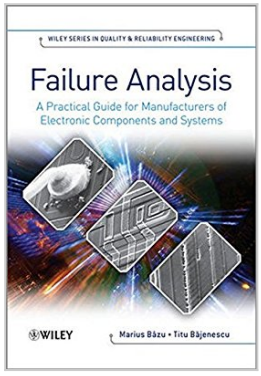

Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems

By Marius Bazu, Titu Bajenescu

Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems By Marius Bazu, Titu Bajenescu

Failure analysis is the preferred method to investigate product or process reliability and to ensure optimum performance of electrical components and systems. The physics-of-failure approach is the only internationally accepted solution for continuously improving the reliability of materials, devices and processes. The models have been developed from the physical and chemical phenomena that are responsible for degradation or failure of electronic components and materials and now replace popular distribution models for failure mechanisms such as Weibull or lognormal.

Reliability engineers need practical orientation around the complex procedures involved in failure analysis. This guide acts as a tool for all advanced techniques, their benefits and vital aspects of their use in a reliability programme. Using twelve complex case studies, the authors explain why failure analysis should be used with electronic components, when implementation is appropriate and methods for its successful use.

Inside you will find detailed coverage on:

- a synergistic approach to failure modes and mechanisms, along with reliability physics and the failure analysis of materials, emphasizing the vital importance of cooperation between a product development team involved
- the reasons why failure analysis is an important tool for improving yield and reliability by corrective actions
- the design stage, highlighting the ‘concurrent engineering' approach and DfR (Design for Reliability)
- failure analysis during fabrication, covering reliability monitoring, process monitors and package reliability
- reliability resting after fabrication, including reliability assessment at this stage and corrective actions
- a large variety of methods, such as electrical methods, thermal methods, optical methods, electron microscopy, mechanical methods, X-Ray methods, spectroscopic, acoustical, and laser methods

- new challenges in reliability testing, such as its use in microsystems and nanostructures

This practical yet comprehensive reference is useful for manufacturers and engineers involved in the design, fabrication and testing of electronic components, devices, ICs and electronic systems, as well as for users of components in complex systems wanting to discover the roots of the reliability flaws for their products.

Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems

By Marius Bazu, Titu Bajenescu

Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems By Marius Bazu, Titu Bajenescu

Failure analysis is the preferred method to investigate product or process reliability and to ensure optimum performance of electrical components and systems. The physics-of-failure approach is the only internationally accepted solution for continuously improving the reliability of materials, devices and processes. The models have been developed from the physical and chemical phenomena that are responsible for degradation or failure of electronic components and materials and now replace popular distribution models for failure mechanisms such as Weibull or lognormal.

Reliability engineers need practical orientation around the complex procedures involved in failure analysis. This guide acts as a tool for all advanced techniques, their benefits and vital aspects of their use in a reliability programme. Using twelve complex case studies, the authors explain why failure analysis should be used with electronic components, when implementation is appropriate and methods for its successful use.

Inside you will find detailed coverage on:

- a synergistic approach to failure modes and mechanisms, along with reliability physics and the failure analysis of materials, emphasizing the vital importance of cooperation between a product development team involved
- the reasons why failure analysis is an important tool for improving yield and reliability by corrective actions
- the design stage, highlighting the ‘concurrent engineering' approach and DfR (Design for Reliability)
- failure analysis during fabrication, covering reliability monitoring, process monitors and package reliability
- reliability resting after fabrication, including reliability assessment at this stage and corrective actions
- a large variety of methods, such as electrical methods, thermal methods, optical methods, electron microscopy, mechanical methods, X-Ray methods, spectroscopic, acoustical, and laser methods
- new challenges in reliability testing, such as its use in microsystems and nanostructures

This practical yet comprehensive reference is useful for manufacturers and engineers involved in the design, fabrication and testing of electronic components, devices, ICs and electronic systems, as well as for users of components in complex systems wanting to discover the roots of the reliability flaws for their products.

Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems By Marius Bazu, Titu Bajenescu Bibliography

- Sales Rank: #3171837 in Books
- Published on: 2011-04-25
- Original language: English
- Number of items: 1

- Dimensions: 9.90" h x .94" w x 7.00" l, 1.65 pounds
- Binding: Hardcover
- 340 pages

Editorial Review

From the Back Cover
Failure analysis is the preferred method to investigate product or process reliability and to ensure optimum performance of electrical components and systems. The physics-of-failure approach is the only internationally accepted solution for continuously improving the reliability of materials, devices and processes. The models have been developed from the physical and chemical phenomena that are responsible for degradation or failure of electronic components and materials and now replace popular distribution models for failure mechanisms such as Weibull or lognormal.

Reliability engineers need practical orientation around the complex procedures involved in failure analysis. This guide acts as a tool for all advanced techniques, their benefits and vital aspects of their use in a reliability programme. Using twelve complex case studies, the authors explain why failure analysis should be used with electronic components, when implementation is appropriate and methods for its successful use.

Inside you will find detailed coverage on:

- a synergistic approach to failure modes and mechanisms, along with reliability physics and the failure analysis of materials, emphasizing the vital importance of cooperation between a product development team involved
- the reasons why failure analysis is an important tool for improving yield and reliability by corrective actions
- the design stage, highlighting the 'concurrent engineering' approach and DfR (Design for Reliability)
- failure analysis during fabrication, covering reliability monitoring, process monitors and package reliability
- reliability resting after fabrication, including reliability assessment at this stage and corrective actions
- a large variety of methods, such as electrical methods, thermal methods, optical methods, electron microscopy, mechanical methods, X-Ray methods, spectroscopic, acoustical, and laser methods
- new challenges in reliability testing, such as its use in microsystems and nanostructures

This practical yet comprehensive reference is useful for manufacturers and engineers involved in the design, fabrication and testing of electronic components, devices, ICs and electronic systems, as well as for users of components in complex systems wanting to discover the roots of the reliability flaws for their products.

Users Review

From reader reviews:

Linda Pinkerton:

As people who live in the modest era should be update about what going on or facts even knowledge to make them keep up with the era and that is always change and make progress. Some of you maybe will probably update themselves by examining books. It is a good choice for you but the problems coming to an individual is you don't know what type you should start with. This Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems is our recommendation to help you keep up with the world. Why, because book serves what you want and need in this era.

Kathleen Dominguez:

This Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems are generally reliable for you who want to be a successful person, why. The explanation of this Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems can be one of several great books you must have will be giving you more than just simple studying food but feed you actually with information that might be will shock your previous knowledge. This book is handy, you can bring it all over the place and whenever your conditions throughout the e-book and printed versions. Beside that this Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems giving you an enormous of experience including rich vocabulary, giving you trial of critical thinking that could it useful in your day action. So , let's have it and enjoy reading.

Donald Chen:

Reading a e-book can be one of a lot of exercise that everyone in the world loves. Do you like reading book so. There are a lot of reasons why people fantastic. First reading a reserve will give you a lot of new information. When you read a book you will get new information since book is one of a number of ways to share the information or maybe their idea. Second, reading a book will make a person more imaginative. When you looking at a book especially fictional book the author will bring you to imagine the story how the people do it anything. Third, you are able to share your knowledge to other folks. When you read this Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems, you could tells your family, friends and also soon about yours guide. Your knowledge can inspire the mediocre, make them reading a publication.

Leon King:

A lot of people always spent their free time to vacation or even go to the outside with them household or their friend. Do you realize? Many a lot of people spent they will free time just watching TV, or playing video games all day long. If you want to try to find a new activity that is look different you can read any book. It is really fun for you. If you enjoy the book which you read you can spent the entire day to reading a book. The book Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems it is very good to read. There are a lot of individuals who recommended this book. They were enjoying reading this book. In case you did not have enough space to deliver this book you can buy often the e-book. You can m0ore simply to read this book from a smart phone. The price is not too expensive but this book possesses high quality.

Read Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems By Marius Bazu, Titu Bajenescu for online ebook

Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems By Marius Bazu, Titu Bajenescu 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 Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems By Marius Bazu, Titu Bajenescu books to read online.

Online Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems By Marius Bazu, Titu Bajenescu ebook PDF download

Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems By Marius Bazu, Titu Bajenescu Doc

Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems By Marius Bazu, Titu Bajenescu Mobipocket

Failure Analysis: A Practical Guide for Manufacturers of Electronic Components and Systems By Marius Bazu, Titu Bajenescu EPub