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(54) METHOD FOR COLLECTING FAILURE INFORMATION FOR A MEMORY USING AN EMBEDDED TEST CONTROLLER

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(56) References Cited

U.S. PATENT DOCUMENTS

3,962,687 A * 6/1976 Suzumura et al.

4,369,511	A	*	1/1983	Kimura et al.	
4,969,148	A		11/1990	Nadeau-Dostie et al.	
5,610,925	A	*	3/1997	Takahashi	
5,912,901	A		6/1999	Adams et al.	
6,578,169	B 1	*	6/2003	Le et al	714/736

^{*} cited by examiner

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(57) ABSTRACT

A method of collecting failure information when testing a memory comprises performing a test of the memory according to a test algorithm, and, while performing the test, counting failure events which occur after a predetermined number of masked events; stopping the test upon occurrence of a stopping criterion which comprises one of occurrence of a first failure event, a change of a test operation; a change of a memory column address; a change of a memory row address; a change of a memory bank address; and a change of a test algorithm phase; and storing failure information.

52 Claims, 3 Drawing Sheets

