

一种低功耗高效率 DC-DC 转换器的设计实现

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摘要: 开关变换器由于其低功耗, 输出电压可变等优势, 广泛应用于电源管理领域, 然而随着工艺的发展, 为了提高变换器的转换效率.使用动态偏置技术与死区时间控制技术, 结合一款基于电压模式的 BUCK DC-DC 转换器进行仿真验证.降低开关变换器中功率管的导通损耗与交叠损耗, 降低整体功耗, 提高整体转换效率.实现了输入 3.6V, 负载电流 200mA 情况下最优, 转换效率为 91.67%, 改善了性能指标.

关键词: 开关变换器; 动态偏置技术; 死区时间控制技术; 指标

A low power high efficienecy DC-DC converter

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Abstract: Switching converters are widely used in power management because of their low power consumption and variable output voltage. However, with the development of technology, the conversion efficiency of converters is improved. using dynamic bias technology and dead-time control technology, reducing the conduction loss and overlapping loss of power transistors in switching converters, reducing the overall power consumption and improving the overall conversion efficiency. A buck DC-DC converter based on voltage mode is simulated and verified.The optimal input current is 3.6V and the load current is 200mA. The conversion efficiency is 91.67%. The performance index is enhanced.

Key words: switching converter; dynamic bias technology; dead time control technology; inde

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