



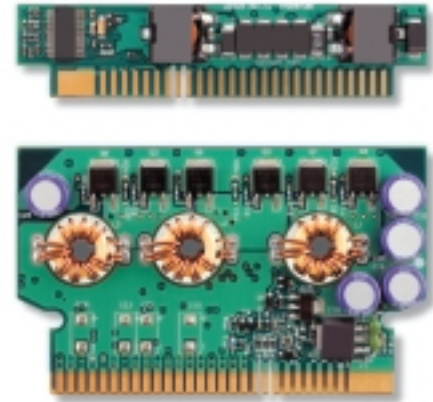
Intel and Powercube Create Low-Profile Building Blocks For High-Density Form Factors

Intel in
Communications

Product Overview

As the market drives the need for more compact, powerful processing technologies, designing smaller components with less heat dissipation has become more challenging. In addition, product development cycles and lifecycles have continued to shorten. To meet the challenges of developing a high-power, low-voltage processor and chipset combination for 1U and smaller form factors, Intel looked at the whole board design from the developer's perspective.

At the board level, it was discovered that a gap in the market existed for a low-profile Voltage Regulator Module (VRM). Although it's possible to integrate the regulator circuitry onto the motherboard, known as voltage regulator down (VRD), full load and transient testing of the full specification range is not possible due to the fact that it is attached to the very circuitry it is regulating. Lack of testing could allow a marginal regulator design error to go undetected until it fails in the field. Conversely, an off-the-shelf, standards-based module allows developers to focus on board design, resulting in a faster time-to-market solution.

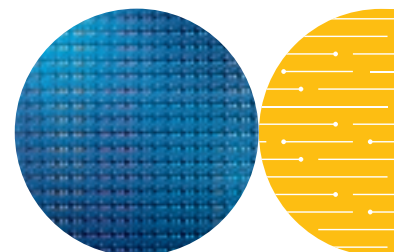


The VRMS-91-12-36* (pictured above) measures a mere .875 inches versus an average VRM at 1.7 inches.

The Powercube VRMS-91-12-36*

Working closely with Intel engineers, Powercube developed the VRMS-91-12-36*, a DC/DC converter specifically designed for the Low Voltage Intel® Xeon™ processor and the Intel® E7501 chipset in a 1U form factor. The VRMS-91-12-36 meets the VRM 9.1 Specification requirements at the reduced power level called for by the Low Voltage Intel Xeon processor¹, and features 12 V input, programmable output, 36A (max) output current, high-efficiency Synchronous Rectification (SR), and remote-sensing output voltage. It's also available in a horizontal-mount BGA package for even more compact form factors such as Advanced Target Channel Adaptor (ATCA) and CompactPCI*.

¹The VRM 9.1 Specification calls for 81A (max) vs. the 30A (max) required by the Low Voltage Intel Xeon processor.



The Low Voltage Intel® Xeon™ processor

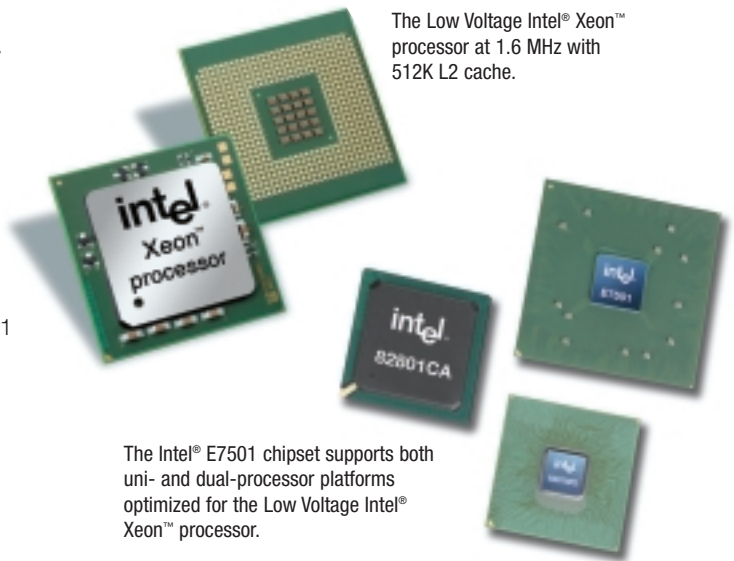
The Low Voltage Intel® Xeon™ processor at 1.6 MHz with 512K L2 cache and a 400 MHz processor side bus is the solution for thermally sensitive, space-constrained communication applications that require the highest levels of processing performance with low thermal output, such as Web-serving, storage (NAS, SAN), search engines, telecommunications servers, network management, security, voice, and load balancing. When coupled with the Intel® E7501 chipset in either uni-processor (UP) or dual-processor (DP) configurations, the Intel® Xeon™ processor provides high memory bandwidth, high memory capacity, and high I/O bandwidth.

The Intel® E7501 chipset

Intel E7501 chipset represents the next step in high-performance chipset technology. The Intel E7501 chipset supports dual-processor platforms optimized for the Intel Xeon processor and Intel® NetBurst™ microarchitecture. The Intel E7501 chipset design delivers maximized system bus, memory, and I/O bandwidth to enhance performance, scalability, and end-user productivity while providing a smooth transition to next-generation technologies.

Summary

Specifically designed for the Low Voltage Intel Xeon processor and the Intel E7501 chipset, the Powercube VRMS-91-12-36* offers developers a standards-based, faster time-to-market solution for compact form factors. For more information on the Low Voltage Intel Xeon processor or the Intel E7501 chipset, visit <http://www.intel.com/design/intarch>. For more information on the Powercube VRMS-91-12-36, visit www.powercube.com.



The Low Voltage Intel® Xeon™ processor at 1.6 MHz with 512K L2 cache.

The Intel® E7501 chipset supports both uni- and dual-processor platforms optimized for the Low Voltage Intel® Xeon™ processor.

Intel Access

Developer's Site:

developer.intel.com

Embedded Intel Architecture:

www.intel.com/design/intarch/index.htm

Other Intel Support:

Intel Literature Center developer.intel.com/design/litcentr/
(800) 548-4725 7 a.m. to 7 p.m. CST (U.S. and Canada)

International locations please contact your local sales office.

General Information Hotline:

(800) 628-8686 or (916) 356-3104 5 a.m. to 5 p.m. PST

For more information, visit the Intel Web site at: developer.intel.com

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