
Surface acoustic wave (SAW) filters of assessed quality - Part 1: Generic specification (IEC 60862-1:2003)

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EUROPEAN STANDARD

EN 60862-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2003

ICS 31.140

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English version

**Surface acoustic wave (SAW) filters of assessed quality
Part 1: Generic specification
(IEC 60862-1:2003)**

Filtres à ondes acoustiques
de surface (OAS)
sous assurance de la qualité
Partie 1: Spécification générique
(CEI 60862-1:2003)

Oberflächenwellenfilter (OFW-Filter)
mit bewerteter Qualität
Teil 1: Fachgrundspezifikation
(IEC 60862-1:2003)

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This European Standard was approved by CENELEC on 2003-07-01. 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, Lithuania, 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 49/587/FDIS, future edition 2 of IEC 60862-1, prepared by IEC TC 49, Piezoelectric and dielectric devices for frequency control and selection, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60862-1 on 2003-07-01.

This European Standard supersedes EN 166000:1995.

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) 2004-04-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2006-07-01

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.

Endorsement notice

The text of the International Standard IEC 60862-1:2003 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 60068-2-10	NOTE	Harmonized as HD 323.2.10 S3:1988 (not modified).
IEC 60862-2	NOTE	Harmonized as EN 60862-2:2002 (not modified).

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 60027	series	Letter symbols to be used in electrical technology	HD 245 HD 60027	series series
IEC 60050-561	1991	International Electrotechnical Vocabulary (IEV) Chapter 561: Piezoelectric devices for frequency control and selection	-	-
IEC 60068-1	1988	Environmental testing Part 1: General and guidance	EN 60068-1 ¹⁾	1994
IEC 60068-2-1	1990	Part 2: Tests - Tests A: Cold	EN 60068-2-1	1993
IEC 60068-2-2	1974	Part 2: Tests - Test B: Dry heat	EN 60068-2-2 ²⁾	1993
IEC 60068-2-6 + corr. March	1995 1995	Part 2: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	1995
IEC 60068-2-7	1983	Part 2: Tests - Test Ga and guidance: Acceleration, steady state	EN 60068-2-7 ³⁾	1993
IEC 60068-2-13	1983	Part 2: Tests - Test M: Low air pressure	EN 60068-2-13	1999
IEC 60068-2-14	1984	Part 2: Tests - Test N: Change of temperature	EN 60068-2-14 ⁴⁾	1999
IEC 60068-2-17	1994	Part 2: Tests - Test Q: Sealing	EN 60068-2-17	1994
IEC 60068-2-20	1979	Part 2: Tests - Test T: Soldering	HD 323.2.20 S3 ⁵⁾	1988

1) EN 60068-1 includes corrigendum October 1988 + A1:1992.

2) EN 60068-2-2 includes supplement A:1996 to IEC 60068-2-2.

3) EN 60068-2-7 includes A1:1986 to IEC 60068-2-7.

4) EN 60068-2-14 includes A1:1986 to IEC 60068-2-14.

5) HD 323.2.20 S3 includes A2:1987 to IEC 60068-2-20.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-21	1999	Part 2-21: Tests - Test U: Robustness of terminations and integral mounting devices	EN 60068-2-21	1999
IEC 60068-2-27	1987	Part 2: Tests - Test Ea and guidance: Shock	EN 60068-2-27	1993
IEC 60068-2-29 + Corr.	1987	Part 2: Tests - Test Eb and guidance: Bump	EN 60068-2-29	1993
IEC 60068-2-30	1980	Part 2: Tests - Test Db and guidance: Damp heat, cyclic (12 + 12 hour cycle)	EN 60068-2-30 ⁶⁾	1999
IEC 60068-2-32	1975	Part 2: Tests - Test Ed: Free fall (Procedure 1)	EN 60068-2-32 ⁷⁾	1993
IEC 60068-2-45	1980	Part 2: Tests - Test Xa and guidance: Immersion in cleaning solvents	EN 60068-2-45	1992
IEC 60068-2-52	1996	Part 2: Tests - Test Kb: Salt mist, cyclic (sodium chloride solution)	EN 60068-2-52	1996
IEC 60068-2-58	1999	Part 2-58: Tests - Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)	EN 60068-2-58	1999
IEC 60068-2-64 + corr. October 1993	1993	Part 2: Test methods - Test Fh: Vibration, broad-band random (digital control) and guidance	EN 60068-2-64	1994
IEC 60068-2-78	2001	Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	2001
IEC 60122-1	2002	Quartz crystal units of assessed quality Part 1: Generic specification	EN 60122-1	2002
IEC 60617	database	Graphical symbols for diagrams	-	-
IEC 60642	1979	Piezoelectric ceramic resonators and resonator units for frequency control and selection – Chapter I: Standard values and conditions - Chapter II: Measuring and test conditions	-	-
IEC 60695-2-2	1991	Fire hazard testing Part 2: Test methods – Section 2: Needle-flame test	EN 60695-2-2	1994

6) EN 60068-2-30 includes A1:1985 to IEC 60068-2-30.

7) EN 60068-2-32 includes A2:1990 to IEC 60068-2-32.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61000-4-2	1995	Electromagnetic compatibility (EMC) Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	1995
A1	1998		A1	1998
A2	2000		A2	2001
IEC QC 001001	2000	IEC Quality Assessment System for Electronic Components (IECQ)- Basic rules	-	-
IEC QC 001002-2	1998	IEC Quality Assessment System for Electronic Components (IECQ) - Rules of Procedure Part 2: Documentation	-	-
IEC QC 001002-3	1998	Part 3: Approval procedures	-	-
IEC QC 001005	2000	Register of firms, products and services approved under the IECQ system, including ISO 9000	-	-
ISO 1000	1992	SI units and recommendations for the use of their multiples and of certain other units	-	-

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**Filtres à ondes acoustiques de surface (OAS)
sous assurance de la qualité –**

**Partie 1:
Spécification générique**

iTeh STANDARD PREVIEW

**Surface acoustic wave (SAW) filters
of assessed quality –**

SIST EN 60862-1:2004

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**Part 1:
Generic specification**

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International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SURFACE ACOUSTIC WAVE (SAW) FILTERS
OF ASSESSED QUALITY –**
Part 1: Generic specification

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 60862-1 has been prepared by IEC technical committee 49: Piezoelectric and dielectric devices for frequency control and selection.

This second edition of IEC 60862-1 cancels and replaces the first edition published in 1989 and constitutes a technical revision.

International Standard IEC 60862-1 is the first part of a new edition of the IEC standard series for SAW filters, updated to include the quality assessment procedures and test requirements of the IECQ System.

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

FDIS	Report on voting
49/587/FDIS	49/603/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 60862 consists of the following parts under the general title *Surface acoustic wave (SAW) filters of assessed quality*:

- Part 1: Generic specification
- Part 2: Guide to the use of surface acoustic wave (SAW) filters
- Part 3: Standard outlines

The QC number which appears on the front cover of this publication is the specification number in the IEC Quality Assessment System for Electronic Components (IECQ).

The committee has decided that this publication remains valid until 2007. At this date, in accordance with the committee's decision, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition; or
- amended.

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SURFACE ACOUSTIC WAVE (SAW) FILTERS OF ASSESSED QUALITY –

Part 1: Generic specification

1 General

1.1 Scope

This part of IEC 60862 specifies the methods of test and general requirements for SAW filters of assessed quality using either capability approval or qualification approval procedures.

1.2 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 60050(561):1991, *International Electrotechnical Vocabulary (IEV) – Chapter 561: Piezoelectric devices for frequency control and selection*

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*

IEC 60068-2-1:1990, *Environmental testing – Part 2: Tests – Tests A: Cold*

IEC 60068-2-2:1974, *Environmental testing – Part 2: Tests – Tests B: Dry heat*

IEC 60068-2-6:1995, *Environmental testing – Part 2: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-7:1983, *Environmental testing – Part 2: Tests – Test Ga: Acceleration, steady state*

IEC 60068-2-13:1983, *Environmental testing – Part 2: Tests – Test M: Low air pressure*

IEC 60068-2-14:1984, *Environmental testing – Part 2: Tests – Test N: Change of temperature*

IEC 60068-2-17:1994, *Environmental testing – Part 2: Tests – Test Q: Sealing*

IEC 60068-2-20:1979, *Environmental testing – Part 2: Tests – Test T: Soldering*

IEC 60068-2-21:1999, *Environmental testing – Part 2-21: Tests – Test U: Robustness of terminations and integral mounting devices*

IEC 60068-2-27:1987, *Environmental testing – Part 2: Tests – Test Ea and guidance: Shock*