

STN	Polovodičové súčiastky Mechanické a klimatické skúšobné metódy Časť 39: Meranie prenikania vlhkosti a rozpusťnosť organických materiálov použitých v polovodičových súčiastkách vo vode	STN EN IEC 60749-39 35 8799
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Semiconductor devices - Mechanical and climatic test methods - Part 39: Measurement of moisture diffusivity and water solubility in organic materials used for semiconductor components

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/22

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EUROPEAN STANDARD
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EUROPÄISCHE NORM

EN IEC 60749-39

January 2022

ICS 31.080.01

Supersedes EN 60749-39:2006 and all of its
amendments and corrigenda (if any)

English Version

**Semiconductor devices - Mechanical and climatic test methods -
Part 39: Measurement of moisture diffusivity and water solubility
in organic materials used for semiconductor components
(IEC 60749-39:2021)**

Dispositifs à semiconducteurs - Méthodes d'essais
mécaniques et climatiques - Partie 39: Mesure de la
diffusivité d'humidité et de l'hydrosolubilité dans les
matériaux organiques utilisés dans les composants à
semiconducteurs
(IEC 60749-39:2021)

Halbleiterbauelemente - Mechanische und klimatische
Prüfverfahren - Teil 39: Messung des
Feuchtediffusionskoeffizienten und der Wasserlöslichkeit in
organischen Werkstoffen, welche bei Halbleiter-
Komponenten verwendet werden
(IEC 60749-39:2021)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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EN IEC 60749-39:2022 (E)**European foreword**

The text of document 47/2652/CDV, future edition 2 of IEC 60749-39, prepared by IEC/TC 47 "Semiconductor devices" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60749-39:2022.

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60749-20	-	Semiconductor devices - Mechanical and climatic test methods - Part 20: Resistance of plastic encapsulated SMDs to the combined effect of moisture and soldering heat	EN IEC 60749-20	-



IEC 60749-39

Edition 2.0 2021-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Semiconductor devices – Mechanical and climatic test methods –
Part 39: Measurement of moisture diffusivity and water solubility in organic
materials used for semiconductor components**

**Dispositifs à semiconducteurs – Méthodes d'essais mécaniques et
climatiques –
Partie 39: Mesure de la diffusivité d'humidité et de l'hydrosolubilité dans les
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SEMICONDUCTOR DEVICES –
MECHANICAL AND CLIMATIC TEST METHODS –****Part 39: Measurement of moisture diffusivity and water solubility in
organic materials used for semiconductor components**

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IEC 60749-39 has been prepared by IEC technical committee 47: Semiconductor devices. It is an International Standard.

This second edition, based on JEDEC document JESD22-A120B, cancels and replaces the first edition published in 2006. It is used with permission of the copyright holder, JEDEC Solid State Technology Association. This edition constitutes a technical revision.

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

- a) updated procedure for "dry weight" determination.

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

Draft	Report on voting
47/2652/CDV	47/2725/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/standardsdev/publications.

A list of all the parts of the IEC 60749 series, 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,
- replaced by a revised edition, or
- amended.

SEMICONDUCTOR DEVICES – MECHANICAL AND CLIMATIC TEST METHODS –

Part 39: Measurement of moisture diffusivity and water solubility in organic materials used for semiconductor components

1 Scope

This part of IEC 60749 details the procedures for the measurement of the characteristic properties of moisture diffusivity and water solubility in organic materials used in the packaging of semiconductor components.

These two material properties are important parameters for the effective reliability performance of plastic packaged semiconductors after exposure to moisture and being subjected to high-temperature solder reflow.

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 60749-20, *Semiconductor devices – Mechanical and climatic test methods – Part 20: Resistance of plastic encapsulated SMDs to the combined effect of moisture and soldering heat*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN