
**Polprevodniški elementi – Mehanske in klimatske preskusne metode – 30.
del: Predkondicioniranje nehermetičnih elementov za površinsko namestitev
pred preskušanjem zanesljivosti (IEC 60749-30:2005)**

Semiconductor devices – Mechanical and climatic test methods – Part 30:
Preconditioning of non-hermetic surface mount devices prior to reliability testing
(IEC 60749-30:2005)

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English version

**Semiconductor devices -
Mechanical and climatic test methods
Part 30: Preconditioning of non-hermetic surface mount devices
prior to reliability testing
(IEC 60749-30:2005)**

Dispositifs à semiconducteurs -
Méthodes d'essais mécaniques
et climatiques

Partie 30: Préconditionnement
des composants pour montage
en surface non hermétiques
avant les essais de fiabilité
(CEI 60749-30:2005)

Halbleiterbauelemente -
Mechanische und klimatische
Prüfverfahren

Teil 30: Behandlung nicht hermetisch
verkappter oberflächenmontierbarer
Bauelemente vor
Zuverlässigkeitsprüfungen
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CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 47/1790/FDIS, future edition 1 of IEC 60749-30, prepared by IEC TC 47, Semiconductor devices, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60749-30 on 2005-02-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2005-11-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2008-02-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60749-30:2005 was approved by CENELEC as a European Standard without any modification.

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Annex ZA
(normative)

**Normative references to international publications
with their corresponding European publications**

The following referenced documents are indispensable for the application 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.

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60749-4	- ¹⁾	Semiconductor devices - Mechanical and climatic test methods Part 4: Damp heat, steady state, highly accelerated stress test (HAST)	EN 60749-4	2002 ²⁾
IEC 60749-5	- ¹⁾	Part 5: Steady-state temperature humidity bias life test	EN 60749-5	2003 ²⁾
IEC 60749-11	- ¹⁾	Part 11: Rapid change of temperature - Two-fluid-bath method	EN 60749-11	2002 ²⁾
IEC 60749-20	2002	Part 20: Resistance of plastic-encapsulated SMDs to the combined effect of moisture and soldering heat	EN 60749-20	2003
IEC 60749-24	- ¹⁾	Part 24: Accelerated moisture resistance - Unbiased HAST	EN 60749-24	2004 ²⁾
IEC 60749-25	2003	Part 25: Temperature cycling	EN 60749-25	2003
IEC 60749-33	- ¹⁾	Part 33: Accelerated moisture resistance - Unbiased autoclave	EN 60749-33	2004 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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**Dispositifs à semiconducteurs –
Méthodes d'essais mécaniques
et climatiques –**

**Partie 30:
Préconditionnement des composants
pour montage en surface non hermétiques
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**Semiconductor devices –
Mechanical and climatic test methods –**

**Part 30:
Preconditioning of non-hermetic surface
mount devices prior to reliability testing**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SEMICONDUCTOR DEVICES –
MECHANICAL AND CLIMATIC TEST METHODS –**

**Part 30: Preconditioning of non-hermetic surface mount devices
prior to reliability testing**

FOREWORD

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International Standard IEC 60749-30 has been prepared by IEC technical committee 47: Semiconductor devices.

This first edition cancels and replaces IEC/PAS 62182 published in 2000 and constitutes a technical revision.

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

FDIS	Report on voting
47/1790/FDIS	47/1798/RVD

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

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

IEC 60749 consists of the following parts, under the general title *Semiconductor devices – Mechanical and climatic test methods*:

- Part 1: General
- Part 2: Low air pressure
- Part 3: External visual inspection
- Part 4: Damp heat, steady state, highly accelerated stress test (HAST)
- Part 5: Steady-state temperature humidity bias life test
- Part 6: Storage at high temperature
- Part 7: Internal moisture content measurement and the analysis of other residual gases
- Part 8: Sealing
- Part 9: Permanence of marking
- Part 10: Mechanical shock
- Part 11: Rapid change of temperature – Two-fluid-bath method
- Part 12: Vibration, variable frequency
- Part 13: Salt atmosphere
- Part 14: Robustness of terminations (lead integrity)
- Part 15: Resistance to soldering temperature for through-hole mounted devices
- Part 16: Particle impact noise detection (PIND)
- Part 17: Neutron irradiation
- Part 18: Ionizing radiation (total dose)
- Part 19: Die shear strength
- Part 20: Resistance of plastic-encapsulated SMDs to the combined effect of moisture and soldering heat
- Part 21: Solderability
- Part 22: Bond strength
- Part 23: High temperature operating life
- Part 24: Accelerated moisture resistance – Unbiased HAST
- Part 25: Temperature cycling
- Part 26: Electrostatic discharge (ESD) sensitivity testing – Human body model (HBM)
- Part 27: Electrostatic discharge (ESD) sensitivity testing – Machine model (MM)
- Part 28: Electrostatic discharge (ESD) sensitivity testing – Charged device model (CDM)¹
- Part 29: Latch-up test
- Part 30: Preconditioning of non-hermetic surface mount devices prior to reliability testing¹
- Part 31: Flammability of plastic-encapsulated devices (internally induced)
- Part 32: Flammability of plastic-encapsulated devices (externally induced)

¹ To be published

Part 33: Accelerated moisture resistance – Unbiased autoclave

Part 34: Power cycling

Part 35: Acoustic microscopy for non-hermetic, encapsulated electronic components²

Part 36: Acceleration, steady state.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed;
- withdrawn;
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- amended.

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² In preparation