

▶ FT2232H - Hi-Speed Dual USB UART/FIFO IC

The FT2232H is FTDI's 5th generation of USB devices. The FT2232H is a USB 2.0 Hi-Speed (480Mb/s) to UART/FIFO IC. It has the capability of being configured in a variety of industry standard serial or parallel interfaces.

Building on the innovative features of the FT2232, the FT2232H has two multi-protocol synchronous serial engines (MPSSSEs) which allow for communication using JTAG, I2C and SPI on two channels simultaneously.

The FT2232H is available in Pb-free (RoHS compliant) 64-pin LQFP and QFN packages.



Key Hardware Features

- Single chip USB to dual serial / parallel ports with a variety of configurations.
- Entire USB protocol handled on the chip. No USB specific firmware programming required.
- USB 2.0 High Speed (480Mbits/second) and Full Speed (12Mbits/second) compatible.
- Dual Multi-Protocol Synchronous Serial Engine (MPSSSE) to simplify synchronous serial protocol (USB to JTAG, I2C, SPI or bit-bang) design.
- Dual independent UART or FIFO ports configurable using MPSSSEs.
- Independent Baud rate generators.
- RS232/RS422/RS485 UART Transfer Data Rate up to 12Mbaud. (RS232 Data Rate limited by external level shifter).
- USB to parallel FIFO transfer data rate up to 10Mbyte/sec.
- Single channel synchronous FIFO mode for transfers > 25 Mbytes/sec.
- CPU-style FIFO interface mode simplifies CPU interface design.
- MCU host bus emulation mode configuration option.
- Fast Opto-Isolated serial interface option.
- FTDI's royalty-free Virtual Com Port (VCP) and Direct (D2XX) drivers eliminate the requirement for USB driver development in most cases.
- Adjustable receive buffer timeout.
- Option for transmit and receive LED drive signals on each channel.
- Enhanced bit-bang Mode interface option with RD# and WR# strobes.
- FT245B-style FIFO interface option with bidirectional data bus and simple 4 wire handshake interface.

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- Highly integrated design includes +1.8V LDO regulator for V_{CORE}, integrated POR function and on chip clock multiplier PLL (12MHz – 480MHz).
 - Asynchronous serial UART interface option with full hardware handshaking and modem interface signals.
 - Fully assisted hardware or X-On / X-Off software handshaking.
 - UART Interface supports 7/8 bit data, 1/2 stop bits, and Odd/Even/Mark/Space/No Parity.
 - Auto-transmit enable control for RS485 serial applications using TXDEN pin.
 - Operational configuration mode and USB Description strings configurable in external EEPROM over the USB interface.
 - Configurable I/O drive strength (4,8,12 or 16mA) and slew rate.
 - Low operating and USB suspend current.
 - Supports bus powered, self powered and high-power bus powered USB configurations.
 - UHCI/OHCI/EHCI host controller compatible.
 - USB Bulk data transfer mode (512 byte packets in Hi-Speed mode).
 - +1.8V (chip core) and +3.3V I/O interfacing (+5V Tolerant).
 - Extended -40°C to 85°C industrial operating temperature range.
 - Compact 64-LD Lead Free LQFP or LQFN package.
 - +3.3V single supply operating voltage range.