HOST host mode and USB-DEVICE / SLAVE device mode, built-in 3-port HUB root hub, supports low-speed and full-speed control transmission, batch transmission, interrupt transmission and synchronization / isochronous Transmission, can support the operation control of 3 devices at the same time, can connect USB mouse keyboard printer and other devices. At the local end, CH374 has an 8-bit data bus and read, write, chip select control lines, and interrupt output, which can be easily connected to the system bus of a microcontroller / DSP / MCU / MPU controller. In addition, CH374 also provides a SPI serial communication method that saves I / O pins. It is connected to a single-chip computer / DSP / MCU / MPU through a 3- or 4-wire SPI serial interface and interrupt output.

Features

- Supports 1.5Mbps low-speed and 12Mbps full-speed USB communication, compatible with USB V2.0, peripheral components only need crystals and capacitors.

- Supports USB-HOST host interface and USB-DEVICE device interface, and supports dynamic switching between host mode and device mode.
- The CH374U chip has a built-in 3-port USB root hub ROOT-HUB, which can connect and manage 3 USB devices at the same time.
- Supports control transmission, batch transmission, interrupt transmission, isochronous / isochronous transmission of commonly used low-speed and full-speed USB devices.
- Automatically detect the connection and disconnection of low-speed and full-speed USB devices, and provide interrupt notification of device connection and disconnection.
- Built-in impedance matching series resistance of USB signal line, pull-up resistor on USB device side, pull-down resistor on USB host side.
- Two kinds of single-chip microcomputer interfaces are optional: 8-bit passive parallel interface with 6MB speed and SPI serial interface with 3.5MB / 28MHz speed.
- The parallel interface includes an 8-bit data bus, a 1-bit address, and a 3-wire control: chip select input, write strobe, and optional read strobe.
- The parallel interface only occupies two address bits: the index address port and the data port. The internal index address is automatically incremented after reading and writing the data port.
- SPI serial interface includes SPI chip select, serial clock, serial input and output, and SPI output and input can be connected in parallel.
- The interrupt output pin is an optional connection and is active low. It can be replaced by polling the interrupt flag bit in the register.
- Provide auxiliary functions: programmable clock output, power-on reset output, and optional watchdog reset.
- Provides U-disk file-level subroutine library that supports FAT12 / FAT16 / FAT32 file system, so that the microcontroller can read and write U-disk files.
- Support 5V power supply voltage, 3.3V power supply voltage and even 3V power supply voltage.

Built-in HUB to connect 3 devices (below)

The CH374U chip has a built-in three-port root hub Root-HUB. When it is used as a USB-Host, it can be connected to three

USB devices, supporting mixed applications of USB full-speed and low-speed devices. Among them, ports P5 and P6 can only be used in Host mode to connect external USB

Device, port P4 can be used to connect external USB devices in Host mode, or to connect external Host devices in Device mode.