

Semiconductor devices - Mechanical and climatic test methods - Part 10: Mechanical shock - device and subassembly

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 60749-10:2022 sisaldab Euroopa standardi EN IEC 60749-10:2022 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 60749-10:2022 consists of the English text of the European standard EN IEC 60749-10:2022.
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English Version

Semiconductor devices - Mechanical and climatic test methods -
Part 10: Mechanical shock - Device and subassembly
(IEC 60749-10:2022)

Dispositifs à semiconducteurs - Méthodes d'essais
mécaniques et climatiques - Partie 10: Chocs mécaniques -
Dispositif et sous-ensemble
(IEC 60749-10:2022)

Halbleiterbauelemente - Mechanische und klimatische
Prüfverfahren - Teil 10: Mechanischer Schock -
Bauelemente und Unterbaugruppe
(IEC 60749-10:2022)

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European foreword

The text of document 47/2752/FDIS, future edition 2 of IEC 60749-10, prepared by IEC/TC 47 "Semiconductor devices" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60749-10:2022.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2023-03-01
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NORME INTERNATIONALE



**Semiconductor devices – Mechanical and climatic test methods –
Part 10: Mechanical shock – Device and subassembly**

**Dispositifs à semiconducteurs – Méthodes d'essais mécaniques et climatiques –
Partie 10: Chocs mécaniques – Dispositif et sous-ensemble**



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MECHANICAL AND CLIMATIC TEST METHODS –****Part 10: Mechanical shock – Device and subassembly****FOREWORD**

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This edition cancels and replaces the first edition published in 2002. This edition includes the following significant technical changes with respect to the previous edition:

- a) covers both unattached components and components attached to printed wiring boards;
- b) tolerance limits modified for peak acceleration and pulse duration;
- c) mathematical formulae added for velocity change and equivalent drop height.

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

Draft	Report on voting
47/2752/FDIS	47/2760/RVD

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/standardsdev/publications.

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SEMICONDUCTOR DEVICES – MECHANICAL AND CLIMATIC TEST METHODS –

Part 10: Mechanical shock – Device and subassembly

1 Scope

This part of IEC 60749 is intended to evaluate devices in the free state and assembled to printed wiring boards for use in electrical equipment. The method is intended to determine the compatibility of devices and subassemblies to withstand moderately severe shocks. The use of subassemblies is a means to test devices in usage conditions as assembled to printed wiring boards. Mechanical shock due to suddenly applied forces, or abrupt change in motion produced by handling, transportation or field operation can disturb operating characteristics, particularly if the shock pulses are repetitive. This is a destructive test intended for device qualification.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
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3.1

component

constituent part of device or subassembly

Note 1 to entry: Examples include source and drain regions as components of transistors, lead frames and dice as components of packaged integrated circuits, resistors and integrated circuits as components of printed circuit boards, motherboards as components of computers, LCD screens as components of monitors, ac and dc components of complex waveforms, and loops and algorithms as components of software programs.

Note 2 to entry: The classification of an item as a device or a component depends upon the intention of the owner at the time of classification.

3.2

dead-bug orientation

orientation of a package with the terminals facing upwards

3.3

device

piece of equipment, mechanism, or other entity designed to serve a special purpose or perform a special function

Note 1 to entry: The term device is often used as an abbreviated reference to the type or types of solid-state devices that are within the scope of those documents. Context could indicate otherwise; e.g., in the phrase 'the device used to hold the device under test', the first usage of the word 'device' refers to a mechanism; the second to a solid-state device.

Note 2 to entry: The classification of an item as a device or as a component depends upon the intention of the owner at the time of classification.