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controller extends battery life and reduces noise; Introduction; Boost-start timer, thermal shutdown and overcurrent clamp features; Conclusion; 8 Active voltage positioning reduces output capacitors; Introduction; Basic principle; Basic implementation; Current mode control example-LTC1736; 9 5V to 3.3V circuit collection
High efficiency 3.3V regulator3.3V battery-powered supply with shutdown; 3.3V supply with shutdown; LT1585 linear regulator optimized for desktop Pentium processor applications; LTC1148 5V to 3.38V Pentium power solution 3.5A output current; LTC1266 switching regulator converts 5V to 3.38V at 7A for Pentium and other high speed Ps; 10 Hex level shift shrinks board space; Section 2 : Microprocessor Power Design; 11 Cost-effective, low profile, high efficiency 42A supply powers AMD Hammer processors; Introduction; Design example; Conclusion
12 Efficient, compact 2-phase power supply delivers 40A to Intel mobile CPUsIntroduction; Smaller inductors, simplified thermal management; 40A Intel IMVP-III voltage regulator; Conclusion; 13 Microprocessor core supply voltage set by I2C bus without VID lines; Introduction; How it works; Why use an SMBus?; Desktop/portable VID DC/DC converter; 14 High efficiency I/O power generation for mobile Pentium III microprocessors; 15 PolyPhase surface mount power supply meets AMD Athlon processor requirements with no heat sink; Introduction; PolyPhase architecture
16 2-step voltage regulation improves performance and decreases CPU temperature in portable computers

Sommario/riassunto

Design Note Collection, the third book in the Analog Circuit Design series, is a comprehensive volume of applied circuit design solutions, providing elegant and practical design techniques. Design Notes in this volume are focused circuit explanations, easily applied in your own designs. This book includes an extensive power management section, covering switching regulator design, linear regulator design, microprocessor power design, battery management, powering LED lighting, automotive and industrial power design. Other sections span a range of analog design topics, including data conversion,