



BSI Standards Publication

Packaging of components for automatic handling

Part 3: Packaging of surface mount components on
continuous tapes (IEC 60286-3:2019)

National foreword

This British Standard is the UK implementation of EN IEC 60286-3:2019. It is identical to IEC 60286-3:2019. It supersedes BS EN 60286-3:2013, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EPL/40X, Capacitors and resistors for electronic equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

**Packaging of components for automatic handling - Part 3:
Packaging of surface mount components on continuous tapes
(IEC 60286-3:2019)**

Emballage de composants pour opérations automatisées -
Partie 3: Emballage des composants pour montage en
surface en bandes continues
(IEC 60286-3:2019)

Gurtung und Magazinierung von Bauelementen für
automatische Verarbeitung - Teil 3: Gurtung von
oberflächenmontierbaren Bauelementen auf Endlosgurten
(IEC 60286-3:2019)

This European Standard was approved by CENELEC on 2019-02-20. 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 CEN-CENELEC Management Centre or to any CENELEC member.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

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This document supersedes EN 60286-3:2013.

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

IEC 61340-5-1	NOTE Harmonized as EN 61340-5-1
IEC/TR 61340-5-2	NOTE Harmonized as CLC/TR 61340-5-2
IEC/TR 62258-3	NOTE Harmonized as CLC/TR 62258-3
ISO 11469	NOTE Harmonized as EN ISO 11469

Annex ZA
(normative)

**Normative references to international publications
with their corresponding European publications**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60191-2	-	Mechanical standardization of semiconductor devices -- Part 2: Dimensions	of- 2:	-

CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references	8
3 Terms, definitions and symbols.....	8
3.1 Terms and definitions.....	8
3.2 Symbols.....	10
4 Structure of the specification	11
5 Dimensional requirements for taping.....	12
5.1 Component cavity positioning requirements	12
5.1.1 Requirements for types 1a, 1b, 2a, 2b and 3.....	12
5.1.2 Requirements for types 4.....	12
5.2 Component cavity dimension requirements (tape types 1a, 1b, 2a, 2b and 3).....	12
5.3 Type 1a – Punched carrier tape, with top and bottom cover tape (tape widths: 8 mm and 12 mm).....	12
5.4 Type 1b – Pressed carrier tape, with top cover tape (tape width: 8 mm).....	15
5.5 Type 2a – Blister carrier tape, with single round sprocket holes and tape itches down to 2 mm (tape widths: 8 mm, 12 mm, 16 mm and 24 mm)	17
5.6 Type 2b – Blister carrier tape, with single round sprocket holes and with 1mm tape pitch (tape widths: 4 mm).....	20
5.7 Type 3 – Blister carrier tape, with double sprocket holes (32 mm to 200 mm).....	21
5.8 Type 4 – Adhesive-backed punched plastic carrier tape for singulated bare die and other surface mount components (8 mm, 12 mm, 16 mm and 24 mm).....	24
6 Polarity and orientation requirements of components in the tape	26
6.1 Requirements for all tape types.....	26
6.2 Specific requirements for type 1a.....	27
6.3 Specific requirements for type 4.....	27
7 Carrier tape requirements.....	27
7.1 Taping materials	27
7.2 Minimum bending radius (for all types).....	27
7.3 Camber.....	28
8 Cover tape requirements (for types 1a, 1b, 2a, 2b and 3)	29
9 Component taping and additional tape requirements.....	30
9.1 All types.....	30
9.2 Specific requirements for type 1b.....	31
9.3 Specific tape requirements for type 2b	31
9.4 Specific requirement for type 4	31
9.4.1 General	31
9.4.2 Coordinate system.....	31
9.4.3 Component positioning and lateral displacement	33
9.5 Specific requirements for tapes containing die products	33
9.5.1 General	33
9.5.2 Tape design for tapes containing die products	33
9.5.3 Cleanliness.....	34
9.5.4 Die lateral movement (types 1a, 2a and 2b).....	34
10 Reel requirements	34

10.1	Dimensions	34
10.1.1	General	34
10.1.2	Reel dimensions	34
10.1.3	Reel hole dimensions	36
10.2	Marking.....	36
11	Tape reeling requirements	37
11.1	All types.....	37
11.2	Specific requirements for type 1a.....	37
11.3	Specific requirements for type 4.....	37
11.4	Leader and trailer tape.....	37
11.4.1	General	37
11.4.2	Leader	38
11.4.3	Trailer.....	38
11.5	Recycling	38
11.6	Missing components	38
Annex A	(normative) Recommended measuring methods for type 1b	39
A.1	Measurement method for carrier tape thickness (T and T_3)	39
A.2	Measurement method for cavity (A_0 and B_0)	39
A.3	Measurement method for cavity depth (dimension K_0)	40
Bibliography	41
Figure 1	– Sectional view of component cavity (type 1b)	9
Figure 2	– 8 mm and 12 mm punched carrier-tape dimensions (4 mm cavity pitch)	13
Figure 3	– Illustration of 2 mm and 1 mm cavity pitch and maximum pocket offset	13
Figure 4	– Maximum component tilt, rotation and lateral movement	13
Figure 5	– Dimensions ($P_0 = 4 \text{ mm}/P_1 = 2 \text{ mm}$) and ($P_0 = 4 \text{ mm}/P_1 = 1 \text{ mm}$)	15
Figure 6	– Illustration of 2 mm and 1 mm cavity pitch and maximum pocket offset	16
Figure 7	– Maximum component tilt, rotation and lateral movement	16
Figure 8	– Blister carrier tape dimensions (8 mm, 12 mm, 16 mm and 24 mm)	18
Figure 9	– Illustration of 2 mm cavity pitch and pocket offset	18
Figure 10	– Maximum component tilt, rotation and lateral movement	18
Figure 11	– Type 2b carrier tape	20
Figure 12	– Maximum pocket offset.....	20
Figure 13	– Maximum component tilt, rotation and lateral movement	20
Figure 14	– Blister carrier tape.....	22
Figure 15	– Elongated sprocket hole skew	22
Figure 16	– Maximum component tilt, rotation and lateral movement	22
Figure 17	– Adhesive-backed punched carrier-tape dimensions (4 mm compartment pitch)	24
Figure 18	– Illustration of 2 mm compartment pitch	24
Figure 19	– Maximum component planar rotation and lateral displacement	25
Figure 20	– Example of polarity and orientation	27
Figure 21	– Bending radius	28
Figure 22	– Measuring method and camber	29
Figure 23	– Dot seals for thin components (as exceptions)	30

Figure 24 – Type 4 coordinate system	32
Figure 25 – Component clearance and positioning method	33
Figure 26 – Reel	35
Figure 27 – Reel hole presentation	36
Figure 28 – Tape reeling and label area on the reel	37
Figure 29 – Leader and trailer.....	38
Figure A.1 – Carrier tape thickness measurement points	39
Figure A.2 – Cavity cross-section.....	40
Figure A.3 – Cavity depth dimension.....	40
Table 1 – Component size codes	9
Table 2 – Classification to symbols concerning tape, reel and common symbols	10
Table 3 – Constant dimensions of 8 mm and 12 mm punched carrier tape	14
Table 4 – Variable dimensions of 8 mm and 12 mm punched carrier tape	14
Table 5 – Component tilt, planar rotation and lateral movement	15
Table 6 – Constant dimensions of 8 mm pressed carrier tape	16
Table 7 – Variable dimensions of 8 mm pressed carrier tape	17
Table 8 – Component tilt, planar rotation and lateral movement	17
Table 9 – Constant dimensions of 8 mm to 24 mm blister carrier tape	19
Table 10 – Variable dimensions of 8 mm to 24 mm blister carrier tape	19
Table 11 – Component tilt, rotation and lateral movement.....	19
Table 12 – Constant dimensions of 4 mm carrier tape.....	21
Table 13 – Variable dimensions of 4 mm carrier tape.....	21
Table 14 – Component tilt, planar rotation and lateral movements	21
Table 15 – Constant dimensions of 32 mm to 200 mm blister carrier tape	23
Table 16 – Variable dimensions of 32 mm to 200 mm blister carrier tape	23
Table 17 – Component tilt, planar rotation and lateral movements	24
Table 18 – Dimensions of adhesive backed punched carrier tape	25
Table 19 – Variable dimensions of adhesive-backed punched carrier tape	26
Table 20 – Component planar rotation and lateral displacement	26
Table 21 – Minimum bending radius.....	28
Table 22 – Peel force.....	30
Table 23 – Absolute referencing data for component target position	32
Table 24 – Reel dimensions.....	35
Table 25 – Reel hole dimensions	36

INTERNATIONAL ELECTROTECHNICAL COMMISSION

PACKAGING OF COMPONENTS FOR AUTOMATIC HANDLING –**Part 3: Packaging of surface mount components
on continuous tapes**

FOREWORD

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International Standard IEC 60286-3 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment.

This sixth edition cancels and replaces the fifth edition published in 2013. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) addition of a table of the classification to symbols concerning tape, reel and common symbols;
- b) additions of a figure of example of polarity and orientation and a figure of example of dot seal;
- c) revision of requirements for camber;

d) addition of a definition of design value with regard to tilt.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
40/2643/FDIS	40/2649/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60286 series, published under the general title *Packaging of components for automatic handling*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

Tape packaging meets the requirements of automatic component placement machines and also covers the use of tape packaging for components and singulated dies for test purposes and other operations.

PACKAGING OF COMPONENTS FOR AUTOMATIC HANDLING –

Part 3: Packaging of surface mount components on continuous tapes

1 Scope

This part of IEC 60286 is applicable to the tape packaging of electronic components without leads or with lead stumps, intended to be connected to electronic circuits. It includes only those dimensions that are essential for the taping of components intended for the above-mentioned purposes.

This document also includes requirements related to the packaging of singulated die products including bare die and bumped die (flip chips).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60191-2, *Mechanical standardization of semiconductor devices – Part 2: Dimensions*

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply. Definitions apply to all tape types, unless specifically mentioned.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1.1 components

electronic part of a product that cannot be physically divided into smaller parts without losing its particular function

Note 1 to entry: This includes singulated die product.

Note 2 to entry: This is applied to all packaging-types for bare die products unless specifically mentioned otherwise.

3.1.2 component sizes

size of component that are identified with their metric size code

Note 1 to entry: This size code is followed by a capital M.

Note 2 to entry: To avoid possible confusion with inch-based size codes, an equivalency table is shown in Table 1.