Maximize security and boost efficiency in CPLD designs using these on-board ICs from Maxim:

**MAX15062** Buck Regulator: Small in size, but not small on fully synchronous performance.

**DS28E01-100** 1-Wire® Secure Memory: Protect IP against unauthorized copying.

**MAX15006/MAX15007** Automotive LDO Regulators: Lowest quiescent current (10µA) at no load for always-on applications.

CoolRunner is a trademark of Xilinx, Inc.
**36V Synchronous Micro Buck Regulator is Industry’s Smallest IC with Tiny Solution Size**

The 36V, 300mA MAX15062* buck regulator in a 2mm x 2mm TDFN package is ideal for space-constrained applications. Built from the ground up for industrial, medical, and mobile applications that operate on 24V nominal rail, this regulator can supply low-power ASICs, FPGAs, and CPLDs. Integrated switching MOSFETs, synchronous rectification, and internal compensation reduce external components to less than half the closest competing device.

**Features**
- Input voltage range: 4V to 36V
- Output voltage: 3.3V and 5V
- Output current: 300mA
- Fixed switching frequency: 700kHz
- Integrated high-side and low-side FETs
- Internal compensation

**Benefits**
- Enhance efficiency with synchronous operation and power-skip (PFM) mode
- Save space with 2mm x 2mm package and less than 0.024in square in solution size
- Lower cost by 50% with internal FETs, built-in compensation, synchronous rectification, and preprogrammed outputs

**Applications**
- Factory automation and building control
- Industrial sensors
- Smart grid, smart meters, solar energy
- Military and automotive

*Future product.*

www.maxim-ic.com/MAX15062
Maxim’s 1-Wire bus is a simple signaling scheme that performs half-duplex bidirectional communications between a host/master controller and one or more 1-Wire slaves sharing a common data line. Both power and data communication for slave devices are transmitted over this single 1-Wire line.

Users can evaluate a variety of 1-Wire memory, digital, analog, and mixed-signal functionality on CoolRunner II-based designs. The on-board CPLD emulates a 1-Wire translator and controls communication between the system host and one or more 1-Wire slaves. The on-board Maxim DS28E01-100 1-Wire secure memory uses an elegant challenge-and-response authentication sequence to differentiate between authorized and cloned environments. This determination either sets the system to normal operation or disables the design, thereby protecting the design investment from copying and cloning. Additional 1-Wire solutions can be evaluated using on-board PMOD connectors.

**Benefits**
- Minimal overhead for adding functionality
- Simplified, yet elegant interconnect
- Offers wide range of memory, security, digital, and mixed-signal functionality

**Applications**
- IP and design protection
- Environmental monitoring and control
- Battery management
- I/O expanders for relay and LED control

[Visit www.maxim-ic.com/DS28E01-100 for more Maxim 1-Wire solutions.](www.maxim-ic.com/DS28E01-100)
50mA, 10µA \( I_Q \) Automotive LDOs are Best Choice for Always-On Applications

The MAX15006/MAX15007 LDO regulators integrate a high-voltage, p-channel MOS pass transistor, provide low 10µA quiescent current, and load-dropout operation from 4V to 40V. Both are available in a small, 3mm x 3mm TDFN package with exposed pad and use only a 2.2µF output capacitor to enable a small-solutions size capable of operating up to +125°C.

### Features and Benefits
- 10µA quiescent current at no load for better system efficiency
- 46% lower junction-to-case thermal resistance \( (\theta_{JC} = 8.5^\circ C/W) \) to run 50mA load at high temperatures
- 40% smaller package (3mm x 3mm) to reduce board space