
Mechanical standardization of semiconductor devices - Part 4: Coding system and classification into forms of package outlines for semiconductor device package (IEC 60191-4:1999)

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

Mechanische Normung von Halbleiterbauelementen -- Teil 4: Codierungssystem für Gehäuse und Eingruppierung der Gehäuse nach der Gehäuseform für Halbleiterbauelemente

Normalisation mécanique des dispositifs à semiconducteurs -- Partie 4: Système de codification et classification en formes des boîtiers pour dispositifs à semiconducteurs

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31.080.01	Polprevodniški elementi (naprave) na splošno	Semiconductor devices in general
31.240	Mehanske konstrukcije za elektronsko opremo	Mechanical structures for electronic equipment

SIST EN 60191-4:2002**en**

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EUROPEAN STANDARD

EN 60191-4

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 1999

ICS 31.080

English version

Mechanical standardization of semiconductor devices
Part 4: Coding system and classification into forms of package
outlines for semiconductor device packages
(IEC 60191-4:1999)

Normalisation mécanique des dispositifs
à semiconducteurs
Partie 4: Système de codification et
classification en formes des boîtiers
pour dispositifs à semiconducteurs
(CEI 60191-4:1999)

Mechanische Normung von
Halbleiterbauelementen
Teil 4: Kodierungssystem für
Gehäuse und Eingruppierung der
Gehäuse nach der Gehäuseform
für Halbleiterbauelemente
(IEC 60191-4:1999)

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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/298/FDIS, future edition 2 of IEC 60191-4, 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 60191-4 on 1999-10-01.

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) 2000-07-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2002-10-01

Endorsement notice

The text of the International Standard IEC 60191-4:1999 was approved by CENELEC as a European Standard without any modification.

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**NORME
INTERNATIONALE
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**CEI
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60191-4

Deuxième édition
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1999-10

**Normalisation mécanique des dispositifs
à semiconducteurs –**

**Partie 4:
Système de codification et classification en formes
des boîtiers pour dispositifs à semiconducteurs**

(standards.iteh.ai)

**Mechanical standardization of semiconductor
devices –**

**Part 4:
Coding system and classification into forms
of package outlines for semiconductor device
packages**

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Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

MECHANICAL STANDARDIZATION OF SEMICONDUCTOR DEVICES –**Part 4: Coding system and classification into forms of package outlines
for semiconductor device packages**

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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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- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60191-4 has been prepared by subcommittee 47D: Mechanical standardization of semiconductor devices, of IEC technical committee 47: Semiconductor devices.

This second edition cancels and replaces the first edition published in 1987 and constitutes a technical revision.

This standard supersedes Section Five – Rules for Coding of IEC 60191-1, as regards the designation of the package outlines for semiconductor devices, and annex B of IEC 60191-3, as regards the form description of these packages.

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

FDIS	Report on voting
47D/298/FDIS	47D/321/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 3.

Annex A is for information only.

The committee has decided that this publication remains valid until _____. At this date, in accordance with the committee's decision, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

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MECHANICAL STANDARDIZATION OF SEMICONDUCTOR DEVICES –

Part 4: Coding system and classification into forms of package outlines for semiconductor device packages

1 Scope

This International Standard describes a method for the designation of package outlines and for the classification of forms of package outlines for semiconductor devices and a systematic method for generating universal descriptive designators for semiconductor device packages.

The descriptive designator provides a useful communication tool but has no implied control for assuring package interchangeability.

2 Coding system of package outlines for semiconductor devices

The following coding system will be used in the publications concerning mechanical standardization:

- first: a three-digit serial number (000 to 999);
- second: a single reference letter indicating the form as shown in table 1;
- third: a two-digit serial number (00 to 99) to indicate a variant of an outline drawing. The use of prefix P to indicate a provisional drawing remains unchanged.

EXAMPLES

- 101A00
- 050G13
- P 101F01

3 Classification into forms of package outlines for semiconductor devices

The package outline drawings for semiconductor devices are classified into forms according to the following scheme:

- form A: single-ended
- form B: heat-sink-mounted
- form C: stud-mounted
- form D: axial-leaded
- form E: surface-mounted
- form F: single-ended, heat-sink-mounted
- form G: dual and quad in-line
- form H: axial lead-less.

4 Coding system for semiconductor-device packages

4.1 General

The standard coding system is a method for identifying the physical features of an electronic device package family. The system is predicated upon a minimum two-character designator, which indicates the package outline style. This designator can be extended, through the use of optional, user-selected fields, to provide additional package information such as terminal position and count, terminal form, package shape, and predominant body material.

4.2 New descriptive codes

If a new package that does not conform to one of the designated field character codes is being proposed, a new code may be recommended for standardization.

4.3 Descriptive designators

The package outline style code is the only compulsory field within this descriptive designation system. Additional information may be provided using optional prefixes and suffixes described by the system. In general, these fields are independent of one another. Unless otherwise indicated herein, the users of this system may pick and choose which of these fields they wish to implement for their specific application (see figure 1). The descriptive designator may be extended with additional information, provided this information is separated from the descriptive designator by a slash (/) (see 4.3.6).

4.3.1 Minimum descriptive designator

The minimum descriptive designator is a two-letter code that classifies device packages into standard package outline styles. These styles identify general external physical features. Common two-letter descriptive codes or abbreviations are included, such as CC, FP, SO, GA.

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Figure A.1 shows two-letter codes for various device package outline styles and depicts examples of each. Table 1 lists the two-letter package-outline-style codes described in clause 5.

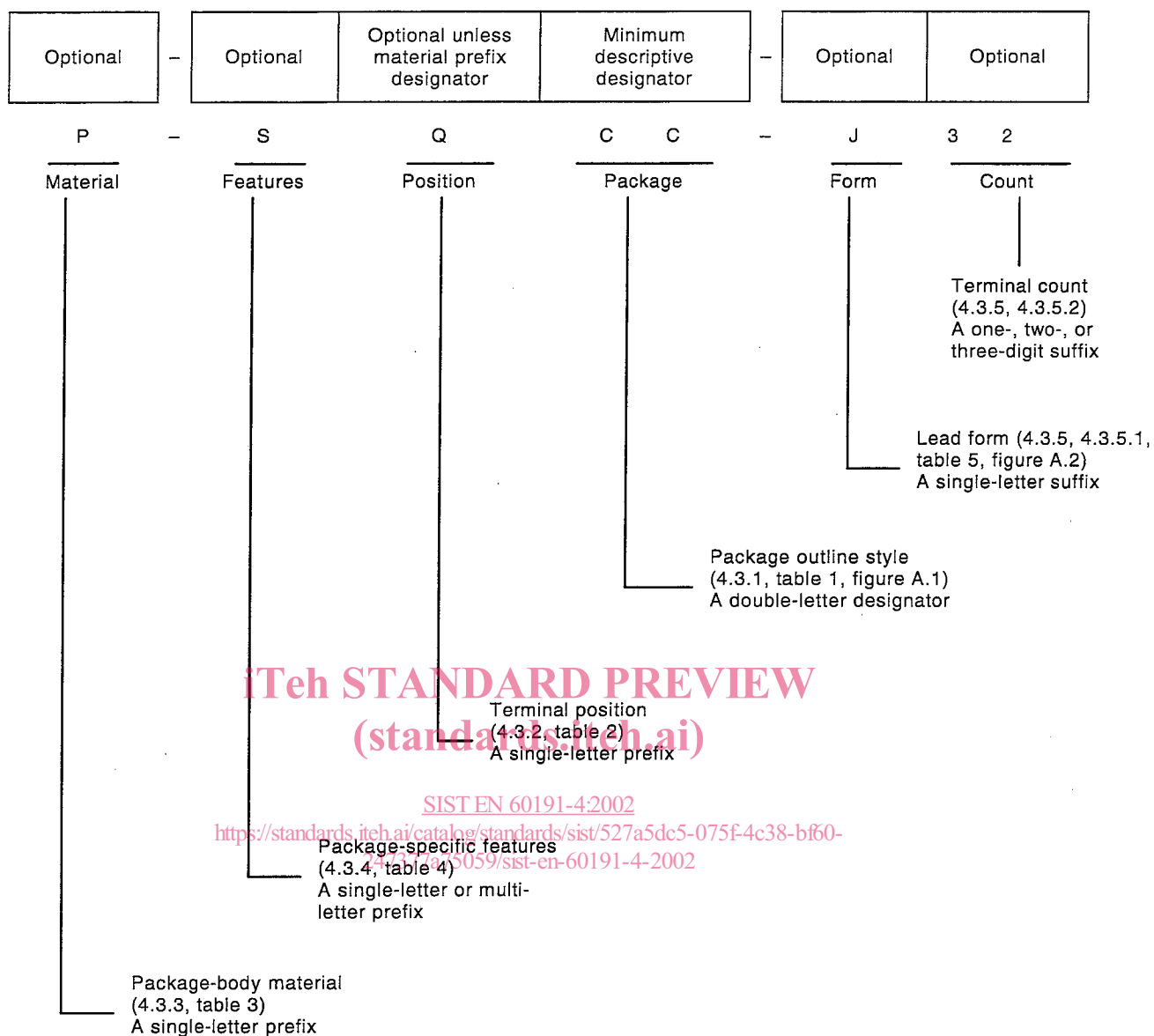


Figure 1 – Descriptive coding for semiconductor device packages