SLOVENSKI STANDARD
SIST EN 60749-9:2017

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SIST EN 60749-9:2004

Polprevodniški elementi - Mehanske in klimatske preskusne metode - 9. del: Trajnost označevanja (IEC 60749-9:2017)

Semiconductor devices - Mechanical and climatic test methods - Part 9: Permanence of marking (IEC 60749-9:2017)

Halbleiterbauelemente - Mechanische und klimatische Prüfverfahren - Teil 9: Beständigkeit der Kennzeichnung (IEC 60749-9:2017)

Dispositifs à semiconducteurs - Méthodes d'essais mécaniques et climatiques - Partie 9: Permanence du marquage (IEC 60749-9:2017)

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31.080.01	Polprevodniški elementi (naprave) na splošno	Semiconductor devices in general

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Semiconductor devices - Mechanical and climatic test methods - Part 9: Permanence of marking (IEC 60749-9:2017)

Dispositifs à semiconducteurs - Méthodes d'essais mécaniques et climatiques - Partie 9: Permanence du marquage (IEC 60749-9:2017)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

The text of document 47/2348/FDIS, future edition 2 of IEC 60749-9, prepared by IEC/TC 47 "Semiconductor devices" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60749-9:2017.

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)	2018-01-07
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2020-04-07

This document supersedes EN 60749-9:2002.

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Endorsement notice

The text of the International Standard IEC 60749-9:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated :

IEC 61340-2-3:2016	NOTE	Harmonized as EN 61340-2-3:2016 (not modified).

IEC 60749-9

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INTERNATIONAL STANDARD

Semiconductor devices – Mechanical and climatic test methods – Part 9: Permanence of marking

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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SEMICONDUCTOR DEVICES – MECHANICAL AND CLIMATIC TEST METHODS –

Part 9: Permanence of marking

FOREWORD

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International Standard IEC 60749-9 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) revision to Clause 4 Equipment by a complete rewriting of Clause 3 Terms and definitions;
b) additional variant – 'adhesive tape pull test'.

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

FDIS	Report on voting
47/2348/FDIS	47/2373/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.

SEMICONDUCTOR DEVICES – MECHANICAL AND CLIMATIC TEST METHODS –

Part 9: Permanence of marking

1 Scope

The purpose of this part of IEC 60749 is to determine whether the marks on solid state semiconductor devices will remain legible when subjected to the application and removal of labels or the use of solvents and cleaning solutions commonly used during the removal of solder flux residue from the printed circuit board manufacturing process.

This test is applicable for all package types. It is suitable for use in qualification and/or process monitor testing. The test is considered non-destructive. Electrical or mechanical rejects can be used for the purpose of this test.

NOTE 1 This procedure does not apply to laser branded packages.

Many available solvents that could be used are either not sufficiently active, too stringent, or even dangerous to humans when in direct contact or when fumes are inhaled.

NOTE 2 The composition of solvents used in this document is considered typical and representative of the desired stringency as far as the usual coatings and markings are concerned.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purpose of this document, the following terms and definitions apply.

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

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
solvent A
mixture consisting of the following:

- one part by volume of isopropyl alcohol;
- three parts by volume of volatile petroleum spirits with a flash point greater than 60 °C, or
- three parts by volume of a mixture of 80 % by volume of kerosene and 20 % by volume of ethylbenzene

Note 1 to entry: The solvent should be maintained at a temperature of 20 °C to 30 °C.

3.2
solvent B
semi-aqueous based solvent, (defluxer), e.g. a terpene, aliphatic hydrocarbons, high molecular weight alcohols, etc., or any equivalent national environmental agency-approved HCFC (hydrochlorofluorocarbon), terpene or demonstrated equivalent