SLOVENSKI STANDARD
SIST EN 62258-2:2011

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Polprevodniški izdelki - 2. del: Izmenjava podatkovnih formatov

Semiconductor die products - Part 2: Exchange data formats

Halbleiter-Chip-Erzeugnisse - Teil 2: Datenaustausch-Formate

Produits à puce de semi-conducteur - Partie 2: Formats de données d'échange

Ta slovenski standard je istoveten z: **EN 62258-2:2011**

ICS:

31.080.99	Drugi polprevodniški elementi	Other semiconductor devices
31.200	Integrirana vezja, mikroelektronika	Integrated circuits. Microelectronics

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EUROPEAN STANDARD

NORME EUROPÉENNE

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English version

Semiconductor die products - Part 2: Exchange data formats

(IEC 62258-2:2011)

Produits de puces de semiconducteurs - Partie 2: Formats d'échange de données (CEI 62258-2:2011)

Halbleiter-Chip-Erzeugnisse - Teil 2: Datenaustausch-Formate (IEC 62258-2:2011)

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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.

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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 62258-2:2011 E

Foreword

The text of document 47/2085/FDIS, future edition 2 of IEC 62258-2, prepared by IEC TC 47, Semiconductor devices, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62258-2 on 2011-06-29.

This European Standard supersedes EN 62258-2:2005.

With respect to EN 62258-2:2005, the following parameters have been updated for EN 62258-2:2011:

Subclause	Parameter name
8.2.9	DEVICE_PICTURE_FILE
8.2.10	DEVICE_DATA_FILE
8.4.6	TERMINAL_GROUP
8.4.7	PERMUTABLE
8.5.1	TERMINAL_MATERIAL (was DIE_TERMINAL_MATERIAL)
8.5.2	TERMINAL_MATERIAL_STRUCTURE
8.6.2	MAX_TEMP_TIME
8.7.6	SIMULATOR_*simulator*_TERM_GROUP
8.8.3	ASSEMBLY
8.9.2	WAFER_THICKNESS
8.9.3	WAFER_THICKNESS_TOLERANCE
8.9.9	WAFER_INK
8.10.4	BUMP_SHAPE
8.10.5	BUMP_SIZE
8.10.6	BUMP_SPECIFICATION_DRAWING
8.10.7	BUMP_ATTACHMENT_METHOD
8.11.4	MPD_MSL_LEVEL
8.11.5	MPD_PACKAGE_DRAWING
8.12.1	QUALITY
8.12.2	TEST
8.13.1	TEXT
8.14.1	PARSE

This standard shall be read in conjunction with EN 62258-1.

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) 2012-03-29

– latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2014-06-29

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62258-2:2011 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.

Publication	Year	Title	EN/HD	Year
IEC 61360-4	2005	Standard data element types with associated classification scheme for electric components - Part 4: IEC reference collection of standard data element types and component classes	EN 61360-4 + corr. December	2005 2005
IEC 62258-1	-	Semiconductor die products - Part 1: Procurement and use	EN 62258-1	-
ISO 6093	1985	Information processing - Representation of numerical values in character strings for information interchange	-	-
ISO 8601	2004	Data elements and interchange formats - Information interchange - Representation of dates and times	-	-
ISO 10303-21	2002	Industrial automation systems and integration - Product data representation and exchange - Part 21: Implementation methods: Clear text encoding of the exchange structure	-	-
IPC/JEDEC J-STD-033B	2007	Handling, Packing, Shipping and Use of Moisture/Reflow Sensitive Surface Mount Devices	-	-

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Semiconductor die products – Part 2: Exchange data formats

Produits de puces de semiconducteurs – Partie 2: Formats d'échange de données

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SEMICONDUCTOR DIE PRODUCTS –

Part 2: Exchange data formats

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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8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62258-2 has been prepared by IEC technical committee 47: Semiconductor devices.

This standard shall be read in conjunction with IEC 62258-1.

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

With respect to the first edition, the following parameters have been updated for this edition:

Subclause	Parameter name
8.2.9	DEVICE_PICTURE_FILE
8.2.10	DEVICE_DATA_FILE
8.4.6	TERMINAL_GROUP
8.4.7	PERMUTABLE
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8.12.1	QUALITY
8.12.2	TEST
8.13.1	TEXT
8.14.1	PARSE

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

FDIS	Report on voting
47/2085/FDIS	47/2095/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.

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.

INTRODUCTION

This International Standard is based on the work carried out in the ESPRIT 4th Framework project GOODDIE which resulted in publication of the ES 59008 series of European specifications. Organisations that helped prepare this document include the ESPRIT ENCAST and ENCASIT projects, the Die Products Consortium, JEITA, JEDEC and ZVEI.

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

Under main title: IEC 62258: Semiconductor die products

- 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 2: Exchange data formats

1 Scope and object

This Part of IEC 62258 specifies the data formats that may be used for the exchange of data which is covered by other parts of the IEC 62258 series, as well as definitions of all parameters used according to the principles and methods of IEC 61360. It introduces a Device Data Exchange (DDX) format, with the prime goal of facilitating the transfer of adequate geometric data between die manufacturer and CAD/CAE user and formal information models that allow data exchange in other formats such as STEP physical file format, in accordance with ISO 10303-21, and XML. The data format has been kept intentionally flexible to permit usage beyond this initial scope.

It has been developed to facilitate the production, supply and use of semiconductor die products, including but not limited to:

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

This standard reflects the DDX data format at version **1.3.0**

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 62258-1, *Semiconductor die products – Part 1: Procurement and use*

IEC 61360-4:2005, *Standard data element types with associated classification scheme for electric components – Part 4: IEC reference collection of standard data element types, component classes303-21*

ISO 8601:2004, *Data elements and interchange formats – Information interchange – Representation of dates and times*

ISO 6093:1985, *Information processing – Representation of numerical values in character strings for information interchange*

IPC/JEDEC J-STD-033B:2007, *Handling, Packing, Shipping and Use of Moisture/Reflow Sensitive Surface Mount Devices*

ISO 10303-21:2002, *Industrial automation systems and integration – Product data representation and exchange – Part 21: Implementation methods: Clear text encoding of the exchange structure*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62258-1 apply.

4 Requirements

Specific reference for parameter variables is made to the IEC 61360 data element type (DET) codes, which are defined in Part 4 of IEC 61360.

5 Device Data eXchange format (DDX) file goals and usage

5.1 To facilitate the transferral of data by electronic media from the device vendor to the end-user for use within a CAD or CAE system, a data file format, **D**evice **D**ata e**X**change, (**DDX**), shall be used. This data file format has been deliberately kept flexible, to permit further enhancements and additions for future use.

5.2 It is strongly recommended that **D**evice **D**ata e**X**change files have the three letter **DDX** file extension, and a **D**evice **D**ata e**X**change file shall hereon be referred to as a **DDX** file.

5.3 Data that are to be transferred from a device vendor to a user shall be contained in a single computer-readable DDX file, and the minimum contents of this file shall suffice a geometric CAD/CAE software design system. The file shall be textually readable, to permit simple manual verification.

5.4 The DDX file and its data contents shall be independent of both computer machine and operating system.

5.5 The DDX file contents shall include mechanical and interconnectivity information, but may additionally include electrical and functional data.

5.6 The DDX file may contain data for one or more devices, and shall be capable of being used as a library file by a CAD/CAE software design system. The file may contain one or more sets of data for the same device type, each having different delivery forms, such as bumped die, bare die, and Chip-Scale packaging.

5.7 The DDX file shall be capable of being simply or automatically generated, such as by an ASCII text editor or a spreadsheet.

5.8 The DDX file shall be capable of referencing additional external files, such as simulation and thermal model files.

5.9 All data shall be defined in such a way that conversion to or from other exchange formats is possible, such as GDSII and CIF for geometric data of die. As close compatibility to the existing DIE (Die Information Exchange) data as possible is desired, to facilitate simple translation of partial DIE data files.

5.10 Definitions of parameters shall be in conformity with IEC 61360 (refer to Clause 5 of IEC 62258-1).

6 DDX file format and file format rules

NOTE 1 Version 1.2.1 of DDX supersedes version 1.0.0 contained in ES 59008-6-1.

NOTE 2 Version 1.3.0 of DDX supersedes version 1.2.1 contained in IEC 62258-2:2005.