48MIPS MCU Brings Distinct Advantages to Control System Implementations

Combining a highly effective processor core, numerous ADCs/DACs & a wide variety of interconnect options to inspire engineering innovation

25th February 2014 - FTDI Chip releases the FT51, the second of its ground-breaking application oriented controller (AOC) devices. Possessing a comprehensive feature set, a vast array of I/Os and extensive data conversion capabilities, this 8-bit microcontroller unit (MCU) incorporates one of the highest performance 8051 compatible processor cores on the market. Operating at a 48MHz clock speed, it has a 48MIPS processing capacity (1clock cycle per instruction).

In addition to standout performance, the FT51 differentiates itself through the high degree of connectivity it brings to system designs. The hardwired USB hub function enables cascading of sub-systems in order to extend overall system connectivity - facilitating data collection and downloading of complex systems. It can also be used as an expansion port facility that permits connection of multiple USB peripherals to the system (such as keyboards, mice, etc.). Other interfaces/ports include a USB 2.0 full-speed (12Mbit/s) peripheral, I^2C slave and master, as well as SPI slave and master interfaces. Four, 8-bit single channel digital-to-analogue converters (DACs) and analogue-to-digital converters (ADCs) are integrated, in order to facilitate more efficient interaction with analogue ecosystems, through the inputs from sensors or actuator outputs. The built-in FT120 USB peripheral functions provide a simple interface

mechanism for transmitting/receiving data and maximise throughput. Programming the FT120 element is straightforward, as it is a superset of the popular, D12 USB controller. The FT51 thus presents a higher performance, 8-bit microcontroller with an advanced feature set for multi-sensor environments and extensive USB functionality for system connectivity, data transfers and human interface device (HID) interaction.

The FT51 MCU has 16-bit PWMs on 16 of its output pins with drive capability from 4mA to 16mA, enabling control of system actuators/motors. Other features include a high-speed UART capable of operation up to 6Mbit/s, a 16kBytes multi-time programmable memory and battery charger detection (BCD). Human interface device (HID) and communication device class (CDC) support make it highly suited to data acquisition and industrial control applications, such as USB instrumentation, smartcard readers, barcode scanners, wireless modems, set-top boxes and smart metering systems. An Eclipse integrated development environment (IDE) plug-in is available to assist engineers in developing and debugging activities. Drivers for Windows, MAC, Linux and Android operating systems can be freely downloaded from the company website.

“Our ‘Design Made Easy’ idiom is at the heart of everything we do at FTDI Chip. By basing this new MCU on the 8051 we can rely on engineers’ familiarity with a processor core that is among the longest established and most widely utilised,” states Fred Dart, CEO and Founder of FTDI Chip. “The FT51’s superior system connectivity, provided by its USB hub, along with its ability to communicate directly with the outside world via multiple sensor/actuator devices, furnish this IC with unique characteristics suited to addressing the ‘Internet of Things’ as it becomes an ever more tangible entity.” “With the launching of the 8-bit FT51 and 32-bit FT900 MCUs here at Embedded World, we continue to broaden our portfolio of semiconductor solutions that solve real engineering problems,” he concludes.

The FT51 series is offered in 28-pin SSOP, 32-pin WQFN, 44-pin LQFP and 48-pin WQFN packages, with an operational temperature range covering -40°C to +85°C. Running off a 3.3V supply rail, its current consumption is just 8mA when active and 70µA while in suspend mode. Unit pricing (at 10k volumes) for the FT51 is $1.46 (for the 32-pin version).

For more information on the FT51 go to:

http://www.ftdichip.com/MCU.htm

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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