

总线细胞阵列中空闲细胞冗余数量研究

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摘 要: 总线细胞阵列应用于实际功能电路的设计, 能够提高功能电路的可靠性, 但是过多的空闲细胞冗余将带来巨大的硬件资源消耗. 通过分析总线细胞阵列功能块内细胞组成不同的情况下, 阵列的资源消耗和阵列的可靠性情况, 研究功能块中空闲细胞数量的选择方法, 同时兼顾阵列的硬件资源消耗和阵列的可靠性, 从而为实际电路设计提供支持指导.

关键词: 总线细胞阵列; 可靠性; 资源消耗; 空闲细胞; 冗余数量

Research on the Redundant Number of Spare Cells in

Bus-based Embryonic Array

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Abstract: Design the real function circuit with bus-based embryonic cells array(BECA), which can improve the reliability of functional circuit effectively, but more spare cells also bring huge hardware resources consumption. In this paper, the resource consumption and the reliability of the BECA are analyzed with different cells composition. The method of choosing spare cells in functional module is researched, which can balance the resource consumption and the reliability of the BECA. The research on the spare cells choosing in the BECA is helpful to the design of the real circuit.

Key words: bus-based embryonic array; reliability; resource consumption; spare cells; redundant number

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