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STN	**Polovodičové súčiastky. Elektromechanické mikrosúčiastky. Časť 16: Skúšobné metódy na stanovenie zvyškového napätia vrstiev MEMS; zakrivenie vrstiev a metódy ohybu na konzolovom nosníku.**	**STN EN 62047-16** 35 8792

Semiconductor devices - Micro-electromechanical devices - Part 16: Test methods for determining residual stresses of MEMS films ÔÇô Wafer curvature and cantilever beam deflection methods

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/15

Obsahuje: EN 62047-16:2015, IEC 62047-16:2015

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62047-16

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English Version

Semiconductor devices - Micro-electromechanical devices - Part 16: Test methods for determining residual stresses of MEMS films - Wafer curvature and cantilever beam deflection methods (IEC 62047-16:2015)

Dispositifs à semiconducteurs - Dispositifs microélectromécaniques - Partie 16: Méthodes d'essai pour déterminer les contraintes résiduelles des films de MEMS - Méthodes de la courbure de la plaquette et de déviation de poutre en porte-à-faux
(IEC 62047-16:2015)

Halbleiterbauelemente - Bauelemente der Mikrosystemtechnik - Teil 16: Messverfahren zur Ermittlung der Eigenspannungen in Dünnschichten von MEMS-Bauteilen - Substratkrümmungs- und Biegebalken-Verfahren
(IEC 62047-16:2015)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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EN 62047-16:2015

European foreword

The text of document 47F/209/FDIS, future edition 1 of IEC 62047-16, prepared by SC 47F “Microelectromechanical systems” of IEC/TC 47 “Semiconductor devices" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62047-16:2015.

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)	2016-01-10
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2018-04-09

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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 62047-21	-	Semiconductor devices -- Micro-electromechanical devices -- Part 21: Test method for Poisson's ratio of thin film MEMS materials	EN 62047-21	-

IEC 62047-16

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FOREWORD

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International Standard IEC 62047-16 has been prepared by subcommittee 47F: Micro-electromechanical systems, of IEC technical committee 47: Semiconductor devices.

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

FDIS	Report on voting
47F/209/FDIS	47F/214/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 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 publication will remain unchanged until the stability 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.

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SEMICONDUCTOR DEVICES – MICRO-ELECTROMECHANICAL DEVICES –

Part 16: Test methods for determining residual stresses of MEMS films – Wafer curvature and cantilever beam deflection methods

1 Scope

This part of IEC 62047 specifies the test methods to measure the residual stresses of films with thickness in the range of 0,01 μm to 10 μm in MEMS structures fabricated by wafer curvature or cantilever beam deflection methods. The films should be deposited onto a substrate of known mechanical properties of Young's modulus and Poisson's ratio. These methods are used to determine the residual stresses within thin films deposited on substrate [1][1].

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 62047-21, *Semiconductor devices – Micro-electromechanical devices – Part 21: Test method for Poisson's ratio of thin film MEMS materials*