

# AVR<sup>®</sup> ICE40 In-Circuit Emulator

## LOW-COST EMULATION SOLUTION FOR TINY26 AND MEGA8, WITH ROOM FOR GROWTH

The new ICE40 is a low-cost solution for hardware and software integration and just like the chips, it has room to grow. The ICE40 with AVR Studio<sup>®</sup> user interface provides the designer complete control of the internal resources of the tiny26 and mega8 microcontrollers, which helps reduce development time by making debugging easier. The tiny26 and mega8 are cost effective, highly integrated AVR<sup>®</sup> microcontrollers with integrated A/D capability and migration roadmap. The ICE40 performs Real Time emulation of the microcontroller while running in a target system.



The Low Cost ICE40 has a list price of \$995. It can be upgraded with the purchase and installation of the ICE50 upgrade kit, which transforms the ICE40 into the top of the line ICE50, capable of debugging all AVR devices.

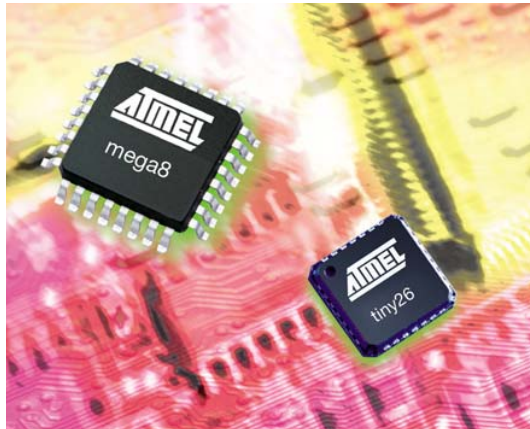
- Operated by AVR Studio                      ➤ Same user interface for all AVR development tools
- Emulation of All Analog and Digital Functions                      ➤ Accurate emulation of tiny26 and mega8 over entire voltage and speed range
- Support for ASM and High-level Languages                      ➤ Debug in language of choice
- Unlimited Number of Program Breakpoints                      ➤ Simplifies debugging of large programs
- Built-in 128K x 144 Bits Trace Buffer                      ➤ Identification of hard-to-find failures
- ICE40 List Price \$995                      ➤ Lowest price emulator for tiny26 and mega8



# tiny26 and mega8 Microcontrollers

## LOW-COST AVR SOLUTIONS WITH INTEGRATED A/D CAPABILITY

The tiny26 is ideal for power management applications. It has 11 A/D channels with 10-bit accuracy. The 7 differential channels with programmable gain stage eliminate the need for signal conditioning op-amps. A 200 kHz PWM can be used with up to 60% smaller filters than alternative solutions. This highly integrated Flash-based microcontroller is priced at less than a Dollar.



The mega8 has larger memories, more I/Os plus a two-cycle hardware multiplier and 16 MIPS performance. These features enable DSP functions like Real Time digital filtering needed in data acquisition systems. Both devices are members of the large and growing family of tinyAVR® and megaAVR® devices. They are available in several package options including the new 5 x 5 mm Micro Lead Frame (MLF) package and as bare die. If your requirement change, there are alternatives with different memory densities, I/O structure, peripheral and package options. And best of all: the entire AVR product line from the smallest tiny to the largest mega devices are code compatible.

### tiny26

- 16 I/O Lines
- 2K Bytes Flash Program Memory
- 128 Bytes RAM and EEPROM
- Two 8-bit Timers
- Supported by ICE40 and ICE50

### mega8

- 23 I/O Lines
- 8K Bytes Flash Program Memory
- 1K Byte RAM, 512 Bytes EEPROM
- Two 8-bit and One 16-bit Timers
- Supported by ICE40 and ICE50

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4033A-AVR-11/02/15M