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Surface mounting technology – Environmental and endurance test methods for surface mount solder joint –

Part 1-1: Pull strength test

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SURFACE MOUNTING TECHNOLOGY – ENVIRONMENTAL AND ENDURANCE TEST METHODS FOR SURFACE MOUNT SOLDER JOINT –

Part 1-1: Pull strength test

FOREWORD

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International Standard IEC 62137-1-1 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
91/681/FDIS	91/697/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 the parts in the IEC 62137 series, under the general title *Surface mounting technology – Environmental and endurance test methods for surface mount solder joint*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site 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- withdrawn,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.

A bilingual version of this publication may be issued at a later date.

SURFACE MOUNTING TECHNOLOGY – ENVIRONMENTAL AND ENDURANCE TEST METHODS FOR SURFACE MOUNT SOLDER JOINT –

Part 1-1: Pull strength test

1 Scope

The test method described in this part of IEC 62137 is applicable to gull-wing lead surface mounting components.

The method is designed to test and evaluate the endurance of the solder joint between component leads and lands on a substrate, by means of a pull type mechanical stress. This test is suitable for evaluating the effects of repeated temperature change on the strength of the solder joint between component terminals and lands on a substrate.

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

IEC 60068-2-14: *Environmental testing – Part 2-14: Test N: Change of temperature*

IEC 60194: *Printed board design, manufacture and assembly – Terms and definitions*

IEC 61188-5-5, *Printed boards and printed board assemblies – Design and use – Part 5-5: Sectional requirements - Attachment (land/joint) considerations – Components with gull-wing leads on four sides*[1]

IEC 61190-1-1, *Attachment materials for electronic assembly – Part 1-1: Requirements for soldering fluxes for high-quality interconnections in electronics assembly*

IEC 61190-1-2: *Attachment materials for electronic assembly – Part 1-2: Requirements for solder pastes for high-quality interconnections in electronics assembly*

IEC 61190-1-3 *Attachment materials for electronic assembly – Part 1-3: Requirements for electronic grade solder alloys and fluxed and non-fluxed solid solders for electronic soldering applications*

IEC 61249-2-7, *Materials for printed boards and other interconnecting structures – Part 2-7: Reinforced base materials clad and unclad – Epoxide woven E-glass laminated sheet of defined flammability (vertical burning test), copper-clad*

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[1] In preparation.