

New Tiny 80251 Beats Other Low-Power, High-Capability Microcontroller Options

Available from CAST, Inc. this fast, easy-to-program, peripherals-loaded 16- and 32-bit controller needs less silicon area and code memory space and fewer memory operations than most 8-bit 8051s or 32-bit RISC processors

Nuremberg — Embedded World — February 23, 2016 — Semiconductor intellectual property provider CAST, Inc. today introduced a new microcontroller in its 8051-compatible IP line, the [T80251XC3 Tiny, Configurable, 16-bit 80251 Microcontroller IP Core](#).

The new MCU is optimized to provide the 16- and 32-bit data processing capabilities of the 80251 architecture in less than 13K gates, a silicon area no larger than a fast 8-bit 8051 and much smaller than a typical 32-bit processor. It further offers system-wide cost and energy savings through greater code density for 16-bit processing—enabling the use of smaller firmware memory units—and a CISC design using more complex addressing modes that slashes the number of power-consuming load-store operations typically comprising 20–25% of the code for 32-bit RISC designs.

In addition to smaller size and less cost, the Tiny 80251 offers advantages that make it an excellent match for many modern applications. Sourced from partner [Silesia Devices](#)—one of the most experienced 8051 IP development teams in the world—the design is carefully optimized for performance and achieves a Dhrystone benchmark score of 0.1455 DMIPS/MHz (using the Keil compiler). A fully configurable set of proven peripherals is included and the 8051 ecosystem is mature, simplifying and reducing the risk of developing systems using the T80251XC3. Finally, the royalty-free licensing fees for the Tiny 80251 are likely much lower than for other advanced MCUs, further enabling low product pricing in IoT and similarly competitive markets.

Visitors to Embedded World and DVCon (San Jose) are welcome to stop by the CAST booth for more information.

CAST, Inc. is a twenty-year-old developer, integrator, and aggregator of IP cores for ASICs and FPGAs. The company offers some of the best available choices for low-power, high-value IP, including 8051s and BA2x 32-bit Processors; video, image, and data compression; peripherals, interconnects and other functions needed for complete system designs. Visit www.cast-inc.com, or follow [@castcores](#) on Twitter. ###