Irish Standard
I.S. EN 60749-34:2010

Semiconductor devices - Mechanical and climatic test methods -- Part 34: Power cycling (IEC 60749-34:2010 (EQV))

I.S. EN 60749-34:2010

Incorporating amendments/corrigenda issued since publication:

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

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

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English version

Semiconductor devices - Mechanical and climatic test methods - Part 34: Power cycling

(IEC 60749-34:2010)

Dispositifs à semiconducteurs - Méthodes d'essais mécaniques et climatiques - Partie 34: Cycles en puissance (CEI 60749-34:2010)

Halbleiterbauelemente - Mechanische und klimatische Prüfverfahren - Teil 34: Lastwechselprüfung (IEC 60749-34:2010)

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CENELEC

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

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Ref. No. EN 60749-34:2010 E

Foreword

The text of document 47/2068/FDIS, future edition 2 of IEC 60749-34, prepared by IEC TC 47, Semiconductor devices, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60749-34 on 2010-12-01.

This European Standard supersedes EN 60749-34:2004.

The significant changes with respect from EN 60749-34:2004 include:

– the specification of tighter conditions for more accelerated power cycling in the wire bond fatigue mode;

– information that under harsh power cycling conditions high current densities in a thin die metalization might initiate electromigration effects close to wire bonds.

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)	2011-09-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2013-12-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 60749-34:2010 was approved by CENELEC as a European Standard without any modification.

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Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60747-1	2006	Semiconductor devices - Part 1: General	-	-
IEC 60747-2	2000	Semiconductor devices - Discrete devices and integrated circuits - Part 2: Rectifier diodes	-	-
IEC 60747-6	2000	Semi conductor devices - Part 6: Thyristors	-	-
IEC 60749-3	-	Semiconductor devices - Mechanical and climatic test methods - Part 3: External visual examination	EN 60749-3	-
IEC 60749-23	-	Semiconductor devices - Mechanical and climatic test methods - Part 23: High temperature operating life	EN 60749-23	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SEMICONDUCTOR DEVICES – MECHANICAL AND CLIMATIC TEST METHODS –

Part 34: Power cycling

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.
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International Standard IEC 60749-34 has been prepared by IEC technical committee 47: Semiconductor devices.

This second edition cancels and replaces the first edition published in 2004 and constitutes a technical revision. The significant changes with respect from the previous edition include:

– the specification of tighter conditions for more accelerated power cycling in the wire bond fatigue mode;
– information that under harsh power cycling conditions high current densities in a thin die metalization might initiate electromigration effects close to wire bonds.

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

FDIS	Report on voting
47/2068/FDIS	47/2079/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.