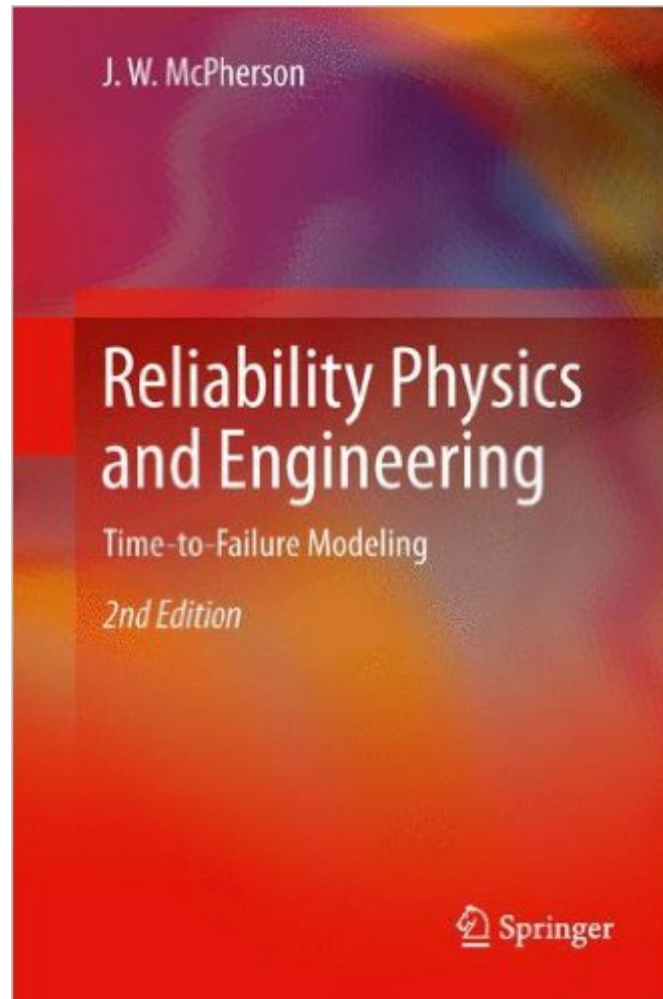


The book was found

Reliability Physics And Engineering: Time-To-Failure Modeling



Synopsis

"Reliability Physics and Engineering" provides critically important information for designing and building reliable cost-effective products. The textbook contains numerous example problems with solutions. Included at the end of each chapter are exercise problems and answers. "Reliability Physics and Engineering" is a useful resource for students, engineers, and materials scientists.

Book Information

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Customer Reviews

Author Joe W. McPherson received his Ph. D. degree in physics from Florida State University; and he has been with Texas Instruments since 1980. He is now Texas Instruments Senior Fellow Emeritus. He has 150 publications in the field of semiconductor reliability. He applies science to reliability problems to solve them. Throughout the book, the author tries to give examples for reliability issues for pipes, tires, turbine blades, but without question, the primary thrust of the book is semiconductor reliability. The chapters deal with device degradation and fitting degradation data; statistics (Normal, Lognormal and Weibull distribution); failure rate; accelerated degradation and modeling, ramp to failure test, and TTF models for semiconductor circuits (this being the condensed version of Dr. McPherson's work), mechanical reliability issues and conversion of dynamic stress into static equivalent. There are plenty of examples (with realistic experimental data) in each chapter to illustrate how to fit data, how to construct the statistics and calculate statistical variables; how to accelerate degradation and to project to use conditions for exponential and power law models;

analytical formulas for ramp testing establishing effective time at fail stress level for exponential and power law models.

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