VLSI Testing Technique

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ABSTRACT

IC (Integrated Circuit) is the most basic component of electronics, which integrates the transistor, diode, resistor and capacitor into a chip and this chip is called Semiconductor. In recent years, semiconductor industry has been growing fast and the complexity of IC has been increasing, therefore chip testing has become more important in the process of semiconductor manufacture. What is the test engineering? The purpose of semiconductor testing is to verify the device function of design rule after chip fabricated, and to make it work normally even the chip is in worse conditions. The most important of test engineering concern is how to complete all test items with best shipping quality in low cost solution. There are some many kinds of semiconductor device. In roughly, it can separate into 4 kinds of device that include memory IC, logic IC, microprocessor and mixed signal IC. We will focus on memory and logic testing methodology in this paper. Also we will introduce the tester hardware structure and testing manufacture and then look into the testing theorem. Furthermore, we will use the true device for real example.

Keywords : Logic Testing ; Memory Testing ; Laser Repair ; Redundancy ; Test Pattern ; DC Testing ; AC Testing

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