

Preface

This book serves as a teaching material concerning reliability of microtechnology and covers topics from devices to systems in the final year of undergraduate and first year of graduate education including questions and answers for self-study. The book is also useful for reliability engineers for reliability assessment, modeling, and quality control purposes. The book includes reliability issues of interconnects, component up to system level. The methodology of reliability concept is addressed in the first chapters and followed by general failure mechanisms including specific failure modes in solder and conductive adhesives. Accelerated testing, interconnect, component, and system-level reliability are described also in detail as well as the reliability design for manufacturability. Finally, quality and reliability management issues as well as characterization tools for reliability are described.

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