



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 60191-6-4:2003

ICS 31.080.01

**MECHANICAL STANDARDIZATION OF  
SEMICONDUCTOR DEVICES  
PART 6-4: GENERAL RULES FOR THE  
PREPARATION OF OUTLINE DRAWINGS OF  
SURFACE MOUNTED SEMICONDUCTOR  
DEVICE PACKAGES -  
MEASURING METHODS FOR PACKAGE  
DIMENSIONS OF BALL GRID ARRAY (BGA)  
(IEC 60191-6-4:2003)**

National Standards  
Authority of Ireland  
Dublin 9  
Ireland

Tel: (01) 807 3800  
Tel: (01) 807 3838

*This Irish Standard was  
published under the  
authority of the National  
Standards Authority of  
Ireland  
and comes into effect on:  
September 3, 2003*

**NO COPYING WITHOUT NSAI  
PERMISSION EXCEPT AS  
PERMITTED BY COPYRIGHT  
LAW**

© NSAI 2003

**Price Code I**

Údarás um Chaighdeáin Náisiúnta na hÉireann



EUROPEAN STANDARD

**EN 60191-6-4**

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2003

ICS 31.080.01

English version

**Mechanical standardization of semiconductor devices**  
**Part 6-4: General rules for the preparation of outline drawings of surface mounted semiconductor device packages -**  
**Measuring methods for package dimensions of ball grid array (BGA)**  
(IEC 60191-6-4:2003)

Normalisation mécanique  
des dispositifs à semiconducteurs  
Partie 6-4: Règles générales  
pour la préparation des dessins  
d'encombrement des dispositifs  
à semiconducteurs à montage en surface -  
Méthodes de mesure pour les dimensions  
des boîtiers matriciels à billes  
(CEI 60191-6-4:2003)

Mechanische Normung von  
Halbleiterbauelementen  
Teil 6-4: Allgemeine Regeln für die  
Erstellung von Gehäusezeichnungen von  
SMD-Halbleitergehäusen -  
Messverfahren für Gehäusemaße von  
Ball Grid Array (BGA)  
(IEC 60191-6-4:2003)

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 47D/531/FDIS, future edition 1 of IEC 60191-6-4, 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 60191-6-4 on 2003-07-01.

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) 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 60191-6-4:2003 was approved by CENELEC as a European Standard without any modification.

---

## **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	-	-



This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
  - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-