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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Packaging of components for automatic handling – Part 2: Tape packaging of components with unidirectional leads on continuous tapes

Emballage de composants pour opérations automatisées – Partie 2: Emballage des composants à sorties unilatérales en bandes continues



IEC 60286-2:2022-11(en-fr)



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Packaging of components for automatic handling – Part 2: Tape packaging of components with unidirectional leads on continuous tapes

Emballage de composants pour opérations automatisées – Partie 2: Emballage des composants à sorties unilatérales en bandes continues

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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PACKAGING OF COMPONENTS FOR AUTOMATIC HANDLING –

Part 2: Tape packaging of components with unidirectional leads on continuous tapes

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IEC 60286-2 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment. It is an International Standard.

This fifth edition cancels and replaces the fourth edition published in 2015. This edition constitutes a technical revision.

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

a) complete revision of structure;
b) consolidation of essential parameters and requirements in Clause 4.

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

Draft	Report on voting
40/2974/FDIS	40/2996/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

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.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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- withdrawn,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

PACKAGING OF COMPONENTS FOR AUTOMATIC HANDLING –

Part 2: Tape packaging of components with unidirectional leads on continuous tapes

1 Scope

This part of IEC 60286 applies to the tape packaging of components with two or more unidirectional leads for use in electronic equipment. It provides dimensions and tolerances necessary to tape components with unidirectional leads. In general, the tape is applied to the component leads.

It covers requirements for taping techniques used with equipment for automatic handling, pre-forming of leads, insertion and other operations and includes only those dimensions which are essential to the taping of components intended for the above-mentioned purposes.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

3.1
packaging
product made of any material of any nature to be used in containment, protection, structured alignment for automatic assembly, handling, and delivery

3.2
unguided lead
lead which is not held between carrier tape and hold-down tape

Note 1 to entry: See Figure 5.

3.3
crimp
cinch
purposely formed angular deformation, starting at the reference plane, in such a way that the component bottom side does not touch the top surface of the printed circuit board after insertion and therefore acts as a "stand-off"

Note 1 to entry: The formed crimp is available in different forms, see Figure 2.

3.4
ordinate
straight line, perpendicular to the abscissa through the centre of the closest sprocket hole that follows the component to be checked

3.5
abscissa
straight line, through the centres of the sprocket holes in the direction of unreeling

3.6
seating plane
<components with straight leads> bottom of the component body, including any projections which support the component on the printed board

Note 1 to entry: See Figure 1

Note 2 to entry: A method for determining the seating plane is given in IEC 60717.

3.7
seating plane
<components with crimped (or preformed) leads> plane that changes depending on the profile of the crimp, the diameter of the leads and the hole size in the printed board

Note 1 to entry: See Figure 1 and Figure 2.

Note 2 to entry: For components with crimped (or preformed) leads, a reference plane is defined instead of a seating plane.

Note 3 to entry: A method for determining the seating plane is given in IEC 60717.

3.8
reference plane
line parallel to the abscissa through the lowest centre of the radius of curvature of the bending of the crimp

Note 1 to entry: See Figure 1 and Figure 2.

4 Dimensions and specific requirements

4.1 General

The symbols and dimensions are given in Figure 1 to Figure 6, Table 1, Annex A and Annex B. All dimensions of the component leads have the centreline of the lead as the reference line.

4.2 Coordinate system

The coordinate system common to tapes and taped components consists of an abscissa and an ordinate, both using the centre of the sprocket hole that follows the component to be checked as the reference point (see Figure 1).

To determine the position of components in the taped condition, the seating plane shall be used for components with straight leads, and the reference plane for components with crimped (or otherwise formed) leads (see Figure 2).