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Electronic Packaging Materials and Their Properties

CRC Press Packaging materials strongly affect the effectiveness of an electronic packaging system regarding reliability, design, and cost. In electronic systems, packaging materials may serve as electrical conductors or insulators, create structure and form, provide thermal paths, and protect the circuits from environmental factors, such as moisture, contamination, hostile chemicals, and radiation. **Electronic Packaging Materials and Their Properties** examines the array of packaging architecture, outlining the classification of materials and their use for various tasks requiring performance over time. Applications discussed include: interconnections printed circuit boards substrates encapsulants dielectrics die attach materials electrical contacts thermal materials solders **Electronic Packaging Materials and Their Properties** also reviews key electrical, thermal, thermomechanical, mechanical, chemical, and miscellaneous properties as well as their significance in electronic packaging.

Materials for Electronic Packaging

Elsevier Although materials play a critical role in electronic packaging, the vast majority of attention has been given to the systems aspect. **Materials for Electronic Packaging** targets materials engineers and scientists by focusing on the materials perspective. The last few decades have seen tremendous progress in semiconductor technology, creating a need for effective electronic packaging. **Materials for Electronic Packaging** examines the interconnections, encapsulations, substrates, heat sinks and other components involved in the packaging of integrated circuit chips. These packaging schemes are crucial to the overall reliability and performance of electronic systems. Consists of 16 self-contained chapters, contributed by a variety of active researchers from industrial, academic and governmental sectors Addresses the need of materials scientists/engineers, electrical engineers, mechanical engineers, physicists and chemists to acquire a thorough knowledge of materials science Explains how the materials for electronic packaging determine the overall effectiveness of electronic systems

Electronic Packaging Science and Technology

John Wiley & Sons Must-have reference on electronic packaging technology! The electronics industry is shifting towards system packaging technology due to the need for higher chip circuit density without increasing production costs. **Electronic packaging, or circuit integration, is seen as a necessary strategy to achieve a performance growth of electronic circuitry in next-generation electronics. With the implementation of novel materials with specific and tunable electrical and magnetic properties, electronic packaging is highly attractive as a solution to achieve denser levels of circuit integration. The first part of the book gives an overview of electronic packaging and provides the reader with the fundamentals of the most important packaging techniques such as wire bonding, tap automatic bonding, flip chip solder joint bonding, microbump bonding, and low temperature direct Cu-to-Cu bonding. Part two consists of concepts of electronic circuit design and its role in low power devices, biomedical devices, and circuit integration. The last part of the book contains topics based on the science of electronic packaging and the reliability of packaging technology.**

Advanced Materials for Thermal Management of Electronic Packaging

Springer Science & Business Media The need for advanced thermal management materials in electronic packaging has been widely recognized as thermal challenges become barriers to the electronic industry's ability to provide continued improvements in device and system performance. With increased performance requirements for smaller, more capable, and more efficient electronic power devices, systems ranging from active electronically scanned radar arrays to web servers all require components that can dissipate heat efficiently. This requires that the materials have high capability of dissipating heat and maintaining compatibility with the die and electronic packaging. In response to critical needs, there have been revolutionary advances in thermal management materials and technologies for active and passive cooling that promise integrable and cost-effective thermal management solutions. This book meets the need for a comprehensive approach to advanced thermal management in electronic packaging, with coverage of the fundamentals of heat transfer, component design guidelines, materials selection and assessment, air, liquid, and thermoelectric cooling, characterization techniques and methodology, processing and manufacturing technology, balance between cost and performance, and application niches. The final chapter presents a roadmap and future perspective on developments in advanced thermal management materials for electronic packaging.

Materials for High-Density Electronic Packaging and Interconnection

National Academies Press

Food Packaging

Advanced Materials, Technologies, and Innovations

CRC Press **Food Packaging: Advanced Materials, Technologies, and Innovations** is a one-stop reference for packaging materials researchers working across various industries. With chapters written by leading international researchers from industry, academia, government, and private research institutions, this book offers a broad view of important developments in food packaging. Presents an extensive survey of food packaging materials and modern technologies Demonstrates the potential of various materials for use in demanding applications Discusses the use of polymers, composites, nanotechnology, hybrid materials, coatings, wood-based, and other materials in packaging Describes biodegradable packaging, antimicrobial studies, and environmental issues related to packaging materials Offers current status, trends, opportunities, and future directions Aimed at advanced students, research scholars, and professionals in food packaging development, this application-oriented book will help expand the reader's knowledge of advanced materials and their use of innovation in food packaging.

Semiconductor Packaging

Materials Interaction and Reliability

CRC Press In semiconductor manufacturing, understanding how various materials behave and interact is critical to making a reliable and robust semiconductor package. **Semiconductor Packaging: Materials Interaction and Reliability** provides a fundamental understanding of the underlying physical properties of the materials used in a semiconductor package. By tying together the disparate elements essential to a semiconductor package, the authors show how all the parts fit and work together to provide durable protection for the integrated circuit chip within as well as a means for the chip to communicate with the outside world. The text also covers packaging materials for MEMS, solar technology, and LEDs and explores future trends in semiconductor packages.

Electronic Composites

Modeling, Characterization, Processing, and MEMS Applications

Cambridge University Press This 2005 book describes the processing, simulation and applications of electronic composites.

Thermo-mechanical Properties of Packaging Materials and Their Applications to Reliability Evaluation for Electronic Packages

Power Electronic Packaging

Design, Assembly Process, Reliability and Modeling

Springer Science & Business Media **Power Electronic Packaging** presents an in-depth overview of power electronic packaging design, assembly, reliability and modeling. Since there is a drastic difference between IC fabrication and power electronic packaging, the book systematically introduces typical power electronic packaging design, assembly, reliability and failure analysis and material selection so readers can clearly understand each task's unique characteristics. Power electronic packaging is one of the fastest growing segments in the power electronic industry, due to the rapid growth of power integrated circuit (IC) fabrication, especially for applications like portable, consumer, home, computing and automotive electronics. This book also covers how advances in both semiconductor content and power advanced package design have helped cause advances in power device capability in recent years. The author extrapolates the most recent trends in the book's areas of focus to highlight where further improvement in materials and techniques can drive continued advancements, particularly in thermal management, usability, efficiency, reliability and overall cost of power semiconductor solutions.

Materials for Advanced Packaging

Springer Significant progress has been made in advanced packaging in recent years. Several new packaging techniques have been developed and new packaging materials have been introduced. This book provides a comprehensive overview of the recent developments in this industry, particularly in the areas of microelectronics, optoelectronics, digital health, and bio-medical applications. The book discusses established techniques, as well as emerging technologies, in order to provide readers with the most up-to-date developments in advanced packaging.

Reliability and Failure of Electronic Materials and Devices

Academic Press **Reliability and Failure of Electronic Materials and Devices** is a well-established and well-regarded reference work offering unique, single-source coverage of most major topics related to the performance and failure of materials used in electronic devices and electronics packaging. With a focus on statistically predicting failure and product yields, this book can help the design engineer, manufacturing engineer, and quality control engineer all better understand the common mechanisms that lead to electronics materials failures, including dielectric breakdown, hot-electron effects, and radiation damage. This new edition adds cutting-edge knowledge gained both in research labs and on the manufacturing floor, with new sections on plastics and other new packaging materials, new testing procedures, and new coverage of MEMS devices. Covers all major types of electronics materials degradation and their causes, including dielectric breakdown, hot-electron effects, electrostatic discharge, corrosion, and failure of contacts and solder joints. New updated sections on "failure physics," on mass transport-induced failure in copper and low-k dielectrics, and on reliability of lead-free/reduced-lead solder connections. New chapter on testing procedures, sample handling and sample selection, and experimental design. Coverage of new packaging materials, including plastics and composites.

Handbook of Electronic Package Design

CRC Press Both a handbook for practitioners and a text for use in teaching electronic packaging concepts, guidelines, and techniques. The treatment begins with an overview of the electronics design process and proceeds to examine the levels of electronic packaging and the fundamental issues in the development

Nano-Bio- Electronic, Photonic and MEMS Packaging

Springer Science & Business Media **Nanotechnologies** are being applied to the biotechnology area, especially in the area of nano material synthesis. Until recently, there has been little research into how to implement nano/bio materials into the device level. "Nano and Bio Electronics Packaging" discusses how nanofabrication techniques can be used to customize packaging for nano devices with applications to biological and biomedical research and products. Covering such topics as nano bio sensing electronics, bio device packaging, NEMs for Bio Devices and much more.

Introduction to the Electronic Properties of Materials

CRC Press Electronic materials provide the basis for many high tech industries that have changed rapidly in recent years. In this fully revised and updated second edition, the author discusses the range of available materials and their technological applications. **Introduction to the Electronic Properties of Materials, 2nd Edition** presents the principles of the behavior of electrons in materials and develops a basic understanding with minimal technical detail. Broadly based, it touches on all of the key issues in the field and offers a multidisciplinary approach spanning physics, electrical engineering, and materials science. It provides an understanding of the behavior of electrons within materials, how electrons determine the magnetic thermal, optical and electrical properties of materials, and how electronic properties are controlled for use in technological applications. Although some mathematics is essential in this area, the mathematics that is used is easy to follow and kept to an appropriate level for the reader. An excellent introductory text for undergraduate students, this book is a broad introduction to the topic and provides a careful balance of information that will be appropriate for physicists, materials scientists, and electrical engineers.

Electronic Packaging Materials Science

Sustainable Design and Manufacturing

Proceedings of the 8th International Conference on Sustainable Design and Manufacturing (KES-SDM 2021)

Springer Nature This book consists of peer-reviewed papers, presented at the International Conference on Sustainable Design and Manufacturing (SDM 2021). Leading-edge research into sustainable design and manufacturing aims to enable the manufacturing industry to grow by adopting more advanced technologies and at the same time improve its sustainability by reducing its environmental impact. Relevant themes and topics include sustainable design, innovation and services; sustainable manufacturing processes and technology; sustainable manufacturing systems and enterprises; and decision support for sustainability. Application areas are wide and varied. The book will provide an excellent overview of the latest developments in the sustainable design and manufacturing area.

Electronic Packaging Materials Science V: Symposium Held in Boston, Massachusetts on 26-29 November 1990. Materials Research Society Symposium Proceedings

The theme of the symposium deals with materials-related issues important to the future of technology for the packaging and interconnection of electronic components. This technology is on the critical path to increased performance of office computers and workstations, home computers, mainframes, supercomputers, control systems in automobiles, navigation and avionics, fast processors for medical diagnostics, or the huge telecommunications industry. It is true of all these applications that major advanced in packaging and interconnect are only possible with concomitant progress in materials science. Performance is not the only issue so influences, so too is compactness, lightness and cost to the consumer. The symposium included sessions on the mechanical and deformation properties of polymer interfaces (with emphasis and the effects of plastic behavior in polymeric thin films, and general attention to stress effects on reliability), protective coatings for IC's, polymers and polymer-processing for high density packaging (e.g., photoimageable polyimides, use of liquid crystals to control thermal expansion, effect of curing on stress in polyimides in multilayer structures), ceramics and glass-ceramics (emphasis on aluminum nitride bulk, and interface properties), metallization techniques (low temperature CVD of copper films, laser planarization, laser assisted deposition of catalysts for electroless and electrolytic plating of copper), solders and soldering (including fatigue life predictions for solder joints), and measurement of material properties of thin films.

Wide Bandgap Power Semiconductor Packaging

Materials, Components, and Reliability

Woodhead Publishing **Wide Bandgap Power Semiconductor Packaging: Materials, Components, and Reliability** addresses the key challenges that WBG power semiconductors face during integration, including heat resistance, heat dissipation and thermal stress, noise reduction at high frequency and discrete components, and challenges in interfacing, metallization, plating, bonding and wiring. Experts on the topic present the latest research on materials, components and methods of reliability and evaluation for WBG power semiconductors and suggest solutions to pave the way for integration. As wide bandgap (WBG) power semiconductors, SiC and GaN, are the latest promising electric conversion devices because of their excellent features, such as high breakdown voltage, high frequency capability, and high heat-resistance beyond 200 C, this book is a timely resource on the topic. Examines the key challenges of wide bandgap power semiconductor packaging at various levels, including materials, components and device performance Provides the latest research on potential solutions, with an eye towards the end goal of system integration Discusses key problems, such as thermal management, noise reduction, challenges in interconnects and substrates

The Electronic Packaging Handbook

CRC Press The packaging of electronic devices and systems represents a significant challenge for product designers and managers. Performance, efficiency, cost considerations, dealing with the newer IC packaging technologies, and EMI/RFI issues all come into play. Thermal considerations at both the device and the systems level are also necessary. The **Electronic Packaging Handbook**, a new volume in the **Electrical Engineering Handbook Series**, provides essential factual information on the design, manufacturing, and testing of electronic devices and systems. Co-published with the IEEE, this is an ideal resource for engineers and technicians involved in any aspect of design, production, testing or packaging of electronic products, regardless of whether they are commercial or industrial in nature. Topics addressed include design automation, new IC packaging technologies, materials, testing, and safety. Electronics packaging continues to include expanding and evolving topics and technologies, as the demand for smaller, faster, and lighter products continues without signs of abatement. These demands mean that individuals in each of the specialty areas involved in electronics packaging—such as electronic, mechanical, and thermal designers, and manufacturing and test engineers—are all interdependent on each others knowledge. The **Electronic Packaging Handbook** elucidates these specialty areas and helps individuals broaden their knowledge base in this ever-growing field.

Epoxy Compounds—Advances in Research and Application: 2013 Edition

ScholarlyEditions **Epoxy Compounds—Advances in Research and Application: 2013 Edition** is a ScholarlyEditions™ book that delivers timely, authoritative, and comprehensive information about Epichlorohydrin. The editors have built **Epoxy Compounds—Advances in Research and Application: 2013 Edition** on the vast information databases of ScholarlyNews.™ You can expect the information about Epichlorohydrin in this book to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of **Epoxy Compounds—Advances in Research and Application: 2013 Edition** has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

Encyclopedia of Packaging Materials, Processes, and Mechanics: Set 1 - Interconnect and Wafer Bonding Technology

World Scientific

Electronic Packaging Materials Science

Polymeric Materials for Electronics Packaging and Interconnection

Amer Chemical Society Polymers play an increasingly important role in the construction of integrated circuitry and many electronic devices. This new volume provides an overview of this important topic with an emphasis on the chemical and materials properties of polymers for electronic packaging. Its 39 chapters cover a broad spectrum of topics in four general areas: physical chemistry of materials, properties and applications of encapsulants, properties and applications of gels, and printed circuit board substrates and materials for circuit board substrates. Also includes a review of the marketing trends that drive packaging technology.

Electronic Packaging Materials Science VIII: Volume 390

Mrs Proceedings The dynamic nature of the microelectronics industry, in particular within the area of packaging, requires a continuous updating and revision of priorities. In an effort to communicate these priorities to researchers and engineers in the field, the National Technology Road Map was developed. This proceedings volume, the eighth in a series on electronic packaging, focuses on the materials research, development and processing issues identified in the road map. Topics include: an overview of the National Technology Road Map for Semiconductors; institutional and industrial perspectives; impact on materials needs and materials science issues; and research responses. Technical subtopics include polymers, ceramics, solder and composites.

Materials Research Society Symposia Proceedings. Volume 72. Electronic Packaging Materials Science II, Held in Palo Alto, California on 15-18 April 1986

The symposium explored the materials science aspects of electronic packaging. Electronic packaging has come to include interconnection technology, which involves aspects of on-chip processing, such as deposited dielectrics, interconnects and encapsulants, as well as chip carrier and printed circuit board fabrication. A very broad range of materials was discussed at the symposium, including metals, polymers and ceramics. The interfaces between various materials was a major concern, especially the role of interfaces in adhesion. Ceramics are in widespread use as chip carriers, and for this use, there is a need for low dielectric constant materials, for controlled thermal properties, and for ceramics with small shrinkage and good dimensional stability during firing. Methods were reported for making porous ceramics to reduce the dielectric constant. Interfaces between ceramics and glasses and between glasses and polymers play an important role in the properties of chip carriers and printed circuit boards. Several authors reported on the processing and properties of polyimides which are used extensively for on-chip deposited dielectric layers.

An Introduction to Electronic Materials for Engineers

World Scientific Presents an overview of various materials, such as conducting materials, semiconductors, magnetic materials, optical materials, dielectric materials, superconductors, thermoelectric materials and ionic materials. This title includes chapters on thin film electronic materials, organic electronic materials and nanostructured materials.

Advanced Electronic Packaging

Wiley-IEEE Press This book updates the book, *Advanced Electronic Packaging: With Emphasis on Multichip Modules*, Ed. W.D. Brown, IEEE Press, copyright 1999. The original edition of the book has been widely adopted by industry and has been and is still being adopted by universities for graduate courses.

Advanced Thermal Management Materials

Springer Science & Business Media *Advanced Thermal Management Materials* provides a comprehensive and hands-on treatise on the importance of thermal packaging in high performance systems. These systems, ranging from active electronically-scanned radar arrays to web servers, require components that can dissipate heat efficiently. This requires materials capable of dissipating heat and maintaining compatibility with the packaging and dye. Coverage includes all aspects of thermal management materials, both traditional and non-traditional, with an emphasis on metal based materials. An in-depth discussion of properties and manufacturing processes, and current applications are provided. Also presented are a discussion of the importance of cost, performance and reliability issues when making implementation decisions, product life cycle developments, lessons learned and future directions.

Electronic Packaging and Interconnection Handbook

McGraw-Hill Companies Charles A. Harper's 2nd edition on designing and manufacturing all the major types of electronic systems is now double the size of the 1st edition. It draws upon the expertise of a dozen experts to make sense of this highly interdisciplinary field

Printed Circuit Board Materials Handbook

McGraw Hill Professional *Select PCB materials for top performing boards* From weaving glass fiber mats to testing finished boards, this one-stop materials database offers the first close-up look at how to process and fabricate world-class PCBs. *Printed Circuit Board Materials Handbook* gives you a complete, hands-on working knowledge of the electrical, mechanical and physical properties of PCB raw materials - plus the expertise to transform them into a high-performance printed circuit card. Packed with over 400 how-to illustrations, this encyclopedia tool gives you the know-how to: Master the processes for glass fiber reinforcement, polyimide film, PET, PEN, and resins Work with copper foils, anodes, prepreg and laminates, aramid mats, and drill bits and routers Fabricate rigid and flexible printed wiring boards Apply the latest coating, laminating, etching, and electroplating methods Maximize techniques for hot air leveling, microsection analysis and electrical test Resolve controversial cleaning issues and CFC problems plus conduct troubleshooting and failure analysis Much more

Encyclopedia Of Packaging Materials, Processes, And Mechanics - Set 1: Die-attach And Wafer Bonding Technology (A 4-volume Set)

World Scientific Packaging materials, assembly processes, and the detailed understanding of multilayer mechanics have enabled much of the progress in miniaturization, reliability, and functional density achieved by modern electronic, microelectronic, and nanoelectronic products. The design and manufacture of miniaturized packages, providing low-loss electrical and/or optical communication, while protecting the semiconductor chips from environmental stresses and internal power cycling, require a carefully balanced selection of packaging materials and processes. Due to the relative fragility of these semiconductor chips, as well as the underlying laminated substrates and the bridging interconnect, selection of the packaging materials and processes is inextricably bound with the mechanical behavior of the intimately packaged multilayer structures, in all phases of development for traditional, as well as emerging, electronic product categories. The Encyclopedia of Packaging Materials, Processes, and Mechanics, compiled in 8, multi-volume sets, provides comprehensive coverage of the configurations and techniques, assembly materials and processes, modeling and simulation tools, and experimental characterization and validation techniques for electronic packaging. Each of the volumes presents the accumulated wisdom and shared perspectives of leading researchers and practitioners in the packaging of electronic components. The Encyclopedia of Packaging Materials, Processes, and Mechanics will provide the novice and student with a complete reference for a quick ascent on the packaging 'learning curve,' the practitioner with a validated set of techniques and tools to face every challenge in packaging design and development, and researchers with a clear definition of the state-of-the-art and emerging needs to guide their future efforts. This encyclopedia will, thus, be of great interest to packaging engineers, electronic product development engineers, and product managers, as well as to researchers in the assembly and mechanical behavior of electronic and photonic components and systems. It will be most beneficial to undergraduate and graduate students studying materials, mechanical, electrical, and electronic engineering, with a strong interest in electronic packaging applications.

Electronic Packaging Materials Science IX: Volume 445

Mrs Proceedings While this book continues the spirit of the MRS series on materials science related to the development of electronic packaging, it also focuses on three very specific technological areas - technology for flip-chip packaging, materials metrology and characterization, and packaging reliability and testing. These are important areas for technology development in electronic packaging, particularly since materials and processing play an important role in controlling system performance and reliability. Topics include: flip-chip and solder technology; future packaging technology; manufacturing technology in packaging; packaging materials and metrology; interfacial adhesion and fracture and packaging reliability and testing.

Electrical and Electronic Properties of Materials

BoD - Books on Demand Materials properties, whether microscopic or macroscopic, are of immense interest to the materials scientists, physicists, chemists as well as to engineers. Investigation of such properties, theoretically and experimentally, has been one of the fundamental research directions for many years that has also resulted in the discovery of many novel materials. It is also equally important to correctly model and measure these materials properties. Keeping such interests of research communities in mind, this book has been written on the properties of polyesters, varistor ceramics, and powdered porous compacts and also covers some measurement and parameter extraction methods for dielectric materials. Four contributed chapters and an introductory chapter from the editor explain each class of materials with practical examples.

Proceedings of the Second International Symposium on Diamond Materials

Modeling, Analysis, Design, and Tests for Electronics Packaging beyond Moore

Woodhead Publishing Modeling, Analysis, Design and Testing for Electronics Packaging Beyond Moore provides an overview of electrical, thermal and thermomechanical modeling, analysis, design and testing for 2.5D/3D. The book addresses important topics, including electrically and thermally induced issues, such as EMI and thermal issues, which are crucial to package signal and thermal integrity. It also covers modeling methods to address thermomechanical stress related to the package structural integrity. In addition, practical design and test techniques for packages and systems are included. Includes advanced modeling and analysis methods and techniques for state-of-the-art electronics packaging. Features experimental characterization and qualifications for the analysis and verification of electronic packaging design. Provides multiphysics modeling and analysis techniques of electronic packaging.

Essentials of Electronic Packaging

A Multidisciplinary Approach

Amer Society of Mechanical This book provides the basic essentials and fundamentals of electronic packaging technology. It introduces the language and terminology, as well as the basic building blocks of information processing technology such as: a) printed wiring boards and laminates b) various types of components and packages c) materials and processes d) fundamentals of reliability and relevant reliability enhancement methods, and e) typical failures observed are described. A fully tested semiconductor device is the starting point for this text. Thus, no background in the semiconductor design or fabrication is assumed. The reader is exposed to the interaction and convergence of various disciplines such as chemistry, physics, materials science, metallurgy, process engineering in the fabrication of an electronic appliance. The reader is also made aware of the emerging trends in electronic packaging to prepare him or her for the near-term miniaturization and integration of technology trends.

Materials Research Society Symposia Proceedings. Volume 40. Electronic Packaging Materials Science Held on November 27-29, 1984 at Boston, Massachusetts

The principal aim of the Symposium was to convene scientists from the diverse disciplines related to the electronic packaging technology. The original Preliminary Announcement and Call for Papers set the theme and scope as follows: Improvements in electronic system include more complex packages to carry and interconnect semiconductor devices. As packages evolve from simple designs and parts into complicated multicomponent ones, the technology increasingly must draw support from multidisciplinary materials science. Ceramics, polymers and metals are used in combinations where it is necessary to understand their interface structures and properties as well as bulk properties. Specific topics listed were: Materials processing principles; Composites and Interfaces of Ceramics, Metals and Polymers; Fracture Mechanics and Interface Failure, fatigue; Interdiffusion and Reactions in Mixed Systems; and Interface Characterization Techniques.

Electronic Materials Handbook

Packaging

ASM International Volume 1: Packaging is an authoritative reference source of practical information for the design or process engineer who must make informed day-to-day decisions about the materials and processes of microelectronic packaging. Its 117 articles offer the collective knowledge, wisdom, and judgement of 407 microelectronics packaging experts-authors, co-authors, and reviewers-representing 192 companies, universities, laboratories, and other organizations. This is the inaugural volume of ASM's all-new Electronic Materials Handbook series, designed to be the Metals Handbook of electronics technology. In over 65 years of publishing the Metals Handbook, ASM has developed a unique editorial method of compiling large technical reference books. ASM's access to leading materials technology experts enables to organize these books on an industry consensus basis. Behind every article is an author who is a top expert in its specific subject area. This multi-author approach ensures the best, most timely information throughout. Individually selected panels of 5 and 6 peers review each article for technical accuracy, generic point of view, and completeness. Volumes in the Electronic Materials Handbook series are multidisciplinary, to reflect industry practice applied in integrating multiple technology disciplines necessary to any program in advanced electronics. Volume 1: Packaging focusing on the middle level of the electronics technology size spectrum, offers the greatest practical value to the largest and broadest group of users. Future volumes in the series will address topics on larger (integrated electronic assemblies) and smaller (semiconductor materials and devices) size levels.

Proceedings of the Symposium on Polymeric Materials for Electronic Packaging and High Technology Applications