Irish Standard
I.S. EN 60191-6-19:2010

Mechanical standardization of semiconductor devices -- Part 6-19: Measurement methods of the package warpage at elevated temperature and the maximum permissible warpage (IEC 60191-6-19:2010 (EQV))

I.S. EN 60191-6-19:2010

Incorporating amendments/corrigenda issued since publication:

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EUROPEAN STANDARD

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EN 60191-6-19

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English version

Mechanical standardization of semiconductor devices - Part 6-19: Measurement methods of the package warpage at elevated temperature and the maximum permissible warpage

(IEC 60191-6-19:2010)

Normalisation mécanique des dispositifs à semiconducteurs - Partie 6-19: Méthodes de mesure du gauchissement des boîtiers à température élevée et du gauchissement maximum admissible (CEI 60191-6-19:2010)

Mechanische Normung von Halbleiterbauelementen – Teil 6-19: Messverfahren für die Gehäuse-Verbiegung bei erhöhter Temperatur und die maximal zulässige Verbiegung (IEC 60191-6-19:2010)

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CENELEC

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

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Ref. No. EN 60191-6-19:2010 E

Foreword

The text of document 47D/757/FDIS, future edition 1 of IEC 60191-6-19, 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 60191-6-19 on 2010-05-01.

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)	2011-02-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2013-05-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 60191-6-19:2010 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

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.

Publication	Year	Title	EN/HD	Year
IEC 60191-6-2	-	Mechanical standardization of semiconductor devices - Part 6-2: General rules for the preparation of outline drawings of surface mounted semiconductor device packages - Design guide for 1,50 mm, 1,27 mm and 1,00 mm pitch ball and column terminal packages	EN 60191-6-2	-
IEC 60191-6-5	-	Mechanical standardization of semiconductor devices - Part 6-5: General rules for the preparation of outline drawings of surface mounted semiconductor device packages - Design guide for fine-pitch ball grid array (FBGA)	EN 60191-6-5	-
IEC 60749-20	-	Semiconductor devices - Mechanical and climatic test methods - Part 20: Resistance of plastic encapsulated SMDs to the combined effect of moisture and soldering heat	EN 60749-20	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

MECHANICAL STANDARDIZATION OF SEMICONDUCTOR DEVICES –

Part 6-19: Measurement methods of the package warpage at elevated temperature and the maximum permissible warpage

FOREWORD

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International Standard IEC 60191-6-19 has been prepared by subcommittee 47D: Mechanical standardization for semiconductor devices, of IEC technical committee 47: Semiconductor devices.

This standard cancels and replaces IEC/PAS 60191-6-19 published in 2008. This first edition constitutes a technical revision.

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

FDIS	Report on voting
47D/757/FDIS	47D/764/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.

A list of all the parts in the IEC 60191 series, under the general title *Mechanical standardization of semiconductor devices*, can be found on the IEC website.

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.

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