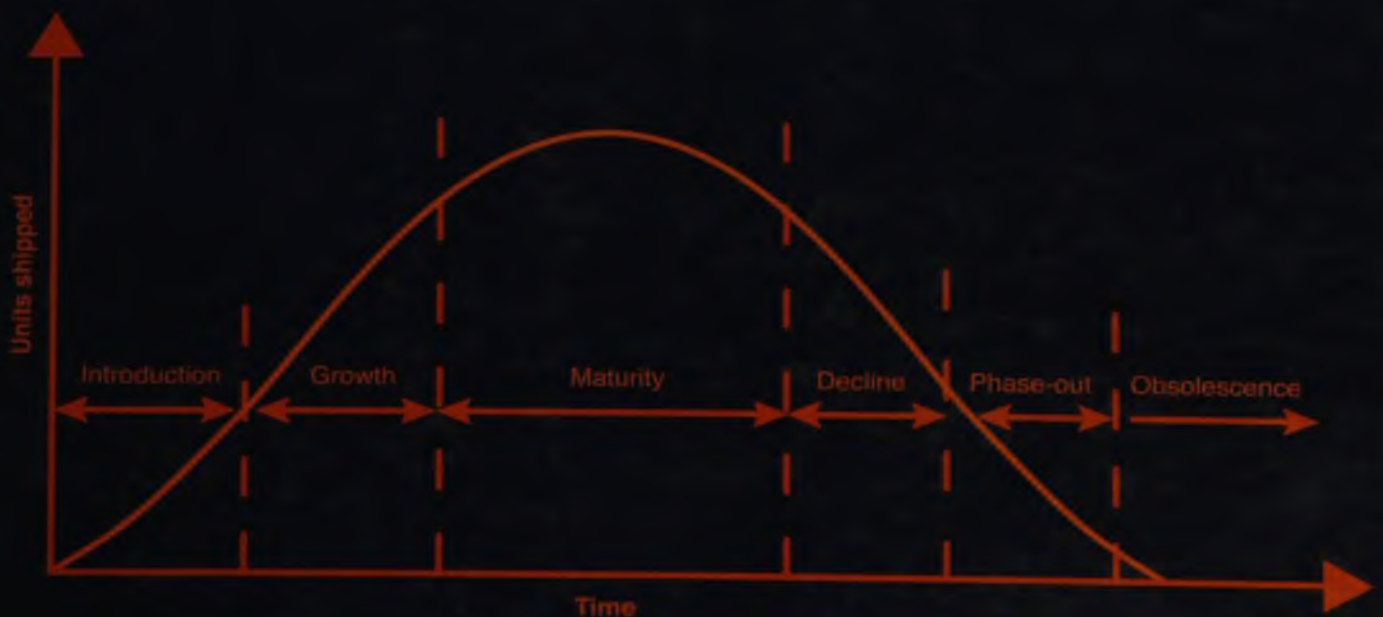


Parts Selection and Management

Edited by Michael G. Pecht



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Edited by

MICHAEL G. PECHT

 **WILEY-
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Preface

Product differentiation often motivates a company to adopt new technologies and insert them into its products. Decisions regarding when, where, and how a technology will be used differentiate the market winners from the losers. Few companies have failed because the right technology was not available; far more have failed when a technology was not effectively selected and managed.

This book provides an “eyes-on, hands-off” approach to parts selection and management, which enables companies to:

- employ risk assessment and mitigation techniques to address technology insertion
- organize and conduct the fact-finding processes necessary to improve part quality, integrity, application-specific reliability, and cost effectiveness
- make an informed companywide decision about parts selection and management based upon company resources, philosophy, and goals and customer demands
- choose parts to fit the functionality of the product, to satisfy system assembly and design level constraints, and to match subsequent manufacturing and handling requirements
- evaluate the part’s actual “micro-environment” within a system and then choose the correct technique to fit the part to its intended environmental requirements
- maximize system supportability by preparing for (in design) and meeting the challenge of part obsolescence during system life
- improve supply chain interactions and communications with customers and regulatory agencies in order to minimize time-to-profit

Who this guidebook is for

This book presents a process aimed at increasing company profitability and reducing the time-to-profit. It should be used as a guide in the development of a part selection and management team and in the execution of daily business operations related to parts selection and management. Members of product development teams, product designers, supply chain managers, marketing professionals, business development professionals, contract negotiators, and proposal writers will find the guidance provided in this book useful.

What this guidebook contains

This guidebook presents information and a process guide for parts selection and management. It addresses risk assessment, decision-making steps, and subsequent management activities. The goal is to provide solutions that enable flexibility, innovation, and creativity in product development while ensure that the risks associated with part use are and continue to be acceptable.

Motivation for a Parts Selection and Management Program: Chapter 1 provides the reasons that necessitate the presence of a part selection and management process in any industry using electronic parts. The chapter explains how the parts selection and management process should be used and maintained to keep pace with technology advances, electronics marketplace changes, and the dynamics of the electronics industry supply chain.

Methodology for Parts Selection and Management: Chapter 2 presents the composition and responsibilities of the parts selection and management team and the infrastructure