

Single Channel Hi-Speed USB to UART/FIFO Interface IC

ECN Europe

Embedded World 2011 - Future Technology Devices International Limited (FTDI) has further strengthened its portfolio of USB interface IC products with the release of the [FT232H](#) [1] USB2.0 Hi-Speed device. This versatile single channel USB to UART/FIFO interface device can be configured via EEPROM to use a variety of different serial or parallel interfaces. Bundled with FTDI's well established and proven USB device drivers, this solution enables engineers to easily add Hi-Speed USB connectivity into new and legacy peripheral designs with a minimum of design and support effort.

In addition, the associated [UM232H](#) [2] evaluation module allows engineers to quickly prototype and tests the FT232H's suitability for incorporation into new system designs. This highly integrated USB device controller contains USB, serial and parallel protocol engines, eliminating any requirement for USB specific firmware development. The device supports IO interface levels of 3.3V with 5V tolerant inputs, making it suitable for connection to a wide variety of logic, MPUs and FPGAs.



[3]

As well as supporting asynchronous serial (UART) interfacing, the FT232H also supports interface to many synchronous IOs such as SPI, I²C, JTAG, and FPGA programming interfaces, via its inbuilt Multi-Protocol Synchronous Serial Engine (MPSSE), which is capable of communication speeds of up to 30Mbps/s. In addition, MPSSE can be utilised by design engineers to implement their own synchronous serial bus protocols.

Incorporated as an interface option into the FT232H, is the new FT1248 bus - a proprietary, synchronous, half-duplex serial/parallel interface capable of

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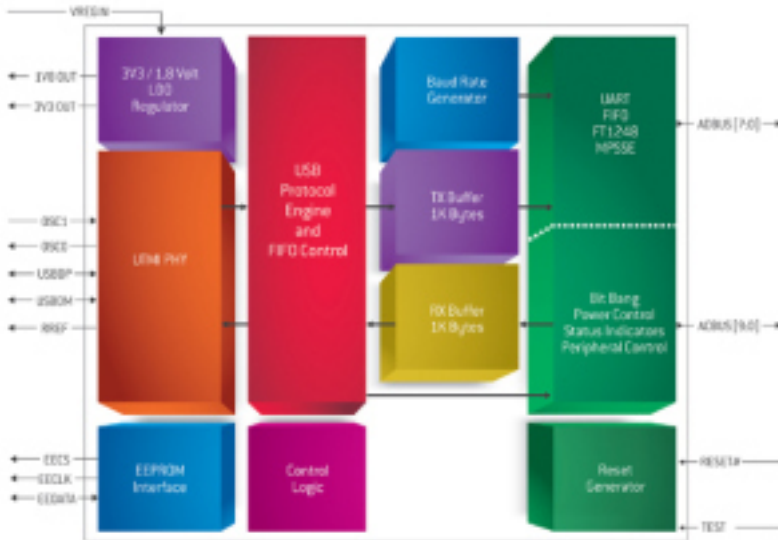
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communicating with external logic at data rates of up to 30Mbytes/s. The unusual feature of the FT1248 bus is its ability to trade off bandwidth against the number of physical data lines (one, two, four or eight) available to connect the FT232H to external logic, thus providing optimum flexibility to the system designer.



[4]

Integrated 1.8V and 3.3V low drop-out (LDO) voltage regulators reduce external component requirements, whilst the generous 1 Kbyte transmitter and receiver data buffers coupled with USB2.0 Hi-Speed technology offer greatly improved data throughput and reduced latency response times compared to existing USB2.0 compliant full speed products. Royalty free drivers for Windows, Linux, MAC and WinCE operating systems are available to download from the FTDI website.



[5] Package options for the FT232H are 48 pin LQFP (FT232HL) or 48 pin QFN (FT232HQ) Pb-free packages. Both FT232H variants have an operational temperature range of -40°C to +85°C. FT232HL devices are priced at US\$2.75 (for 1,000 pcs) whilst FT232HQ devices are priced at US\$2.60 (for 1000 pcs). The UM232H customer evaluation module enables rapid prototyping / testing of the FT232H platform and connects to a standard 0.6" wide, 28 pin DIP socket. UM232H modules are priced at US\$20 each (for 1 to 9 pcs).

All pictures: FTDI

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Links:

[1] http://www.ftdichip.com/Support/Documents/DataSheets/ICs/DS_FT232H.pdf

[2]

http://www.ftdichip.com/Support/Documents/DataSheets/Modules/DS_UM232H.pdf

[3] <http://ecneurope.files.wordpress.com/2011/03/kl-ftdi-ft232hl-ic.jpg>

[4] <http://ecneurope.files.wordpress.com/2011/03/kl-ftdi-um232h-module.jpg>

[5] <http://ecneurope.files.wordpress.com/2011/03/kl-ftdi-ft232h-block-diagram2.jpg>

[6] <http://ecneurope.wordpress.com/2011/03/11/single-channel-hi-speed-usb-to-uartfifo-interface-ic/>