

Technology Migration Determination Model For DRAM Industry

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Abstract

Due to short life cycle of DRAM industry over the past decade, the product generation and technology migration have to be quickly enhanced. When technology migration occurred, DRAM companies always used the past experiences to proceed with process changes. However, the issues are totally different particularly in the best practice of technology migration that caused the companies suffered many uncertainties. In this work, a model to determine the timing of technology migration is proposed. The model is based on technology roadmap to set the timing of migration under maximum profit condition. A stable growth trend is assumed for market demand to decide the revenue. Furthermore, the time-cost function of new generational equipment and the theory of learning curve are introduced as the factors to determine the manufacturing cost and profit. Consequentially, the best timing is determined with maximum profit.

Keyword : Technology migration, DRAM, Technology roadmap, Learning curve.