

AMD "Deerhound" Quad-Core Processor Power

The Customer's Challenge:

The Market:

High End Computing

The Application:

- On August 15th, 2006, AMD announced the completion of the design, or tape-out, of its native Quad-Core AMD Opteron processors, codenamed "Deerhound", that incorporates four processor cores on a single die of silicon.
- Quad-Core AMD Opteron processors, planned for 2007, represent the next milestone in AMD's multi-core roadmap.
- Quad-Core AMD Opteron processors are expected to be electrical-, thermal- and socket-compatible with the Next-Generation AMD Opteron processors recently introduced.
- While the quad-core launch is still months away, platforms that will support quad-core processing are available today.
- Such platforms require power to support these new microprocessors.

The engineering hurdles:

- There is limited VRM competition with the 100A required to power the "Deerhound" processor.
- Generally these VRMs are used in very high-end servers where customers are more likely to use a "module" vs. a discrete solution.

The C&D Solution:

The Product:

VRK81B100TH-4C (100A solder in VRM) and
VRK81B100CS-1C (100A plug card edge VRM)

Overcoming the hurdles:

Because 100A is required for the "Deerhound" processor, C&D designed a higher powered VRM than its existing 80A version. VRK81B100TH-4C is a C&D standard product while VRK81B100CS-1C is on schedule to be released end of Q3 2006 as a standard product.

How we did it:

With excellent thermal performance with our 80A version, C&D was able to utilize the same basic design and upgrade it to 100A.



VRK81B100CS-1C

The End Product:

- Meets AMD K8 Requirements
- DAC Programmable Output Voltage
- Power Good Output
- Differential Remote Sense
- Remote Enable
- Supervisory Functions
- Latch Off Overcurrent
- Short Circuit Protection
- Tri-state Output when Disabled
- Dynamic VID Capability
- SMBus Temperature Monitor
- Overvoltage Latch Signal
- RoHS Compliant

Potential customers in this industry:

- Server OEMs developing Next-Generation and Quad-Core AMD Opteron-based products
- Egenera
- HP
- IBM
- Sun
- Supermicro
- Verari Systems

More info:

For further information about this product, please contact

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Datasheets and application notes for standard C&D Power Electronics Division products can be found at:

www.cd4power.com