基于反熔丝的 FPGA 的测试方法

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摘 要： 首先介绍了基于反熔丝的 FPGA 的典型结构，接着介绍了基于反熔丝的 FPGA 的可编程逻辑模块（PLM）、布局布线以及可编程互连资源，然后讨论了基于反熔丝的 FPGA 的测试模式，最后提出了一种 ATE 和实装板相结合的测试方法，实验结果表明，该测试方法在芯片未编程状态下，实现了对基于反熔丝的 FPGA 的测试.

关键词： 反熔丝；FPGA；ATE；实装板；测试

Test Methods for Antifuse-Based FPGAs

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Abstract：The classic architecture of antifuse-based FPGAs was described. Then the details about programmable logic module (PLM), placement and routing, programmable interconnection of antifuse-based FPGAs was presented. According to the test patterns of antifuse-based FPGA, a method for antifuse-based FPGA test, which combined ATE and mounting plate, was proposed. The results of the test experiments showed that the employed method can achieve successful test and confirmation of unprogrammed device at the factory.

Key words： antifuse; FPGA; ATE; mounting plate; test

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