

March-based SRAM diagnostic algorithm for distinguishing stuck-at and transition faults

ABSTRACT

March tests have been widely used for detecting functional faults during SRAM testing. Recent development has extended the March test for diagnostic purpose to locate and identify the fault types. This paper analyses March algorithms for detection and diagnosis of Stuck-At Faults (SAFs) and Transition Faults (TFs). Unfortunately, the algorithms under studied are not able to distinguish between the two faults. Therefore, this paper proposes a new March based diagnostic algorithm that can differentiate SAFs from TFs.

Keyword: SRAM testing; March test; March based diagnostic algorithm; Functional Fault Models (FFMs); Stuck-At Faults (SAF); Transition faults