柔性切換電源轉換之設計與研究

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摘 要

本論文主要探討全橋相移式脈波寬度調變之電力轉換器，其利用變壓器本身之漏電感及MOSEFET的寄生電容充、放電產生諧振，使電路開關元件達成零電壓切換，如此使電路操作在高頻切換時可降低切換損失，提高電路之效率，並利用HIP4081A全橋驅動器，直接驅動四個開關元件，不需外加傳統的驅動變壓器，以簡化電路架構，並輕易實現全橋相移式零電壓切換技術，此外透過一個簡單的邏輯電路，輕易的將單一PWM輸出信號轉換成四個相移邏輯推動信號，最後實際設計完成一個輸入36V(變動範圍36V~72V)，輸出為5V/10A之電力轉換以驗證其可行性。

關鍵詞 : 柔性切換.全橋式電力轉換器.相移式脈波寬度調變.隔離變壓器

目錄

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