IEC 62047-52

Edition 1.0 2026-03

INTERNATIONAL STANDARD

Semiconductor devices - Micro-electromechanical devices - Part 52: Biaxial tensile testing method for stretchable MEMS

ICS 31.080.99

ISBN 978-2-8327-1095-1

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IEC 62047-52 has been prepared by subcommittee 47F: Micro-electromechanical systems, of IEC technical committee 47: Semiconductor devices. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
47F/505/CDV	47F/519A/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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- reconfirmed,
- withdrawn, or
- revised.

1 Scope

This part of IEC 62047 specifies a testing method for measuring device performance and failure strain under biaxial tensile deformation in stretchable MEMS materials. The typical examples of the stretchable MEMS materials are flexible single crystalline silicon structures, MEMS circuit boards, interconnected MEMS on a stretchable substrate. The test piece has a cruciform geometry and the test piece thickness ranges from 1 µm to 100 µm with the same thickness as the actual devices. Since the failure strain can vary depending on loading conditions like uniaxial tension and equi-biaxial tension, a biaxial load is applied to a cruciform test piece with varying strain ratio between two perpendicular loading directions.

2 Normative references

There are no normative references in this document.

Bibliography

IEC 62047-2:2006, *Semiconductor devices - Micro-electromechanical devices - Part 2: Tensile testing method of thin film materials*

IEC 62047-3:2006, *Semiconductor devices - Micro-electromechanical devices - Part 3: Thin film standard test piece for tensile testing*

ISO 16842:2021, *Metallic materials - Sheet and strip - Biaxial tensile testing method using a cruciform test piece*