

STMicroelectronics Introduces 3V Versions of Popular ST72324 General-Purpose 8-bit Microcontrollers

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Portable and low-power applications will benefit from reduced MCU power requirement, while established tools and reference designs will speed new system development

Geneva, July 19, 2004 - STMicroelectronics has introduced a new 3V microcontroller series within its widely used ST7232x general-purpose MCU portfolio, with five products already in volume production. The Flash and ROM ST72324L 3V devices are pin-to-pin compatible with their 5V counterparts, enabling designers to use the existing comprehensive support material and development tools.

These new low voltage MCUs will appeal particularly to manufacturers of portable and other power-sensitive products, as well as supporting the longer term trend towards 3V power rails. Their power requirement is 40% lower than the 5V versions. Already the family has some significant design-ins, including printers and wireless mice in the computer market, and security keys and airbags in the automotive sector.

The new devices are designed to operate on a 2.85V to 3.6V power supply, over the -40 to +85°C temperature range in Standard or Automotive grades. They are available with 8-Kbyte, 16-Kbyte or 32-Kbyte of Flash program memory, using ST's HD (High Density) Flash technology for fast programming time, or with 8-Kbyte or 16-Kbyte of fully compatible ROM for cost-sensitive high-volume

applications. Their robust design makes them suitable for EMC-critical environments, and automotive suppliers in both North America and Europe have qualified all the versions to the highest standards.

All provide four power saving modes, and include two 16-bit timers plus Watchdog and Real Time Clock (RTC), SCI (Serial Communications Interface) and SPI (Serial Peripheral Interface), and a 10-bit ADC (Analog to Digital Converter) with up to 12 input channels. An integrated Reset circuit with user-settable low voltage detector saves external components. They are available in TQFP44, TQFP32 and SDIP32 packages.

With features, peripherals and pinouts of the 3V products matching those of the established 5V family, a full range of development support is already available, and existing 5V users will be able to make full use of their design experience when creating new 3V systems.

Development tools include the EMU3 high end emulator; the DVP3 low cost emulator with advanced breakpoints and trace facility; Softec's 'Indart' in-circuit debugging and programming tool; the EPB programming board with socket; the STICK programmer that uses the ICC bus; and Softec's 'GANG' production programming tool. Other third party tools, including products from BP Microsystems, Data I/O and Segger, will be available in 3V versions soon.

In addition, more than one hundred relevant application notes are available from ST, as well as the full ST7 software library of C routines which can significantly reduce coding time and development costs. A broad choice of reference designs provides designers with an excellent starting point for many types of application.

The 5V ST7232x series is well established and respected across a wide range of application areas, where its low cost, ease of programming and

excellent support make it a natural source of versatile general-purpose MCUs. It is used in the automotive sector for functions such as anti-lock brakes, electric seats, air conditioner, dashboard and car radio, as well as in engine management; across the appliance market as a controller for washing machines, dishwashers and other equipment; and in a broad spread of computer peripherals and industrial systems.

The 3V devices are available now with a pricing range, for 100k units, from US\$1.70 (44-pin with 32K of Flash) to US\$0.90 (32-pin with 8K of ROM).

Further technical information can be found at mcu.st.com.

The original press release can be found [here](#).

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