
Mechanical standardization of semiconductor devices - Part 6-3: General rules for the preparation of outline drawings of surface mounted semiconductor device package - Measuring methods for package dimensions of quad flat packs (QFP) (IEC 60191-6-3:2000)

Mechanical standardization of semiconductor devices -- Part 6-3: General rules for the preparation of outline drawings of surface mounted semiconductor device packages - Measuring methods for package dimensions of quad flat packs (QFP)

ITeH STANDARD PREVIEW

Mechanische Normung von Halbleiterbauelemente -- Teil 6-3: Allgemeine Regeln für die Erstellung von Gehäusezeichnungen von SMD-Halbleitergehäusen - Meßverfahren für QFP-Gehäusemaße

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Normalisation mécanique des dispositifs à semiconducteurs -- Partie 6-3 : Règles générales pour la préparation des dessins d'encombrement des dispositifs à semiconducteurs à montage en surface - Méthodes de mesure pour les boîtiers plats quadrangulaires (QFP)

Ta slovenski standard je istoveten z: EN 60191-6-3:2000

ICS:

| | | |
|-----------|--|---|
| 01.100.25 | Risbe s področja elektrotehnike in elektronike | Electrical and electronics engineering drawings |
| 31.080.01 | Polprevodniški elementi (naprave) na splošno | Semiconductor devices in general |
| 31.240 | Mehanske konstrukcije za elektronsko opremo | Mechanical structures for electronic equipment |

SIST EN 60191-6-3:2002**en**

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EUROPEAN STANDARD

EN 60191-6-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2000

ICS 31.080.01

English version

Mechanical standardization of semiconductor devices
Part 6-3: General rules for the preparation of outline drawings
of surface mounted semiconductor device packages -
Measuring methods for package dimensions of quad flat packs (QFP)
(IEC 60191-6-3:2000)

Normalisation mécanique des dispositifs
à semiconducteurs

Partie 6-3 : Règles générales pour
la préparation des dessins
d'encombrement des dispositifs à
semiconducteurs à montage en surface -
Méthodes de mesure pour les boîtiers
plats quadrangulaires (QFP)
(CEI 60191-6-3:2000)

Mechanische Normung von
Halbleiterbauelemente

Teil 6-3: Allgemeine Regeln für die
Erstellung von Gehäusezeichnungen
von SMD-Halbleitegehäusen -
Meßverfahren für QFP-Gehäusemaße
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This European Standard was approved by CENELEC on 2000-11-01. 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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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 47D/370/FDIS, future edition 1 of IEC 60191-6-3, prepared by SC 47D, Mechanical standardization of semiconductor devices, of IEC TC 47, Semiconductor devices, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60191-6-3 on 2000-11-01.

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) 2001-08-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2003-11-01

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 60191-6-3:2000 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 60191-6 | 1990 | Mechanical standardization of semiconductor devices Part 6: General rules for the preparation of outline drawings of surface mounted semiconductor device packages | - | - |

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INTERNATIONAL STANDARD

IEC 60191-6-3

First edition
2000-09

Mechanical standardization of semiconductor devices –

Part 6-3: General rules for the preparation of outline drawings of surface mounted semiconductor device packages – Measuring methods for package dimensions of quad flat packs (QFP)

<https://standards.iteh.ai/catalog/standards/sist/352c8215-389f-4b99-89ce-006e1b2c7014/sist-en-60191-6-3-2002>

Normalisation mécanique des dispositifs à semiconducteurs –

Partie 6-3: Règles générales pour la préparation des dessins d'encombrement des dispositifs à semiconducteurs à montage en surface – Méthodes de mesure pour les boîtiers plats quadrangulaires (QFP)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

MECHANICAL STANDARDIZATION OF SEMICONDUCTOR DEVICES –**Part 6-3: General rules for the preparation of outline drawings
of surface mounted semiconductor device packages –
Measuring methods for package dimensions of quad flat packs (QFP)**

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 60191-6-3 has been prepared by subcommittee 47D: Mechanical standardization of semiconductor devices, of IEC technical committee 47: Semiconductor devices.

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

| FDIS | Report on voting |
|--------------|------------------|
| 47D/370/FDIS | 47D/388/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.

The committee has decided that the contents of this publication will remain unchanged until 2003. At this date, the publication will be

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

A bilingual version of this publication may be issued at a later date.

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MECHANICAL STANDARDIZATION OF SEMICONDUCTOR DEVICES –

Part 6-3: General rules for the preparation of outline drawings of surface mounted semiconductor device packages – Measuring methods for package dimensions of quad flat packs (QFP)

1 Scope

This part of IEC 60191 stipulates a method for quad flat packs (QFP) measuring dimensions which are classified into Form E.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60191. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 60191 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60191-6:1990, *Mechanical standardization of semiconductor devices – Part 6: General rules for the preparation of outline drawings of surface mounted semiconductor device packages*

[SIST EN 60191-6-3:2002](https://standards.iteh.ai/catalog/standards/sist/352c8215-389f-4b99-89ce-006e1b2c7014/sist-en-60191-6-3-2002)

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3 Definitions

For the purpose of this part of IEC 60191, the definitions of IEC 60191-6 apply.

4 Measuring methods

4.1 The measuring methods described in this standard are for dimension values guaranteed to users on the basis of the following items.

- a) In general, measuring the dimensions shall be made with the semiconductor packages mounted on printed circuit-board as the guarantee is made to user.
- b) In general, measurement may be made either by hand or automatically.
- c) If a specified dimension is difficult to measure, the best alternative measuring method is defined as the formal measuring method.
- d) The dimensions that cannot be measured unless the package is destroyed may be calculated from other dimensions or replaced by representative values.

4.2 Reference characters and drawing

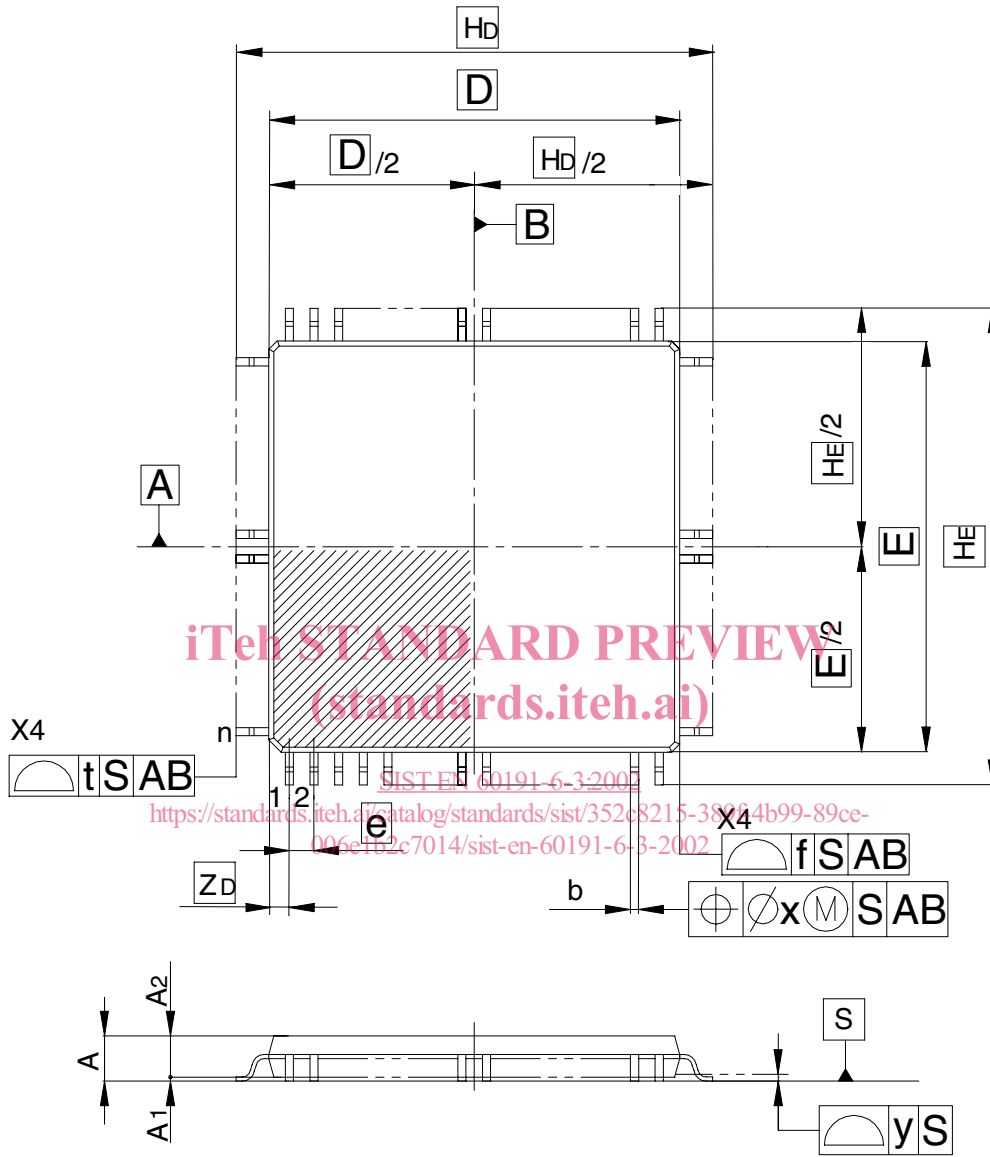


Figure 1