

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



**Surface mounting technology –  
Part 4: Classification, packaging, labelling and handling of moisture sensitive  
devices**

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



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SURFACE MOUNTING TECHNOLOGY –**

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

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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
91/1244/FDIS	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,
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## 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, when 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, and 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 for surface mounting devices (SMD) – Application guide*

JPCA/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.