

SLOVENSKI STANDARD

SIST EN 61240:2012

01-december-2012

Nadomešča:
SIST EN 61240:2002

Piezelektrični elementi - Priprava tehničnih risb površinsko montiranega elementa (SMD) za frekvenčno regulacijo in filtriranje - Splošna pravila

Piezoelectric devices - Preparation of outline drawings of surface-mounted device (SMD) for frequency control and selection - General rules

Piezelektrische Bauelemente - Anfertigung von Gehäusezeichnungen von oberflächenmontierbaren Bauelementen (SMDs) zur Frequenzstabilisierung und - Selektion - Allgemeine Regeln

Dispositifs piézoélectriques - Préparation des dessins d'encombrement des dispositifs à montage en surface pour la commande et le choix de la fréquence - Règles générales

Ta slovenski standard je istoveten z: EN 61240:2012

ICS:

| | | |
|--------|--|--------------------------------------|
| 31.140 | Piezelektrične in dielektrične naprave | Piezoelectric and dielectric devices |
|--------|--|--------------------------------------|

SIST EN 61240:2012 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 61240:2012](#)

<https://standards.iteh.ai/catalog/standards/sist/a05a47e7-e20a-4bae-bd88-4bf41fe6a044/sist-en-61240-2012>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61240

October 2012

ICS 31.140

Supersedes EN 61240:1997

English version

**Piezoelectric devices -
Preparation of outline drawings of surface-mounted devices (SMD) for
frequency control and selection -
General rules
(IEC 61240:2012)**

Dispositifs piézoélectriques -
Préparation des dessins d'encombrement
des dispositifs à montage en surface pour
la commande et le choix de la fréquence -
Règles générales
(CEI 61240:2012)

Piezelektrische Bauelemente -
Anfertigung von Gehäusezeichnungen
von oberflächenmontierbaren
Bauelementen (SMD) zur Frequenz-
Stabilisierung und -Selektion -
Allgemeine Regeln
(IEC 61240:2012)

**iTeh STANDARD PREVIEW
(standards.iteh.ai)**

[SIST EN 61240:2012](https://standards.iteh.ai/catalog/standards/sist/a05a47e7-e20a-4bae-bd88-4bf41fe6a044/sist-en-61240-2012)

<https://standards.iteh.ai/catalog/standards/sist/a05a47e7-e20a-4bae-bd88-4bf41fe6a044/sist-en-61240-2012>

This European Standard was approved by CENELEC on 2012-08-29. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 49/995/FDIS, future edition 2 of IEC 61240, prepared by IEC TC 49 "Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61240:2012.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-05-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-08-29

This document supersedes EN 61240:1997.

EN 61240:2012 includes the following significant technical changes with respect to EN 61240:1997:

– outline drawings have been changed from three views (top, front and bottom) to that based on ISO layout in the third-angle projection, in which the view from the right has been added to the top, front and bottom views;

– reference line and geometrical dimensions of the package for enclosures have been changed for practical use;

– information on miniaturized leadless ceramic enclosures of piezoelectric devices (SMD) for frequency control and selection has been included in an annex.

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

Endorsement notice

The text of the International Standard IEC 61240:2012 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 60191-6 | 2009 | Mechanical standardization of semiconductor devices - Part 6: General rules for the preparation of outline drawings of surface mounted semiconductor device packages | EN 60191-6 | 2009 |
| ISO 128-30 | 2001 | Technical drawings - General principles of presentation - Part 30: Basic conventions for views | - | - |
| ISO 1101 | 2004 | Geometrical Product Specifications (GPS) - Geometrical tolerancing - Tolerances of form, orientation, location and run-out | EN ISO 1101 | 2005 |
| ISO 5456-2 | 1996 | Technical drawings - Projection methods - Part 2: Orthographic representations | EN ISO 5456-2 | 1999 |

SIST EN 61240:2012

<https://standards.iteh.ai/catalog/standards/sist/a05a47e7-e20a-4bae-bd88-4bf41fe6a044/sist-en-61240-2012>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 61240:2012](#)

<https://standards.iteh.ai/catalog/standards/sist/a05a47e7-e20a-4bae-bd88-4bf41fe6a044/sist-en-61240-2012>



IEC 61240

Edition 2.0 2012-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Piezoelectric devices –
Preparation of outline drawings of surface-mounted devices (SMD) for frequency
control and selection – General rules**

**Dispositifs piézoélectriques –
Préparation des dessins d'encombrement des dispositifs à montage en surface
pour la commande et le choix de la fréquence – Règles générales**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

R

ICS 31.140

ISBN 978-2-83220-291-3

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

| | |
|---|----|
| FOREWORD..... | 3 |
| INTRODUCTION..... | 5 |
| 1 Scope..... | 6 |
| 2 Normative references | 6 |
| 3 Classification of SMD | 6 |
| 4 Title of the outline drawing | 7 |
| 5 Composition of the outline drawing | 7 |
| 5.1 Elements of outline drawings | 7 |
| 5.2 Outline drawing | 7 |
| 5.3 Table of detailed dimensions | 7 |
| 5.4 Actual size sketch | 7 |
| 5.5 Drawing of terminal land areas | 7 |
| 5.6 Terminal lead details | 7 |
| 6 Requirements for terminal leads | 9 |
| 7 Requirements for the terminal land area | 9 |
| 8 Connections of terminal leads | 9 |
| 9 Descriptive notes..... | 10 |
| 10 References..... | 10 |
| Annex A (informative) Miniaturized leadless ceramic enclosures of piezoelectric devices (SMD) for frequency control and selection..... | 14 |
| Annex B (informative) Example of terminal connections for surface-mounted piezoelectric devices (SMD) for frequency control and selection | 18 |
| Figure 1 – Illustration of terminal projection zone..... | 8 |
| Figure 2 – Example of a terminal land area | 9 |
| Figure A.1 – Upper part of the view from above | 14 |
| Figure A.2 – Front view (without a board) | 15 |
| Figure A.3 – Front view (with a board) | 15 |
| Table A.1 – Scale of drawings | 14 |
| Table A.2 – Guideline of dimension table | 15 |
| Table A.3 – Guideline for column “Max.” of Table A.2 for A, B..... | 16 |
| Table A.4 – Examples of correspondence between new and old enclosures..... | 17 |
| Table B.1 – Examples of terminal connections for various types of piezoelectric devices | 18 |

INTERNATIONAL ELECTROTECHNICAL COMMISSION

PIEZOELECTRIC DEVICES –

**Preparation of outline drawings of surface-mounted devices (SMD) for frequency control and selection –
General rules**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. 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 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 IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61240 has been prepared by IEC technical committee 49: Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection.

This second edition cancels and replaces the first edition published in 1994. It constitutes a technical revision.

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

- outline drawings have been changed from three views (top, front and bottom) to that based on ISO layout in the third-angle projection, in which the view from the right has been added to the top, front and bottom views;
- reference line and geometrical dimensions of the package for enclosures have been changed for practical use;
- information on miniaturized leadless ceramic enclosures of piezoelectric devices (SMD) for frequency control and selection has been included in an annex.

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

| FDIS | Report on voting |
|-------------|------------------|
| 49/995/FDIS | 49/1000/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.

The committee has decided that the contents of this publication will remain unchanged until the stability 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.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 61240:2012](https://standards.iteh.ai/catalog/standards/sist/a05a47e7-e20a-4bae-bd88-4bf41fe6a044/sist-en-61240-2012)

<https://standards.iteh.ai/catalog/standards/sist/a05a47e7-e20a-4bae-bd88-4bf41fe6a044/sist-en-61240-2012>

INTRODUCTION

The enclosures of quartz crystal resonators and oscillators are unified in this second edition of IEC 61240 “Preparation of outline drawings of surface-mounted devices (SMD) for frequency control and selection – General rules”.

Regarding the current situation of many quartz crystal device suppliers, many suppliers use their own enclosure layouts in their catalogues. For the convenience of consumers, general rules of enclosure layout and definition of size need to be unified.

In the previous edition of IEC 61240, layout rules of outline drawings of SMD devices were based on IEC 60191-6 and applied to semi-conductive devices. However, there are several specific rules for quartz devices. In this edition, the general rules for outline drawings of SMD enclosures for quartz crystal devices are included, taking account of the ISO layout rules (ISO 1101, ISO 5456-2, and ISO 128-30).

The newly proposed general rules of outline drawings for three types of surface-mounted devices are shown in sheets included as examples. The difference from the previous version of outline drawings is that one set of drawings consists of four views, which are the view from above, the front view, the view from the right, and the view from below.

Furthermore, the definition of the drawings has been changed. Firstly, ceramic enclosure is specifically defined. Secondly, the reference line of the package is defined as shown in the sheets. Thirdly, geometrical dimensions of the package have been further simplified compared to the previous edition. These corrections are shown in Annexes A and B of this standard.

(standards.iteh.ai)

Detailed information concerning the new outline drawings will be provided in a future publication.

[SIST EN 61240:2012](https://standards.iteh.ai/catalog/standards/sist/a05a47e7-e20a-4bae-bd88-4bf41fe6a044/sist-en-61240-2012)

<https://standards.iteh.ai/catalog/standards/sist/a05a47e7-e20a-4bae-bd88-4bf41fe6a044/sist-en-61240-2012>