

Toshiba Electronics launches ARM Cortex™-M3 micros with 1MByte Flash and connectivity options that include CAN, USB and I2C

Highly integrated, low-power 32-bit devices suit office and industrial applications



Düsseldorf, Germany, 17th February, 2011 – [Toshiba Electronics Europe](#) has further expanded its family of high-performance 32-bit ARM Cortex™-M3 microcontrollers with four new devices that combine high-capacity Flash memory with a variety of interface options. The TPM361, TPM362, TPM363 and TPM364 microcontrollers will suit embedded applications such as office equipment and industrial control systems where minimum power consumption and component count and high levels of connectivity are key design criteria.

All of the new devices feature 1Mbyte of Flash memory, 64Kbytes of on-chip RAM and a static memory controller (SMC) with a 16-bit external data bus that supports the addition of an additional 16Mbytes of off-chip memory. On-board functionality includes an 8- or 16-channel 10-bit analogue-to-digital converter (ADC), a real-time clock (RTC), a 16-bit timer and a watchdog timer (WDT). In addition, a consumer electronics control (CEC) unit and

a remote control signal pre-processor (RMC) simplify the implementation of designs requiring remote control functionality.

The TPM361 and TPM363 microcontrollers both offer 5-channel general-purpose serial I/O (SIO) and 3-channel serial bus interface (SBI) connectivity. The TPM362 and TPM364 have 12 channels and five channels respectively. A third SBI channel on both the TPM361 and TPM363 can be configured for I2C, while CAN and USB interfaces are built into the TPM363 and TPM364. All of the micros provide a synchronous serial bus interface (SSP) that supports SPI, SSI and Microwire formats.

Compatible with supply voltages of between 2.7V and 3.6V, Toshiba's TPM36x microcontrollers operate with a maximum operating frequency of 64MHz. Designed to keep power consumption to a minimum each device offers 'idle', 'sleep' and 'stop' standby modes as well as a backup module (BUPMD) that can shut down all but the key functions.

The TPM361 and TPM363 are supplied in 100-pin, 14mm x 14mm LQFP packages, have eight dedicated inputs and provide 68 and 66 I/Os respectively. The TPM362 and TPM364 feature 20mm x 20mm 144-pin packaging, respective I/Os of 104 and 66 and up to 16 dedicated inputs.

In support of the new microcontrollers the Keil™ MCBTPM36x range of evaluation boards and starter kits allows designers to create and test working programs and key functionality.