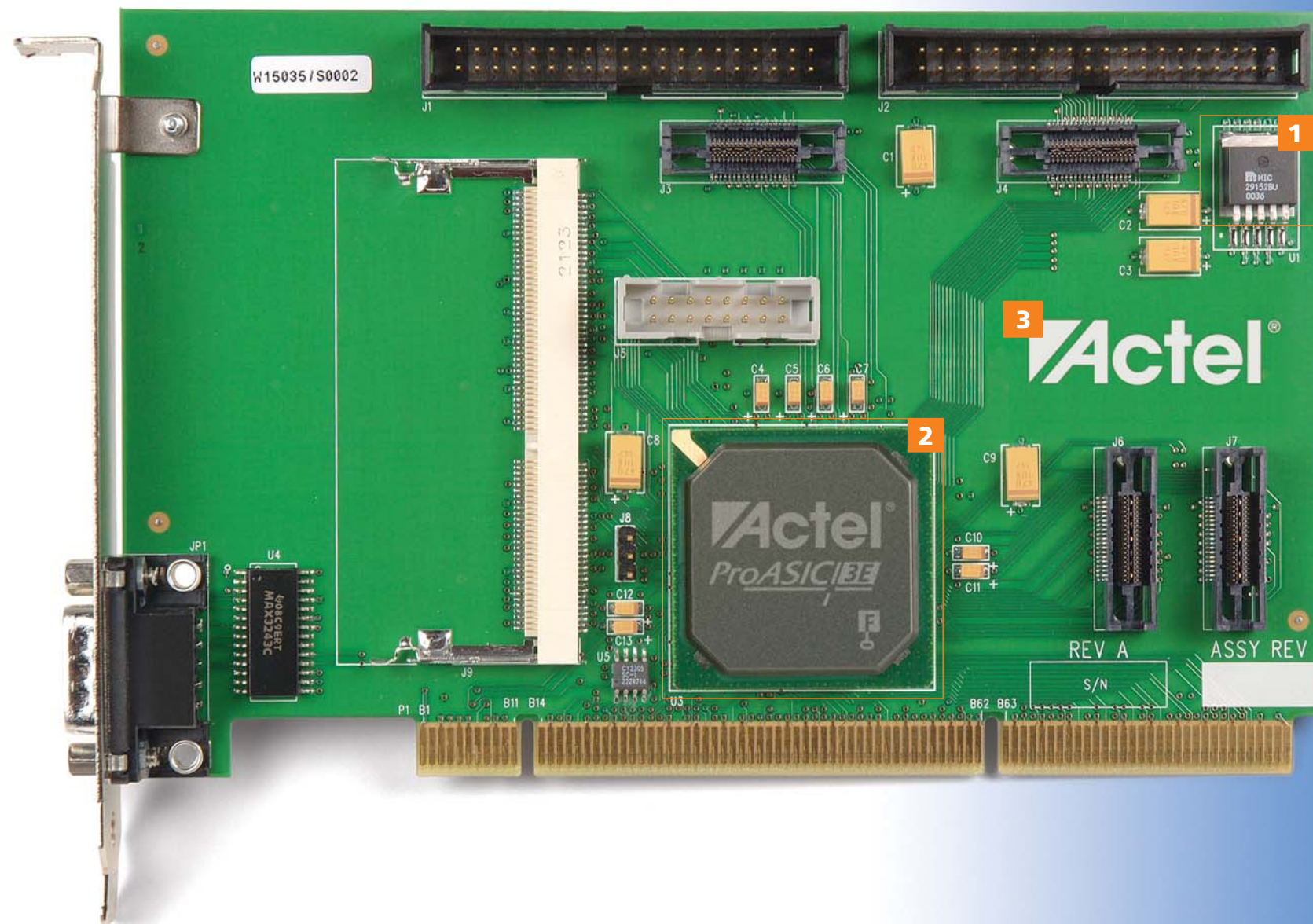


The Lowest Total System Cost with Actel Nonvolatile Flash and Antifuse FPGAs



1 Single-Voltage Solution

Most Actel FPGAs can be powered from a single supply voltage. Unlike some SRAM FPGAs, there is no requirement for an additional 2.5 V or 3.3 V supply for power-up. The FPGA configuration information is stored on the chip as part of the nonvolatile Flash or antifuse FPGA fabric. Running the whole system on a single supply saves the cost and area associated with voltage regulators.

2 Single Chip

No boot PROM or Flash MCU is required to load the FPGA at system power-up. This results in a reduced printed circuit board (PCB) area and simplified inventory management, which reduces total system cost.

Low Power

Actel nonvolatile FPGAs have low static and dynamic power consumption and no power-up current spike, which allow you to use a smaller and cheaper power source, reducing total system cost and increasing system reliability.

Clock Management

Simplify system complexity and reduce component count and cost by using Actel devices for Level 0 "instant-on" derivative clock generation and distribution. The live at power-up clock conditioning circuitry (CCC) and phase-locked loops (PLLs) of Actel nonvolatile devices allow for removal of additional external clock distribution chips often used to boot SRAM FPGAs or microcontrollers during system startup.

Reduced Liability and Enhanced Reliability

Secure and firm-error immune, Actel Flash and antifuse devices allow you to protect your designs from theft, tampering, and cloning and protect your systems from costly firm-error related support and litigation liability concerns.

3 No Live At Power-Up (LAPU) CPLD Required

Actel FPGAs are Level 0 live at power-up (LAPU). Complex programmable logic devices (CPLDs) are unnecessary to start your system during power-up, saving total system cost.

No Power-Up Monitor Chip

Unlike SRAM configuration bits, Flash and antifuse configuration switches do not brown out. No voltage monitor chip is required to ensure reliable operation and clean power-up/down of the system, saving total system cost.

Reduced Board Space

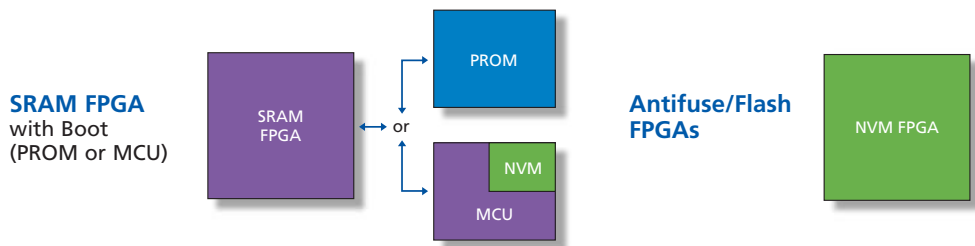
Fewer components in your system lead to reduced PCB area, increased reliability, simpler inventory management, and total system cost savings.

Total Cost of Ownership

Total cost of ownership can be divided into two categories: First, the total system cost includes the tangible costs of BOM and PCB area. Second, the total system cost includes the less tangible associated costs related to design time and effort, as well as operations overhead. Actel devices contribute to a shorter design cycle and reduce operation costs.

Associated costs can be substantial and are often overlooked, including one-time engineering development effort, sustaining costs, and continuous operations back-end support for manufacturing, purchasing, and servicing.

Choosing a device to use in your next design affects both tangible and intangible costs. In addition to unit cost, the device advantages could lead to potential elimination of additional components on-board, ease of design, easier qualifications, higher yield, space savings, and simple upgradability in field. Actel FPGAs also enable secure materials management, which allows for outsourcing of manufacturing and helps eliminate overbuilding.



Actel nonvolatile Flash and antifuse FPGAs provide the lowest tangible and intangible costs through design simplification. Using Actel FPGAs reduces design and operations time by increasing productivity and reducing overall cost.



Excellence in Design

Live at Power-Up

Actel single-chip, Level 0 live at power-up FPGAs require a single voltage for operation and are low power. Designers can capitalize on market opportunities with a shortened design cycle, and save development time with a fully integrated solution.

Excellence in Manufacturing

Actel FPGAs enable streamlined manufacturing, resulting in lower inventory levels, simplified inventory management, and increased product reliability.



In addition, Actel secure and firm-error immune FPGAs help protect your business, reducing returned material, protecting profits and brand equity, and lowering product liability.

For more information regarding **Total System Costs**, please visit the **Actel** website at www.actel.com or contact your local sales representative.



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