

Physics of Failure in Electronics

Volume 3

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RELIABILITY SERIES

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A. T. CULBERTSON
Brig. Gen. USAF
Commander

Preface

THIS VOLUME contains the proceedings of the 1964 Symposium on the Physics of Failure in Electronics held at the Illinois Institute of Technology in Chicago on 29 September-1 October 1964. This is the third of an annual series of symposia jointly sponsored by the Rome Air Development Center and IIT Research Institute.

As in previous years, the general purpose of the meeting was to provide an exchange of views on the sources and nature of the basic mechanisms which contribute to degradation, aging, and failure of electronic devices. Specifically, it served as a forum for the physicist, chemist, and metallurgist engaged in a study of such mechanisms to discuss their findings with the other disciplines collectively charged with designing, developing, and demonstrating the reliability of electronic devices.

Introductory remarks were made at the opening session by V. H. Disney, on behalf of the IIT Research Institute, and an opening address was given by Brig. General A. T. Culbertson, Commander, Rome Air Development Center, USAF. A luncheon address was delivered by Col. A. C. Lowell (USMC, Ret.), President of General Microelectronics, Inc.

Chronologically, the symposium was divided into five half-day sessions as follows: Session I—Test, Analysis, and Correlation; Session II—Surface Effects; Session III—Principles and Applications; Session IV—Effects in Films; Session V—Bulk Effects. Included in this volume are also a number of standby papers which were not presented at the symposium.

The symposium co-chairmen were:

MORTON E. GOLDBERG
IIT Research Institute

DAVID F. BARBER
Rome Air Development Center, USAF

Session moderators were:

G. HENDERSON
Martin Company, Orlando, Florida

W. M. REDLER
NASA Headquarters, Washington, D.C.

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MORTON E. GOLDBERG
JOSEPH VACCARO

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