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IEC 60749-4

Edition 2.0 2017-03

INTERNATIONAL STANDARD

Semiconductor devices – Mechanical and climatic test methods – Part 4: Damp heat, steady state, highly accelerated stress test (HAST)

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 31.080.01

ISBN 978-2-8322-4002-1

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SEMICONDUCTOR DEVICES – MECHANICAL AND CLIMATIC TEST METHODS –

Part 4: Damp heat, steady state, highly accelerated stress test (HAST)

FOREWORD

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International Standard IEC 60749-4 has been prepared by IEC technical committee 47: Semiconductor devices.

This second edition cancels and replaces the first edition published in 2002. This edition constitutes a technical revision.

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

a) clarification of requirements for temperature, relative humidity and duration detailed in Table 1;
b) recommendations that current limiting resistor(s) be placed in the test set-up to prevent test board or DUT damage;
c) allowance of additional time-to-test delay or return-to-stress delay.

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The text of this standard is based on the following documents:

FDIS	Report on voting
47/2346/FDIS	47/2371/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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 "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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SEMICONDUCTOR DEVICES – MECHANICAL AND CLIMATIC TEST METHODS –

Part 4: Damp heat, steady state, highly accelerated stress test (HAST)

1 Scope

This part of IEC 60749 provides a highly accelerated temperature and humidity stress test (HAST) for the purpose of evaluating the reliability of non-hermetic packaged semiconductor devices in humid environments.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60749-5, *Semiconductor devices – Mechanical and climatic test methods – Part 5: Steady state temperature humidity bias life test*