# 故障芯片重利用的三维存储器成品率提高方法

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摘　要：提出了一种对故障芯片进行重新利用以提高三维存储器成品率的方法.该方法首先将存储块划分为多个存储子块，然后对存储芯片进行绑定前的测试以获取存储芯片的故障分布信息，从而获取存储芯片中有故障的存储子块数量，并根据所提的芯片选择算法来选定合适的存储芯片进行绑定.接着在三维存储器中选择一个无故障的存储块作为全局冗余，利用全局冗余中的存储子块对三维存储器中有故障的存储子块进行修复.实验结果表明，所提方法有效的提高了三维存储器的成品率.

关键词：　三维存储器；成品率；故障芯片；全局冗余；存储块

# Bad-Die Recycling Technique for Yield Enhancement of Three-Dimensional Memories

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Abstract：In order to make the best of the discarded bad dies, a yield enhancement technique by bad-die recycling for three-dimensional memory is proposed. In the presented technique, each block is divided into several sub-blocks firstly. After that, every die must go through the process of pre-bond test to get the fault information of blocks in a die, and then counting the number of the faulty sub-blocks in a die. Finally a fault-free block is chosen as global redundancy, and the sub-blocks in the global redundancy are used to repair faulty sub-blocks. The experimental results show that the proposed methodology is effective for yield enhancement of the three-dimensional memory.

Key words：　three-dimensional memories; yield; bad-die; global redundancy; block

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