Abstract

This paper describes a test method for analog and mixed signal device at very low cost and it's based on OBIST (oscillation test) method. This method is built-in self test method appropriate for functional and structural testing of analog and mixed signal circuit. In test mode, the test circuit is converted into an oscillator. Then faults inside the test circuit that cause an affordable deviation of the oscillation frequency from its value are detected. Through this test method, no test vector is required to apply. Therefore in this test technique, the test vector generation drawbacks are eliminated and also the test time is reduced because limited number of oscillation frequencies is evaluated for each test circuit. This characteristic implies that Oscillation-test methodology is very attractive for further wafer-probe testing as final production testing. During this paper, the simulation results of this test method has been provided and verified throughout some examples like CMOS inverter and FET (field effect transistor).

References

- Radoslaw M. Biernacki and Johan W. Bandler, "Multiple-fault Location of Analog..."
Analog and Mixed Signal Test Method based on OBIST Technique

- Ender Yilmez and Shofner Geoff, &quot;Fault Analysis and Simulation of Large Scale Industrial Mixed signal,&quot; Automation, Design and Test in Europe Conference & Exhibition, pp. 565-570, March 2013.

Index Terms

Computer Science  Signal Processing

Keywords

Built In Self Test (BIST)  Oscillation Based Built In Self Test (OBIST)  System On Chip (SOC)
Design For Testability (DFT)

Integrated Circuit (IC)

Circuit Under Test (CUT).