



BSI Standards Publication

Mechanical standardization of semiconductor devices

Part 6-21: General rules for the preparation
of outline drawings of surface mounted
semiconductor device packages —
Measuring methods for package
dimensions of small outline packages (SOP)

National foreword

This British Standard is the UK implementation of EN 60191-6-21:2010. It is identical to IEC 60191-6-21:2010.

The UK participation in its preparation was entrusted to Technical Committee EPL/47, Semiconductors.

A list of organizations represented on this committee can be obtained on request to its secretary.

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EN 60191-6-21

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English version

**Mechanical standardization of semiconductor devices -
Part 6-21: General rules for the preparation of outline drawings of surface
mounted semiconductor device packages -
Measuring methods for package dimensions of small outline packages
(SOP)
(IEC 60191-6-21:2010)**

Normalisation mécanique des dispositifs à
semiconducteurs -
Part 6-21: Règles générales pour la
préparation des dessins d'encombrement
des boîtiers pour dispositifs à
semiconducteurs pour montage en
surface -
Méthodes de mesure pour les dimensions
des boîtiers de faible encombrement
(SOP)
(CEI 60191-6-21:2010)

Mechanische Normung von
Halbleiterbauelementen -
Teil 6-21: Allgemeine Regeln für die
Erstellung von Gehäusezeichnungen von
SMD-Halbleitergehäusen -
Messverfahren für Gehäusemaße von
kleinen Gehäusen (SOP)
(IEC 60191-6-21:2010)

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

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Foreword

The text of document 47D/772/FDIS, future edition 1 of IEC 60191-6-21, prepared by SC 47D, Mechanical standardization for semiconductor devices, of IEC TC 47, Semiconductor devices, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60191-6-21 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:

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| – 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 60191-6-21:2010 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 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 60191-4	-	Mechanical standardization of semiconductor devices - Part 4: Coding system and classification into forms of package outlines for semiconductor device packages	EN 60191-4	-
IEC 60191-6	-	Mechanical standardization of semiconductor devices - Part 6: General rules for the preparation of outline drawings of surface mounted semiconductor device packages	EN 60191-6	-

MECHANICAL STANDARDIZATION OF SEMICONDUCTOR DEVICES –

Part 6-21: General rules for the preparation of outline drawings of surface mounted semiconductor device packages – Measuring methods for package dimensions of small outline packages (SOP)

1 Scope

This part of IEC 60191 specifies methods to measure package dimensions of small outline packages (SOP), package outline form E in accordance to IEC 60191-4.

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 60191-4, *Mechanical standardization of semiconductor devices – Part 4: Coding system and classification into forms of package outlines for semiconductor device packages*

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

3 Terms and definitions

For the purposes of this document the terms and definitions given in IEC 60191-6 apply.

4 Measuring methods

4.1 Description of measuring method

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 the user.
- b) In general, measurement may be made either by hand or automatically.
- c) The dimensions that cannot be measured unless the package is destroyed may be calculated from other dimensions or replaced by representative values. See 4.6.2.3.