

Irish Standard I.S. EN 60749-7:2011

Semiconductor devices - Mechanical and climatic test methods -- Part 7: Internal moisture content measurement and the analysis of other residual gases (IEC 60749-7:2011 (EQV))

© NSAI 2011

No copying without NSAI permission except as permitted by copyright law.

| | Incorporating amendments/corrigenda issued since publication: | | |
|---|---|--|--|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| L | | | |

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces: EN 60749-7:2002

This document is based on: EN 60749-7:2011

EN 60749-7:2002

Published:

9 September, 2011 14 August, 2002

This document was published

under the authority of the NSAI and comes into effect on:

ICS number: 31.080.01

15 September, 2011

NSAI

T +353 1 807 3800

Sales:

1 Swift Square, Northwood, Santry Dublin 9 F +353 1 807 3838 E standards@nsai.ie T +353 1 857 6730 F +353 1 857 6729

W standards.ie

W NSAl.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

EN 60749-7

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2011

ICS 31.080.01

Supersedes EN 60749-7:2002

English version

Semiconductor devices Mechanical and climatic test methods Part 7: Internal moisture content measurement and the analysis of other residual gases

(IEC 60749-7:2011)

Dispositifs à semiconducteurs - Méthodes d'essais mécaniques et climatiques - Partie 7: Mesure de la teneur en humidité interne et analyse des autres gaz résiduels (CEI 60749-7:2011)

Halbleiterbauelemente Mechanische und klimatische
Prüfverfahren Teil 7: Messung des inneren
Feuchtegehaltes und Analyse von
anderen Restgasen
(IEC 60749-7:2011)

This European Standard was approved by CENELEC on 2011-07-22. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

EN 60749-7:2011

- 2 -

Foreword

The text of document 47/2087/FDIS, future edition 2 of IEC 60749-7, prepared by IEC TC 47, Semiconductor devices, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60749-7 on 2011-07-22.

This European Standard supersedes EN 60749-7:2002.

The main change is the removal of the two alternative methods formerly designated method 2 and method 3.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

 latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement

(dop) 2012-04-22

 latest date by which the national standards conflicting with the EN have to be withdrawn

(dow) 2014-07-22

Endorsement notice

The text of the International Standard IEC 60749-7:2011 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60749-8 NOTE Harmonized as EN 60749-8.

– 2 –

60749-7 © IEC:2011

CONTENTS

| FΟ | REW | ORD | | 3 | | |
|-----|------------------------------|---------|-----------------------------|----|--|--|
| 1 | Scope | | | | | |
| 2 | Normative references | | | | | |
| 3 | Terms and definitions | | | | | |
| 4 | Test apparatus | | | | | |
| | 4.1 Mass spectrometer method | | | | | |
| | 4.2 Mass spectrometer | | | | | |
| | | 4.2.1 | Spectra range | 5 | | |
| | | 4.2.2 | Detection limit | 6 | | |
| | | 4.2.3 | System calibration | 6 | | |
| | | 4.2.4 | Calibration for other gases | 6 | | |
| | | 4.2.5 | Daily calibration check | 7 | | |
| | | 4.2.6 | Substitution | 7 | | |
| | | 4.2.7 | Precision tuning | 7 | | |
| | | 4.2.8 | Record keeping | 7 | | |
| | 4.3 Vacuum opening chamber | | | 7 | | |
| | 4.4 | Piercir | ng arrangement | 7 | | |
| | 4.5 | Pressu | ure-sensing device | 7 | | |
| 5 | Procedure | | | | | |
| 6 | Failure criteria | | | | | |
| 7 | Implementation | | | | | |
| 8 | Summary1 | | | | | |
| Bib | liogra | phy | | 11 | | |
| | | | | | | |

60749-7 © IEC:2011

- 3 -

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SEMICONDUCTOR DEVICES – MECHANICAL AND CLIMATIC TEST METHODS –

Part 7: Internal moisture content measurement and the analysis of other residual gases

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60749-7 has been prepared by IEC technical committee 47: Semiconductor devices.

This second edition cancels and replaces the first edition published in 2002 and constitutes a technical revision. This second edition has been completely re-written so as to align it with the text of the latest versions of MIL-STD-750, method 1018 and MIL-STD-883, method 1018.

The main change is the removal of the two alternative methods formerly designated method 2 and method 3.

-4-

60749-7 © IEC:2011

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

| FDIS | Report on voting |
|--------------|------------------|
| 47/2087/FDIS | 47/2098/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 60749 series, under the general title Semiconductor devices – Mechanical and climatic test methods, 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.



Product Page

- Dooking for additional Standards? Visit Intertek Inform Infostore
- Dearn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation