

Packaging of components for automatic handling —

Part 3: Packaging of surface mount components on continuous tapes

The European Standard EN 60286-3:2007 has the status of a
British Standard

ICS 31.020; 31.240; 55.060

National foreword

This British Standard is the UK implementation of EN 60286-3:2007. It is identical to IEC 60286-3:2007. It supersedes BS EN 60286-3:1998 which is withdrawn.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.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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**Packaging of components for automatic handling -
Part 3: Packaging of surface mount components on continuous tapes
(IEC 60286-3:2007)**

Emballage de composants
pour opérations automatisées -
Partie 3: Emballage des composants
appropriés au montage en surface
en bandes continues
(CEI 60286-3:2007)

Gurtung und Magazinierung
von Bauelementen
für die automatische Verarbeitung -
Teil 3: Gurtung von
oberflächenmontierbaren Bauelementen
auf Endlosgurten
(IEC 60286-3:2007)

This European Standard was approved by CENELEC on 2007-09-01. 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.

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CENELEC

European Committee for Electrotechnical Standardization
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Foreword

The text of document 40/1838/FDIS, future edition 4 of IEC 60286-3, prepared by IEC TC 40, Capacitors and resistors for electronic equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60286-3 on 2007-09-01.

This European Standard supersedes EN 60286-3:1998.

EN 60286-3:2007 contains the following significant technical changes with respect to EN 60286-3:1998:

- implementation of Type IV (adhesive-backed punched plastic carrier tape for singulated bare die and other surface mount components);
- minor revisions related to tables, figures and references.

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) | 2008-06-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2010-09-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60286-3:2007 was approved by CENELEC as a European Standard without any modification.

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INTRODUCTION

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

PACKAGING OF COMPONENTS FOR AUTOMATIC HANDLING –

Part 3: Packaging of surface mount components on continuous tapes

1 General

1.1 Scope

This part of IEC 60286 is applicable to the tape packaging of electronic components without leads or with lead stumps which are 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 standard also includes requirements related to the packaging of singulated die products including bare die and bumped die (flip chips).

1.2 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 60191-2:1966, *Mechanical standardization of semiconductor devices – Part 2: Dimensions*

IEC 61340-5-1:1998, *Electrostatics – Part 5-1: Protection of electronic devices from electrostatic phenomena – General requirements*

IEC 61340-5-2:1999, *Electrostatics – Part 5-2: Protection of electronic devices from electrostatic phenomena – User guide*

IEC 62258-3:2005, *Semiconductor die products – Part 3: Recommendations for good practice in handling, packing and storage*

ISO/IEC 16388:1999, *Information technology – Automatic identification and data capture techniques – Bar code symbology specifications – Code 39*

ISO 11469:2000, *Plastics – Generic identification and marking of plastics products*

2 Terms and definitions

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

2.1

packaging

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

3 Structure of the specification

The various types of tapes are as follows.

- Type I - Punched carrier tape, with top and bottom cover tape (8 mm and 12 mm)
- Type II - Blister carrier tape, with single sprocket holes (8 mm, 12 mm, 16 mm and 24 mm)
- Type III - Blister carrier tape, with double sprocket holes (32 mm to 200 mm)
- Type IV - Adhesive-backed punched plastic carrier tape for singulated bare die and other surface mount components
- Type V - Continuous pressed carrier tapes (in development)
- Type VI - Blister carrier tapes 4 mm in width (in development)

All dimensions in the tables are in millimetres.

3.1 Type I – Punched carrier tape, with top and bottom cover tape (8 mm and 12 mm)

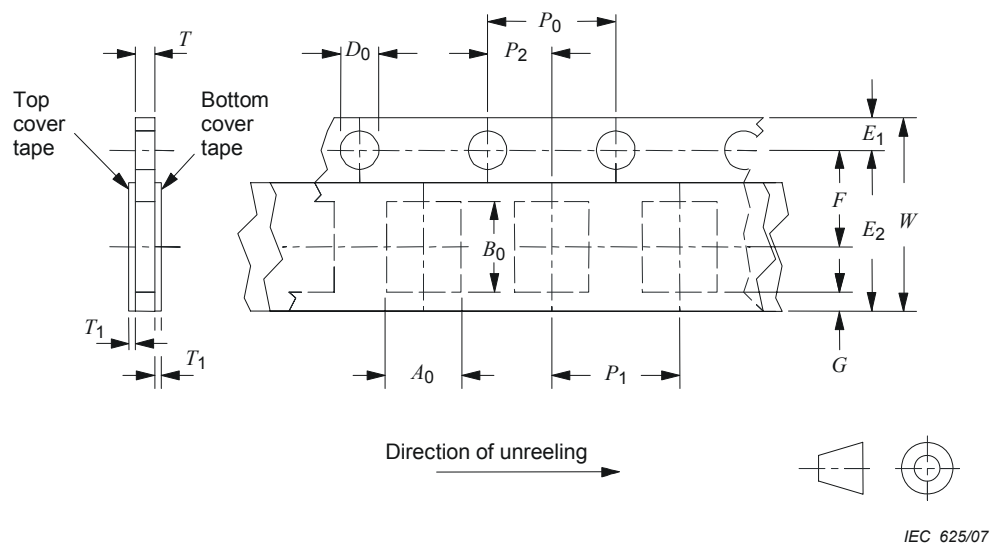


Figure 1 – 8 mm and 12 mm punched carrier-tape dimensions

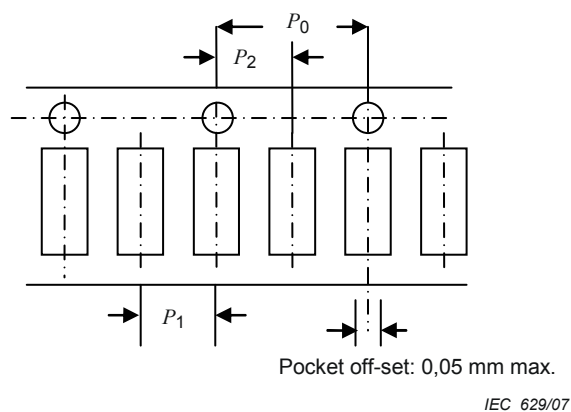
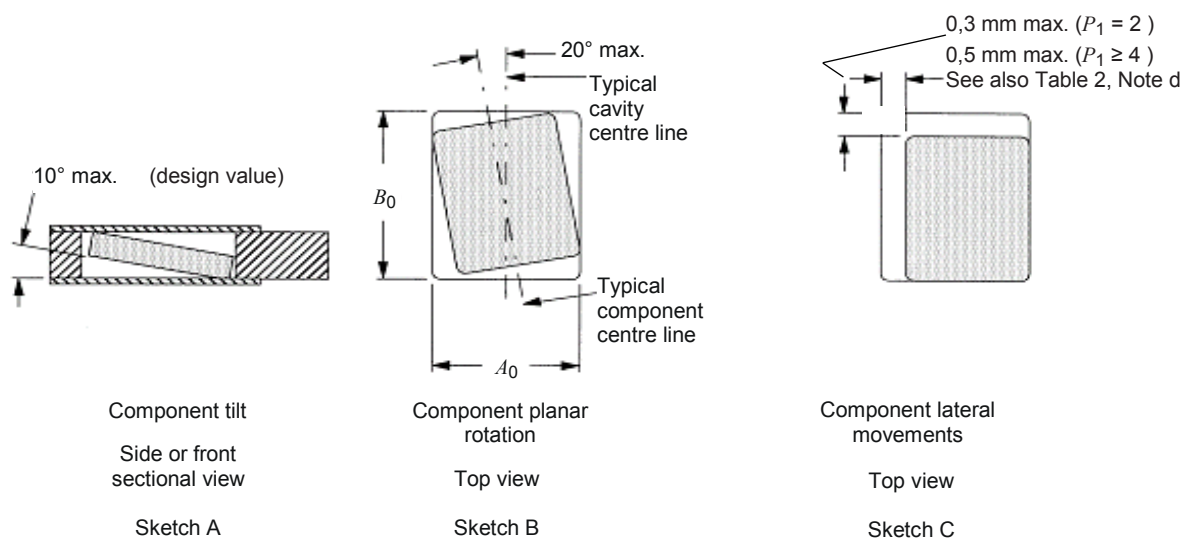


Figure 2 – Illustration of 2 mm cavity pitch



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Figure 3 – Maximum component tilt, rotation and lateral movement