



an Open Access Journal by MDPI

Mechanical Behavior of Interconnection Materials in Power Device Packaging Under Harsh Applications

Guest Editors:

Dr. Tong An

Institute of Electronics Packaging Technology and Reliability, School of Mathematics, Statistics and Mechanics, Beijing University of Technology, Beijing 100124, China

Dr. Jing Han

College of Materials Science & Engineering, Beijing University of Technology, Beijing 100124, China

Dr. Zhen Wang

Institute of Electronics Packaging Technology and Reliability, School of Mathematics, Statistics and Mechanics, Beijing University of Technology, Beijing 100124, China

Message from the Guest Editors

Power devices have complex service environments and high reliability requirements. For instance, the service environment of automotive-grade power devices is very harsh, often requiring them to withstand severe temperatures ($-40\sim 150\text{ }^{\circ}\text{C}$) and mechanical loads (vibration or shock) at the same time and still be able to operate normally; additionally, power devices applied to power systems often work in extreme weather conditions. In practical applications, interconnection materials in power devices also tend to experience harsh loading conditions. The degradation of the mechanical properties of the interconnection materials seriously affects the conductive and heat transfer characteristics of power devices and ultimately leads to them failing; therefore, the methods, testing, and evaluation of the mechanical behavior of interconnection materials in power device packaging under harsh applications are important issues.

Deadline for manuscript submissions:

closed (20 June 2025)



mdpi.com/si/202298

Special Issue



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada

2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank: JCR - Q2 (Metallurgy and Metallurgical Engineering) / CiteScore - Q1 (Condensed Matter Physics)

Contact Us

Materials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/materials
materials@mdpi.com
[X@Materials_Mdpi](https://twitter.com/Materials_Mdpi)