多層印刷電路板接地拓樸結構與彈跳雜訊抑制

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摘 要

本論文首先於本章介紹研究之動機，第二章詳述由接地反彈雜訊(Ground Bounce Noise)的生成與傳播方式，以及現行分析及解決問題的方法。於第三章中說明並由裸板及目前PCB拓樸Trace Layout電路板做比較，由實測與模擬結果比較驗證抑制接地彈跳雜訊的效果，並提出一些優缺點比較。 第四章將數值模擬的結果與實驗比較，測試模擬程式於各種不同的拓樸幾何結構下之影響，再討論各組數據所隱含的物理意義。 第五章整理抵制雜訊傳播的方法，討論目前拓樸架構方法與傳統方法間的差異與優缺點，第六章並作成結論。本論文最後整理多層印刷電路板抵制雜訊傳播的方法及接地拓樸結構與彈跳雜訊抑制新方法與傳統方法的差異。現今IC的上升時間已經很短並將更短，尤其是在電源開啟後的重置信號(Reset Signal)的完整性的重要，本文討論的技術對解決EMI屏蔽和信號的相互干擾問題是必不可少的。

關鍵詞 : 接地反彈雜訊 電路板 拓樸幾何結構 抵制雜訊

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