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Semiconductor devices - Mechanical and climatic test methods - Part 1: General  
(IEC 60749-1:2002)

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EUROPEAN STANDARD

**EN 60749-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2003

ICS 31.080.01

Supersedes EN 60749:1999 + A1:2000 + A2:2001

English version

**Semiconductor devices -  
Mechanical and climatic test methods  
Part 1: General  
(IEC 60749-1:2002)**

Dispositifs à semiconducteurs -  
Méthodes d'essais mécaniques  
et climatiques  
Partie 1: Généralités  
(CEI 60749-1:2002)

Halbleiterbauelemente -  
Mechanische und klimatische Prüfverfahren  
Teil 1: Allgemeines  
(IEC 60749-1:2002)

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This European Standard was approved by CENELEC on 2002-09-24. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

**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 47/1638/FDIS, future edition 1 of IEC 60749-1, prepared by IEC TC 47, Semiconductor devices, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60749-1 on 2002-09-24.

This European Standard, together with the other parts of the series EN 60749, supersedes EN 60749:1999 + A1:2000 + A2:2001, in which the test methods were contained in one standard which was subdivided into chapters relating to mechanical test methods, climatic test methods and miscellaneous test methods.

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) 2004-01-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2005-10-01

Each test method governed by this standard and which is part of the series is a stand-alone document, numbered EN 60749-2, EN 60749-3, etc. The numbering of these test methods is sequential, and there is no relationship between the number and the test method (i.e. no grouping of test methods). The list of these tests will be available in the CENELEC internet site and in the catalogue.

Updating of any of the individual test methods is independent of any other part.

Annexes designated "normative" are part of the body of the standard.  
In this standard, annex ZA is normative.  
Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 60749-1:2002 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

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When 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 60050	Series	International Electrotechnical Vocabulary (IEV)	-	-
IEC 60747	Series	Semiconductor devices - Discrete devices	EN 60747	Series
IEC 60748	Series	Semiconductor devices - Integrated circuits	-	-

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Première édition  
First edition  
2002-08

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

**Partie 1:  
Généralités**

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**Part 1:  
General**

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Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

CODE PRIX  
PRICE CODE

H

*Pour prix, voir catalogue en vigueur  
For price, see current catalogue*

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

**Part 1: General**

**FOREWORD**

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60749-1 has been prepared by IEC technical committee 47: Semiconductor devices.

This first edition of IEC 60749-1, as well as the other parts of this series, will replace the previous edition of IEC 60749 in which the test methods were contained in one standard which was subdivided into chapters relating to mechanical test methods, climatic test methods and miscellaneous test methods.

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

FDIS	Report on voting
47/1638/FDIS	47/1653/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 3.

Each test method governed by this standard and which is part of the series is a stand-alone document, numbered IEC 60749-2, IEC 60749-3, etc. The numbering of these test methods is sequential, and there is no relationship between the number and the test method (i.e. no grouping of test methods). The list of these tests will be available in the IEC Internet site and in the catalogue.