BS EN 61760-4:2015

BSI Standards Publication

Surface mounting technology

Part 4: Classification, packaging, labelling and handling of moisture sensitive devices

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National foreword

This British Standard is the UK implementation of EN 61760-4:2015. It is identical to IEC 61760-4:2015.

The UK participation in its preparation was entrusted to Technical Committee EPL/501, Electronic Assembly Technology.

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

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Published by BSI Standards Limited 2015

ISBN 978 0 580 78687 7
ICS 31.190

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 July 2015.

Amendments/corrigenda issued since publication

Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61760-4

July 2015

ICS 31.190

English Version

Surface mounting technology - Part 4: Classification, packaging, labelling and handling of moisture sensitive devices (IEC 61760-4:2015)

Technique du montage en surface (SMT) -
Partie 4: Classification, emballage, étiquetage et manipulation des dispositifs sensibles à l'humidité
(IEC 61760-4:2015)

Oberflächenmontagetechnik -
Teil 4: Klassifikation, Verpackung, Kennzeichnung und Handhabung feuchteempfindlicher Bauteile
(IEC 61760-4:2015)

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Foreword

The text of document 91/1244/FDIS, future edition 1 of IEC 61760-4, prepared by IEC/TC 91 "Electronics assembly technology" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61760-4:2015.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2016-03-23
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2018-06-23

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The text of the International Standard IEC 61760-4:2015 was approved by CENELEC as a European Standard without any modification.

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

IEC 60068-2-58:2004	NOTE	Harmonized as EN 60068-2-58:2004 [1] (not modified).
IEC 60068-2-78	NOTE	Harmonized as EN 60068-2-78.
IEC 60749-20-1	NOTE	Harmonized as EN 60749-20-1.
ISO 62	NOTE	Harmonized as EN ISO 62.

[1] Superseded by EN 60068-2-58:2015 (IEC 60068-2-58:2015): DOW = 2018-05-01.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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

Publication	Year	Title	EN/HD	Year
IEC 60068-1	-	Environmental testing - Part 1: General and guidance	EN 60068-1	-
IEC 60749-20	-	Semiconductor devices - Mechanical and climatic test methods - Part 20: Resistance of plastic encapsulated SMDs to the combined effect of moisture and soldering heat	EN 60749-20	-
IEC 61340-5-1	-	Electrostatics - Part 5-1: Protection of electronic devices from electrostatic phenomena - General requirements	EN 61340-5-1	-
IEC 61760-2	-	Surface mounting technology - Part 2: Transportation and storage conditions of surface mounting devices (SMD) - Application guide	EN 61760-2	-

IPC/JEDEC J-STD-020D.1, March 2008, Moisture/Reflow Sensitivity Classification for Non-hermetic Solid State Surface Mount Devices

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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SURFACE MOUNTING TECHNOLOGY –

Part 4: Classification, packaging, labelling and handling of moisture sensitive devices

FOREWORD

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International Standard IEC 61760-4 has been prepared by IEC technical committee 91: Electronics assembly technology.

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

FDIS	Report on voting
91/1244FDIS	91/1259/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.

A list of all parts in the IEC 61760, published under the general title *Surface mounting technology*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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.

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

Due to the higher temperature profiles of reflow soldering processes using tin-silver-copper alloys or other lead-free solder alloys with higher melting temperatures than Sn-Pb eutectic solder, the sensitivity of components against soldering heat, when being exposed to moisture before soldering, becomes an increasingly important factor.

The currently existing standards describing the moisture sensitivity classification of devices are applicable for plastic encapsulated semiconductors and similar solid state packages (e.g. IEC 60749-20), but not for other types of components.

This part of IEC 61760 also extends the classification and packaging methods as described in J-STD-020 and J-STD-033. It is intended to be used for such type of components, where J-STD-020 and J-STD-033 are not required or not appropriate.

SURFACE MOUNTING TECHNOLOGY –

Part 4: Classification, packaging, labelling and handling of moisture sensitive devices

1 Scope

This part of IEC 61760 specifies the classification of moisture sensitive devices into moisture sensitivity levels related to soldering heat, and provisions for packaging, labelling and handling.

This part of IEC 61760 extends the classification and packaging methods to such components, where currently existing standards are not required or not appropriate. For such cases this standard introduces additional moisture sensitivity levels and an alternative method for packaging.

This standard applies to devices intended for reflow soldering, like surface mount devices, including specific through-hole devices (where the device supplier has specifically documented support for reflow soldering), but not to

- semiconductor devices,
- devices for flow (wave) soldering.

NOTE Background of this standard and its relation to currently existing standards, e.g. IEC 60749-20 or J-STD-020 and J-STD-033, are described in the INTRODUCTION.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60068-1, *Environmental testing – Part 1: General and guidance*

IEC 60749-20, *Semiconductor devices – Mechanical and climatic test methods – Part 20: Resistance of plastic encapsulated SMDs to the combined effect of moisture and soldering heat*

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

IEC 61760-2, *Surface mounting technology – Part 2: Transportation and storage conditions of surface mounting devices (SMD) – Application guide*

IPC/JEDEC J-STD-020D.1, *March 2008, Moisture/Reflow Sensitivity Classification for Non-hermetic Solid State Surface Mount Devices*

3 Terms and definitions

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