IEC 60749-26

Edition 5.0 2025-12

INTERNATIONAL STANDARD

Semiconductor devices - Mechanical and climatic test methods -
Part 26: Electrostatic discharge (ESD) sensitivity testing - Human body model (HBM)

ICS 31.080.01

ISBN 978-2-8327-0918-4

IEC 60749-26:2025-12(en)

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FOREWORD

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IEC 60749-26 has been prepared by IEC technical committee 47: Semiconductor devices in collaboration with technical committee 101: Electrostatics. It is an International Standard.

This fifth edition cancels and replaces the fourth edition published in 2018. This edition constitutes a technical revision. This standard is based upon ANSI/ESDA/JEDEC JS-001-2023. It is used with permission of the copyright holders, ESD Association and JEDEC Solid state Technology Association.

This edition includes the following significant technical changes with respect to the previous edition:

a) new definitions have been added;
b) text has been added to clarify the designation of and allowances resulting from “low parasitics”. The new designation includes the maximum number of pins of a device that can pass the test procedure.

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

Draft	Report on voting
47/2963/FDIS	47/2984/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/publications.

A list of all parts in the IEC 60749 series, published under the general title *Semiconductor devices - Mechanical and climatic test methods*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

– reconfirmed,
– withdrawn, or
– revised.

1 Scope

This part of IEC 60749 establishes the procedure for testing, evaluating, and classifying components and microcircuits in accordance with their susceptibility (sensitivity) to damage or degradation by exposure to a defined human body model (HBM) electrostatic discharge (ESD).

The purpose of this document is to establish a test method that will replicate HBM failures and provide reliable, repeatable HBM ESD test results from tester to tester, regardless of component type. Repeatable data will allow accurate classifications and comparisons of HBM ESD sensitivity levels.

ESD testing of semiconductor devices is selected from this test method, the machine model (MM) test method (see IEC 60749-27) or other ESD test methods in the IEC 60749 series. Unless otherwise specified, this test method is the one selected.

2 Normative references

There are no normative references in this document.

Bibliography

IEC 60749 (all parts), *Semiconductor devices - Mechanical and climatic test methods*

IEC 60749-26, *Semiconductor devices - Mechanical and climatic test methods - Part 26: Electrostatic discharge (ESD) sensitivity testing - Human body model (HBM)*

IEC 60749-27, *Semiconductor devices - Mechanical and climatic test methods - Part 27: Electrostatic discharge (ESD) sensitivity testing - Machine model (MM)*

IEC 60749-28, *Semiconductor devices - Mechanical and climatic test methods - Part 28: Electrostatic discharge (ESD) sensitivity testing - Charged device model (CDM) - device level*

ANSI/ESD SP5.0, *For Electrostatic Discharge Sensitivity Testing: Reporting ESD Withstand Levels on Datasheets*

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