



Reliability and Failure of Electronic Materials and Devices

By Milton Ohring

Download now

Read Online ➔

Reliability and Failure of Electronic Materials and Devices By Milton Ohring

Suitable as a reference work for reliability professionals or as a text for advanced undergraduate or graduate students, this book introduces the reader to the widely dispersed reliability literature of microelectronic and electronic-optical devices.

Reliability and Failure of Electronic Materials and Devices integrates a treatment of chip and packaging level failures within the context of the atomic mechanisms and models used to explain degradation, and the statistical handling of lifetime data. Electromigration, dielectric radiation damage and the mechanical failure of contacts and solder joints are among the failure mechanisms considered. An underlying thread of the book concerns product defects--their relation to yield and reliability, the role they play in failure, and the way they are experimentally exposed.

The reader will gain a deeper physical understanding of failure mechanisms in electronic materials and devices, acquire skills in the mathematical handling of reliability data, and better appreciate future technology trends and the reliability issues they raise.

Key Features

- * Discusses reliability and failure on both the chip and packaging levels
- * Handles the role of defects in yield and reliability
- * Includes a tutorial chapter on the mathematics of reliability
- * Focuses on electromigration, dielectric breakdown, hot-electron effects, electrostatic discharge, corrosion, radiation damage and the mechanical failure of packages, contacts, and solder joints
- * Considers defect detection methods and failure analysis techniques

↓ [Download Reliability and Failure of Electronic Materials an ...pdf](#)

📖 [Read Online Reliability and Failure of Electronic Materials ...pdf](#)

Reliability and Failure of Electronic Materials and Devices

By Milton Ohring

Reliability and Failure of Electronic Materials and Devices By Milton Ohring

Suitable as a reference work for reliability professionals or as a text for advanced undergraduate or graduate students, this book introduces the reader to the widely dispersed reliability literature of microelectronic and electronic-optical devices. **Reliability and Failure of Electronic Materials and Devices** integrates a treatment of chip and packaging level failures within the context of the atomic mechanisms and models used to explain degradation, and the statistical handling of lifetime data. Electromigration, dielectric radiation damage and the mechanical failure of contacts and solder joints are among the failure mechanisms considered. An underlying thread of the book concerns product defects--their relation to yield and reliability, the role they play in failure, and the way they are experimentally exposed.

The reader will gain a deeper physical understanding of failure mechanisms in electronic materials and devices, acquire skills in the mathematical handling of reliability data, and better appreciate future technology trends and the reliability issues they raise.

Key Features

- * Discusses reliability and failure on both the chip and packaging levels
- * Handles the role of defects in yield and reliability
- * Includes a tutorial chapter on the mathematics of reliability
- * Focuses on electromigration, dielectric breakdown, hot-electron effects, electrostatic discharge, corrosion, radiation damage and the mechanical failure of packages, contacts, and solder joints
- * Considers defect detection methods and failure analysis techniques

Reliability and Failure of Electronic Materials and Devices By Milton Ohring Bibliography

- Published on: 1998-06-12
- Released on: 1994-05-28
- Original language: English
- Number of items: 1
- Dimensions: 9.00" h x 1.61" w x 6.00" l,
- Binding: Paperback
- 692 pages

 [Download Reliability and Failure of Electronic Materials an ...pdf](#)

 [Read Online Reliability and Failure of Electronic Materials ...pdf](#)

Editorial Review

From the Back Cover

This book introduces the reader to the widely dispersed reliability literature of microelectronic and electro-optical devices. It integrates a treatment of chip models used to explain degradation, and the statistical handling of lifetime data. Electromigration, dielectric breakdown, hot-electron effects, electrostatic discharge, corrosion, radiation damage and the mechanical failure of contacts and solder joints are among the failure mechanisms considered. An underlying book thread concerns product defects-their relation to yield and reliability, the role they play in failure, and the way they are experimentally exposed. The book can be used as an advanced undergraduate/graduate textbook for materials scientists and electrical engineers, and as a reference for reliability professionals.

KEY FEATURES

- * Discuss reliability and failure on both the chip and packaging levels
- * Handles the role of defects in yield and reliability
- * Includes a tutorial chapter on the mathematics of reliability
- * Focuses on electromigration, dielectric breakdown, hot-electron effects, electrostatic discharge, corrosion, radiation damage, and the mechanical failure of packages, contacts, and solder joints
- * Considers defect detection methods and failure analysis techniques

ABOUT THE AUTHOR

Dr. Milton Ohring, author of two previously acclaimed Academic Press books, *The Materials Science of Thin Films* (1992), and *Engineering Materials Science* (1995), has taught courses on reliability and failure in electronics at Bell Laboratories (AT&T and Lucent Technologies). From this perspective and the well-written tutorial style of the book, the reader will gain deeper physical understanding of failure mechanisms in electronic materials and devices; acquire skills in the mathematical handling of reliability data; and better appreciate future technology trends and the reliability issues they raise.

About the Author

Dr. Milton Ohring, author of two previously acclaimed Academic Press books, *The Materials Science of Thin Films* (1992) and *Engineering Materials Science* (1995), has taught courses on reliability and failure in electronics at Bell Laboratories (AT&T and Lucent Technologies). From this perspective and the well-written tutorial style of the book, the reader will gain a deeper physical understanding of failure mechanisms in electronic materials and devices; acquire skills in the mathematical handling of reliability data; and better appreciate future technology trends and the reliability issues they raise.

Users Review

From reader reviews:

Eric Johnson:

As people who live in typically the modest era should be upgrade about what going on or data even knowledge to make all of them keep up with the era which can be always change and make progress. Some of you maybe will certainly update themselves by examining books. It is a good choice for you but the problems coming to a person is you don't know what kind you should start with. This Reliability and Failure

of Electronic Materials and Devices is our recommendation so you keep up with the world. Why, since this book serves what you want and need in this era.

Karen Wells:

Do you among people who can't read gratifying if the sentence chained within the straightway, hold on guys this kind of aren't like that. This Reliability and Failure of Electronic Materials and Devices book is readable by simply you who hate the straight word style. You will find the info here are arrange for enjoyable examining experience without leaving even decrease the knowledge that want to give to you. The writer of Reliability and Failure of Electronic Materials and Devices content conveys objective easily to understand by most people. The printed and e-book are not different in the information but it just different as it. So , do you nevertheless thinking Reliability and Failure of Electronic Materials and Devices is not loveable to be your top collection reading book?

Tracy Zapata:

The book Reliability and Failure of Electronic Materials and Devices has a lot of information on it. So when you make sure to read this book you can get a lot of profit. The book was authored by the very famous author. Tom makes some research ahead of write this book. That book very easy to read you can find the point easily after perusing this book.

Lorraine Vargas:

You could spend your free time to see this book this e-book. This Reliability and Failure of Electronic Materials and Devices is simple to create you can read it in the playground, in the beach, train and also soon. If you did not have got much space to bring the printed book, you can buy the actual e-book. It is make you quicker to read it. You can save often the book in your smart phone. Thus there are a lot of benefits that you will get when one buys this book.

Download and Read Online Reliability and Failure of Electronic Materials and Devices By Milton Ohring #YBG2TJIC5NL

Read Reliability and Failure of Electronic Materials and Devices By Milton Ohring for online ebook

Reliability and Failure of Electronic Materials and Devices By Milton Ohring Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Reliability and Failure of Electronic Materials and Devices By Milton Ohring books to read online.

Online Reliability and Failure of Electronic Materials and Devices By Milton Ohring ebook PDF download

Reliability and Failure of Electronic Materials and Devices By Milton Ohring Doc

Reliability and Failure of Electronic Materials and Devices By Milton Ohring Mobipocket

Reliability and Failure of Electronic Materials and Devices By Milton Ohring EPub

YBG2TJIC5NL: Reliability and Failure of Electronic Materials and Devices By Milton Ohring