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Semiconductor devices – Micro-electromechanical devices – Part 34: Test methods for MEMS piezoresistive pressure-sensitive device on wafer

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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SEMICONDUCTOR DEVICES – MICRO-ELECTROMECHANICAL DEVICES –

Part 34: Test methods for MEMS piezoresistive pressure-sensitive device on wafer

FOREWORD

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International Standard IEC 62047-34 has been prepared by subcommittee 47F: Micro-electromechanical systems, of IEC technical committee 47: Semiconductor devices.

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

FDIS	Report on voting
47F/328/FDIS	47F/333/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62047 series, published under the general title *Semiconductor devices – Micro-electromechanical devices*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

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- withdrawn,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

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SEMICONDUCTOR DEVICES – MICRO-ELECTROMECHANICAL DEVICES –

Part 34: Test methods for MEMS piezoresistive pressure-sensitive device on wafer

1 Scope

This part of IEC 62047 describes test conditions and test methods of electric characteristics performances and thermal performances for MEMS pressure-sensitive devices. This document applies to test for both open and closed loop piezoresistive MEMS pressure devices on wafer.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 61193-2, *Quality assessment systems – Part 2: Selection and use of sampling plans for inspection of electronic components and packages*

IEC 60747-14-3, *Semiconductor devices – Part 14-3: Semiconductor sensors – Pressure sensors*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60747-14-3 and the following apply.

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

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

3.1
piezoresistive pressure-sensitive device
device that transforms pressure signal into electric signal due to piezoresistive effect, usually including cavity-membrane structure on silicon substrate and Wheatstone bridge in the membrane fabricated by MEMS technology

[SOURCE: IEC 62047-33: –, 3.1]

3.2
closed loop piezoresistive pressure-sensitive device
piezoresistive pressure-sensitive device that employs closed loop Wheatstone bridge for signal detection