
Polprevodniški elementi - Mikroelektromehanski elementi - 4. del: Osnovne specifikacije za MEMS (IEC 62047-4:2008)

Semiconductor devices - Micro-electromechanical devices - Part 4: Generic specification for MEMS (IEC 62047-4:2008)

Halbleiterbauelemente - Bauteile der Mikrosystemtechnik - Teil 4:
Fachgrundspezifikation für Mikrosystemtechnik (IEC 62047-4:2008)

Dispositifs à semiconducteurs - Dispositifs microélectromécaniques - Partie 4:
Spécification générique pour les MEMS (CEI 62047-4:2008)

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SIST EN 62047-4:2010**en**

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EUROPEAN STANDARD
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Semiconductor devices - Micro-electromechanical devices - Part 4: Generic specification for MEMS (IEC 62047-4:2008)

Dispositifs à semiconducteurs -
Dispositifs microélectromécaniques -
Partie 4: Spécification générique pour les
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Mikrosystemtechnik
(IEC 62047-4:2008)

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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, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

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Foreword

The text of document 47/1975/FDIS, future edition 1 of IEC 62047-4, prepared by IEC TC 47, Semiconductor devices, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62047-4 on 2010-10-01.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

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) | 2011-07-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2013-10-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62047-4:2008 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

- | | |
|---------------|----------------------------------|
| IEC 60721-3-0 | NOTE Harmonized as EN 60721-3-0. |
| IEC 60721-3-1 | NOTE Harmonized as EN 60721-3-1. |

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 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 60027	Series	Letter symbols to be used in electrical technology	EN 60027	Series
IEC 60068-2	Series	Environmental testing - Part 2: Tests	EN 60068-2	Series
IEC 60617	-	Graphical symbols for diagrams	-	-
IEC 60747-1	2006	Semiconductor devices - Part 1: General	-	-
IEC 60749	Series	Semiconductor devices - Mechanical and climatic test methods	EN 60749	Series
IEC 61193-2	-	Quality assessment systems - Part 2: Selection and use of sampling plans for inspection of electronic components and packages	EN 61193-2	-
IEC 62047-1	-	Semiconductor devices - Micro-electromechanical devices - Part 1: Terms and definitions	EN 62047-1	-
IEC QC 001002-3	2005	IEC Quality Assessment System for Electronic Components (IECQ) - Rules of Procedure - Part 3: Approval procedures	-	-
ISO 1000	-	SI units and recommendations for the use of their multiples and of certain other units	-	-
ISO 2859-1	-	Sampling procedures for inspection by attributes - Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection	-	-

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IEC 62047-4

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NORME INTERNATIONALE

**Semiconductor devices – Micro-electromechanical devices –
Part 4: Generic specification for MEMS**

**Dispositifs à semiconducteurs – Dispositifs microélectromécaniques –
Partie 4: Spécification générique pour les MEMS**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SEMICONDUCTOR DEVICES – MICRO-ELECTROMECHANICAL DEVICES –

Part 4: Generic specification for MEMS

FOREWORD

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International Standard IEC 62047-4 has been prepared by subcommittee 47F: Micro-electromechanical systems, of IEC technical committee 47: Semiconductor devices.

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

FDIS	Report on voting
47/1975/FDIS	47/1985/RVD

Full information on the voting for the approval on 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.

A list of all the parts in the IEC 62047 series, under the general title *Semiconductor devices – Micro-electromechanical devices*, can be found on the IEC website.

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

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SEMICONDUCTOR DEVICES – MICRO-ELECTROMECHANICAL DEVICES –

Part 4: Generic specification for MEMS

1 Scope

This part of IEC 62047 describes generic specifications for micro-electromechanical systems (MEMS) made by semiconductors, which are the basis for specifications given in other parts of this series for various types of MEMS applications such as sensors, RF MEMS, excluding optical MEMS, bio MEMS, micro TAS, and power MEMS. This standard specifies general procedures for quality assessment to be used in IECQ-CECC systems and establishes general principles for describing and testing of electrical, optical, mechanical and environmental characteristics.

This part of IEC 62047 aids in the preparation of standards that define devices and systems made by micromachining technology, including but not limited to, material characterization and handling, assembly and testing, process control and measuring methods. MEMS described in this standard are basically made of semiconductor material. However, the statements made in this standard are also applicable to MEMS using materials other than semiconductor, for example, polymers, glass, metals and ceramic materials.

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2 Normative references

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.

IEC 60027 (all parts), *Letter symbols to be used in electrical technology*

IEC 60068-2 (all parts), *Environmental testing – Part 2: Tests*

IEC 60617, *Graphical symbols for diagrams*

IEC 60747-1:2006, *Semiconductor devices – Part 1: General*

IEC 60749 (all parts), *Semiconductor devices – Mechanical and climatic test methods*

IEC 61193-2, *Quality assessment systems – Part 2: Selection and use of sampling plans for inspection of electronic components and packages*

IEC 62047-1, *Semiconductor devices – Micro-electromechanical devices – Part 1: Terms and definitions*

IEC QC 001002-3:2005, *IEC Quality Assessment System for Electronic Components (IECQ) – Rules of Procedure – Part 3: Approval procedures*

ISO 1000, *SI units and recommendations for the use of their multiples and of certain other units*

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