Irish Standard
I.S. EN 62258-1:2010

Semiconductor die products -- Part 1: Procurement and use (IEC 62258 -1:2009 (EQV))

I.S. EN 62258-1:2010

Incorporating amendments/corrigenda issued since publication:

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

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SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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EUROPEAN STANDARD

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Supersedes EN 62258-1:2005

English version

Semiconductor die products - Part 1: Procurement and use

(IEC 62258-1:2009)

Produits de puces de semiconducteurs - Partie 1: Approvisionnement et utilisation (CEI 62258-1:2009)

Halbleiter-Chip-Erzeugnisse - Teil 1: Beschaffung und Anwendung (IEC 62258-1:2009)

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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, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland 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

Ref. No. EN 62258-1:2010 E

Foreword

The text of document 47/1974/CDV, future edition 2 of IEC 62258-1, prepared by IEC TC 47, Semiconductor devices, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62258-1 on 2010-10-01.

This European Standard supersedes EN 62258-1:2005.

The main changes that have been introduced in this issue have been to ensure consistency across all parts of the standard. The ordering of the subclauses, particularly in Clause 6, has been changed to be more logical and the text of some of the requirements has been amended to add requirements on further information as covered by CLC/TR 62258-4, CLC/TR 62258-7 and CLC/TR 62258-8. New requirements include information on permutability of terminals and functional elements (6.6.4) and moisture sensitivity for partially encapsulated devices (8.8).

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)	2011-07-01
– 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 62258-1:2009 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60068 series	NOTE	Harmonized in EN 60068 series (not modified).
IEC 60749-26	NOTE	Harmonized as EN 60749-26.
IEC 60749-27	NOTE	Harmonized as EN 60749-27.
IEC 61340-5-1	NOTE	Harmonized as EN 61340-5-1.
IEC 61340-5-2	NOTE	Harmonized as EN 61340-5-2.
IEC 61340-5-2	NOTE	Harmonized as EN 61340-5-2.
ISO 9000	NOTE	Harmonized as EN ISO 9000.

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 60050	Series	International Electrotechnical Vocabulary (IEV)	-	-
IEC 60191	Series	Mechanical standardization of semiconductor devices	EN 60191	Series
IEC 60191-4 + A1 + A2	1999 2001 2002	Mechanical standardization of semiconductor devices - Part 4: Coding system and classification into forms of package outlines for semiconductor device packages	EN 60191-4 + A1 + A2	1999 2002 2002
IEC 61360-1	-	Standard data elements types with associated classification scheme for electric items - Part 1: Definitions - Principles and methods	EN 61360-1	-
IEC 62258-2	-	Semiconductor die products - Part 2: Exchange data formats	EN 62258-2	-
IEC/TR 62258-3	-	Semiconductor die products - Part 3: Recommendations for good practice in handling, packing and storage	CLC/TR 62258-3	-
IEC/TR 62258-4	-	Semiconductor die products - Part 4: Questionnaire for die users and suppliers	CLC/TR 62258-4	-
IEC 62258-5	-	Semiconductor die products - Part 5: Requirements for information concerning electrical simulation	EN 62258-5	-
IEC 62258-6	-	Semiconductor die products - Part 6: Requirements for information concerning thermal simulation	EN 62258-6	-
IEC/TR 62258-7	-	Semiconductor die products - Part 7: XML schema for data exhange	CLC/TR 62258-7	-
IEC/TR 62258-8	-	Semiconductor die products - Part 8: EXPRESS model schema for data exchange	CLC/TR 62258-8	-
ISO 14644-1	1999	Cleanrooms and associated controlled environments - Part 1: Classification of air cleanliness	EN ISO 14644-1	1999

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SEMICONDUCTOR DIE PRODUCTS –

Part 1: Procurement and use

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.
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International Standard IEC 62258-1 has been prepared by IEC technical committee 47: Semiconductor devices.

This second edition cancels and replaces the first edition published in 2005, and constitutes a technical revision.

The main changes that have been introduced in this issue have been to ensure consistency across all parts of the standard. The ordering of the subclauses, particularly in Clause 6, has been changed to be more logical and the text of some of the requirements has been amended to add requirements on further information as covered by IEC/TR 62258-4, IEC/TR 62258-7 and IEC/TR 62258-8. New requirements include information on permutability of terminals and functional elements (6.6.4) and moisture sensitivity for partially encapsulated devices (8.8).

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

CDV	Report on voting
47/1974/CDV	47/2004/RVC

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 62258 series, under the general title *Semiconductor die products*, can be found on the IEC website.

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

INTRODUCTION

This standard is based on the work carried out in the ESPRIT 4th Framework project GOOD-DIE which resulted in the publication of the ES59008 series of European specifications. Organisations that helped prepare this document included the European IST ENCASIT project, JEITA, JEDEC and ZVEI.

The structure of this International Standard as currently conceived is as follows:

Part 1: Procurement and use

Part 2: Exchange data formats

Part 3: Recommendations for good practice in handling, packing and storage (technical report)

Part 4: Questionnaire for die users and suppliers (technical report)

Part 5: Requirements for information concerning electrical simulation

Part 6: Requirements for information concerning thermal simulation

Part 7: XML schema for data exchange (technical report)

Part 8: EXPRESS model schema for data exchange (technical report)

Further parts may be added as required.

SEMICONDUCTOR DIE PRODUCTS –

Part 1: Procurement and use

1 Scope

This part of IEC 62258 has been developed to facilitate the production, supply and use of semiconductor die products, including

- wafers,
- singulated bare die,
- die and wafers with attached connection structures,
- minimally or partially encapsulated die and wafers.

The standard defines the minimum requirements for the data that are needed to describe such die products and is intended as an aid to the design of and procurement for assemblies incorporating die products. It covers the requirements for data, including

- product identity
- product data
- die mechanical information
- test, quality, assembly and reliability information
- handling, shipping and storage information

It covers the specific requirements for the data that are needed to describe the geometrical properties of die, their physical properties and the means of connection necessary for their use in the development and manufacture of products. It also contains, in the annexes, a vocabulary and list of common acronyms.

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 60050 (all parts), *International Electrotechnical Vocabulary*

IEC 60191 (all parts), *Mechanical standardization of semiconductor devices*

IEC 60191-4:1999, *Mechanical standardization of semiconductor devices – Part 4: Coding system and classification into forms of package outlines for semiconductor device packages*
Amendment 1 (2001)
Amendment 2 (2002)

IEC 61360-1, *Standard data element types with associated classification scheme for electric components – Part 1: Definitions – Principles and methods*

IEC 62258-2, *Semiconductor die products – Part 2: Exchange data formats*

IEC/TR 62258-3, *Semiconductor die products – Part 3: Recommendations for good practice in handling, packing and storage*