Highly Advanced, IO-Packed & Power Efficient USB 2.0 to SPI/I^{2}C Bridge Chip

With support for multiple data lines & a wide variety of different configurations in order to maximise design flexibility

FTDI Chip has long been regarded as synonymous with USB innovation and the company continues to introduce new semiconductor products that are helping engineers implement better designs. The FT4222H is the latest addition to its expansive USB offering. Compliant with the USB 2.0 hi-speed standard, this is a feature-rich single chip bridging solution with I^{2}C and multi-channel SPI interface capabilities.

With regard to SPI the device serves as a SPI Master/Slave interface controller and supports all 4 SPI modes (0, 1, 2, 3). It allows single, dual and quad data width transfer, so that total data rates of up to 27Mbit/s are possible. The integrated configurable I^{2}C Master/Slave interface controller conforms completely with both I^{2}C v2.1 and v3.0 specifications. Support is given for operation in 100kbit/s standard mode (SM), 400kbit/s fast mode (FM), 1Mbit/s fast mode plus (FM+) and 3.4Mbit/s high speed mode (HS). Configurable general purpose IOs (GPIOs) can be easily controlled by software applications

via the USB bus. The USB 2.0 interface draws very little current either when it is active (75mA typical) or while in suspend mode (375µA typical).

As with other FTDI Chip USB device controllers, the USB protocol is fully taken care of by the IC itself, so that such activities do not waste valuable resources on the system microcontroller, which could lead to performance compromises being witnessed. The FT4222H's integrated OTP memory allows the storage of USB vendor ID (VID), product ID (PID), device serial number and product description string information, along with various other items of vendor specific data. The battery charger detection function furnishes USB peripherals that incorporate this IC with the ability to detect connection with a dedicated charging port (DCP) and thereby benefit from more rapid charging. FTDI Chip's proprietary, royalty-free USB drivers for the Windows operating system mean that engineers can, in the majority of circumstances, avoid the inconvenience having to develop their own drivers.

"FTDI Chip's track record in the USB arena is second to none. The addition of a quad SPI bridging chip to our portfolio is highly advantageous and we expect it to see strong uptake. It results in there being more data lines made available to engineers so that larger quantities of data can thus be transferred using fewer clock cycles," explains Satyajit Sarma, Product Manager at FTDI Chip.

The FT4222H is offered in a compact, Pb-free 32-pin QFN package and an operational temperature range that spans from -40℃ to 85℃ makes this device suitable for use in demanding industrial environments.
For more information on these products visit:
http://www.ftdichip.com/Products/ICs/FT4222H.html

About FTDI Chip

FTDI Chip develops innovative silicon solutions that enhance interaction with today's technology. Through application of its "Design Made Easy" ethos, the company is able to support engineers with highly sophisticated, feature-rich, robust and simple-to-use product platforms. These enable creation of electronic designs with higher performance, fewer peripheral components, lower power budgets and diminished board real estate.

FTDI Chip's long-established, continuously expanding Universal Serial Bus (USB) product line boasts such universally recognized product brands as the ubiquitous R-Chip, X-Chip, Vinculum, and H-series. As well as host and bridge chips, it includes highly-integrated system solutions with built-in microcontroller functionality. The company's Embedded Video Engine (EVE) graphic controllers each pack display, audio and touch functionality onto a single chip. The unique, more streamlined approach utilised by these ICs allows dramatic reductions in the development time and bill-of-materials costs involved in next generation Human Machine Interfaces (HMIs) implementation. FTDI Chip also provides families of highly differentiated, speed-optimised microcontrollers with augmented connectivity features. These application oriented controllers (AOCs) are targeted at key areas where they add value via their elevated processing performance and increased operational efficiency.

FTDI Chip is a fab-less semiconductor company, partnered with the world's leading foundries. The company is headquartered in Glasgow, UK, with research and development facilities located in Glasgow, Singapore and Taipei (Taiwan), plus regional sales and technical support sites in Glasgow, Taipei, Portland (Oregon, USA) and Shanghai (China).

For more information go to http://www.ftdichip.com

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