VRM Power Supplies On Board AMD Opteron and Intel Pentium Motherboard Designs

Design Note #44

High energy in small places. Orchid Technologies' VRM power supply designs provide high power on the motherboard.

VRM Power Supply Design

Today's high speed Pentium and Opteron Processors require large amounts of adjustable core, memory, and termination power. Power supply modules do not always fit in small places. Embedding the VRM Power supply onto the motherboard can save circuit board area. Embedding the VRM Power supply onto the motherboard can save cost and reduce time to market. Embedded VRM power supplies can provide higher performance than similar modular designs.

Power, POWER, POWER

VRM Power Supplies are required to provide between 0.800 volts to 1.200 volts in increments of 0.05 volts. Working at low voltages, the VRM Supplies must source between 50 and 110 watts with demanding transient regulation. Current densities are very high. Orchid has perfected the art of constructing high power, high current density power supplies. Orchid's supplies require minimal circuit board area while packing a mighty punch.

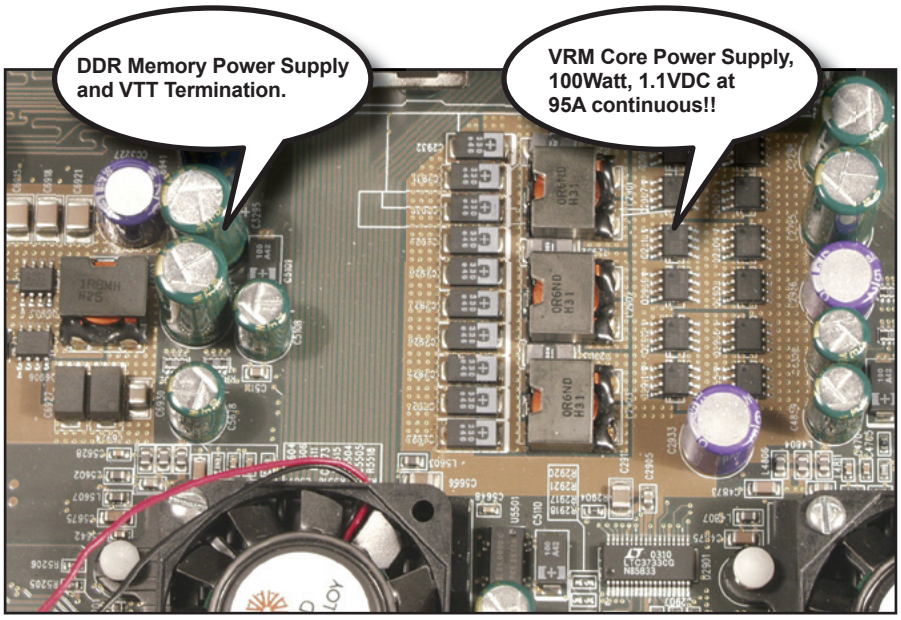
Multi-Phase Power Supply Design

Achieving high current in small places is possible with multi-phased switching power supply design techniques. Multiple phases require careful circuit board planning, layout, grounding, and routing design.

Orchid Technologies

The development of custom electronics technology solutions for our OEM clients is Orchid's entire business. High-performance power supply design with rapid design cycles, demanding technical requirements, and unforgiving schedules set us apart. Call Orchid Technologies today. We'll put an embedded VRM Power Supply design in your hands tomorrow!

On Board Power Solutions



"Power Supply Modules took up far too much circuit board area on our custom Opteron motherboard. Orchid came through with VRM, VTT and DDR RAM embedded Power Supplies. Much Smaller! Nicely done, elegant."

- Senior Engineer
- Custom Motherboards

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Custom Engineering From Concept to Production

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