

SDIC Licenses 8051 Microcontroller IP Cores from CAST

Proven quality, low risk, broad ecosystem, and excellent technical support make CAST's 8051s a cost-effective solution for many system functions

Woodcliff Lake, New Jersey — May 30, 2023 — Semiconductor intellectual property provider CAST today announced that Hangzhou SDIC Microelectronics Inc. — a leading analog mixed-signal IC design and fabless semiconductor vendor — has licensed 8051 microcontroller IP cores from CAST for a new suite of chips now under development.

[SDIC](#) serves customers worldwide by designing, developing, and delivering complex analog mixed-signal solutions to address consumer, medical, and industrial markets. SDIC has integrated its own

proprietary analog designs into a variety of chips to offer unique analog mixed-signal silicon solutions for these markets. Consumer examples include chips for kitchen, body, and pricing weight scales. For the medical market, SDIC has chips that help people monitor blood pressure, blood glucose, blood oxygen, and other health parameters at home. SDIC's industrial market chips include industrial temperature/pressure transmitters, valve controllers, and digital multimeters. Each of these SDIC silicon solutions capitalizes on SDIC's proven in-house analog expertise to gain large market share for those target applications.



8051s can play a useful role in systems like these, handling essential communications and control tasks alone or in concert with a larger system processor. The 8-bit, CISC 8051s offer relatively easy integration and programming, more compact silicon size, and lower energy consumption compared to low-end, 32-bit ARM, RISC-V, or other similar microprocessors. In particular, the smaller size of 8051s means less power leakage, which is essential for the long sleep or idle times typical of the many battery-powered devices SDIC develops.

The 8051 was introduced by Intel 40 years ago, and CAST has been offering 8051-compatible microcontroller IP cores since 1997. These modern 8051s retain backward compatibility — preserving the benefits of legacy code and proven workflows — while being smaller and faster than their predecessors. CAST has had hundreds of 8051 customers and the cores have been proven in millions of successfully-shipping product units.

CAST's flexible suite of royalty-free 8051 cores offers configurable CPUs and bundled peripherals, significant area and power savings, easy development and debugging, and proven reliability. They are also backed by the most experienced 8051 IP sales and support team in the industry.

Among the 8051s SDIC has licensed is the highest-performance, most comprehensive and fully-optioned version of the [S8051XC3 Super-Fast 8051 Microcontroller with Configurable Features & Peripherals IP Core](#).

One of the fastest such cores available, the S8051XC3 has a sophisticated 8-bit architecture that enables performance up to 1,400 times that of the original 8051. It does this with a remarkably small silicon footprint in ASICs or FPGAs, and this small size plus other energy-saving features means the S8051XC3 consumes relatively little power. Like all the 8051 cores from CAST, integration and programming are straightforward, and software development is facilitated by a single-wire or JTAG debugging interface, which operates seamlessly within development environments such as those from IAR and Keil.

“We excel at developing innovative yet cost-competitive ICs to drive a variety of consumer and medical devices,” said Li Jian, general manager of the SDIC Shanghai Branch. “The mature, flexible 8051 IPs from CAST with their unique one-wire debugging feature allow us to add features and capabilities while reducing costs, plus CAST's quick and effective technical support helps keep our projects on schedule despite demanding client delivery deadlines.”

SDIC has been using various 8051s from CAST for several years. They expect to ship their latest generation of products later this year. Learn more at www.sdicmicro.cn.

About CAST

Computer Aided Software Technologies, Inc. (CAST) is a silicon IP provider founded in 1993. CAST's ASIC and FPGA IP product line includes microcontrollers and processors; compression engines for data, images, and video; interfaces for automotive, aerospace, and other applications; various common peripheral devices; and comprehensive SoC security modules. Learn more by visiting www.cast-inc.com.

Long-time partner Pinnacle Design Systems is responsible for the sales and support of CAST IP products in China. For more information, please contact:

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