

Semiconductor devices - Mechanical and climatic test methods - Part 5: Steady-state temperature humidity bias life test

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 60749-5:2017 sisaldab Euroopa standardi EN 60749-5:2017 ingliskeelset teksti.	This Estonian standard EVS-EN 60749-5:2017 consists of the English text of the European standard EN 60749-5:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 07.07.2017.	Date of Availability of the European standard is 07.07.2017.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 31.080.01

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

**Semiconductor devices - Mechanical and climatic test methods -
Part 5: Steady-state temperature humidity bias life test
(IEC 60749-5:2017)**

Dispositifs à semiconducteurs - Méthodes d'essais
mécaniques et climatiques - Partie 5: Essai continu de
durée de vie sous température et humidité avec polarisation
(IEC 60749-5:2017)

Halbleiterbauelemente - Mechanische und klimatische
Prüfverfahren - Teil 5: Lebensdauerprüfung bei konstanter
Temperatur und Feuchte unter elektrischer Beanspruchung
(IEC 60749-5:2017)

This European Standard was approved by CENELEC on 2017-05-15. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

European foreword

The text of document 47/2367/FDIS, future edition 2 of IEC 60749-5, prepared by IEC/TC 47 "Semiconductor devices" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60749-5:2017.

The following dates are fixed:

- latest date by which the document has to be (dop) 2018-02-15
implemented at national level by
publication of an identical national
standard or by endorsement
- latest date by which the national (dow) 2020-05-15
standards conflicting with the
document have to be withdrawn

This document supersedes EN 60749-5:2003.

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

Endorsement notice

The text of the International Standard IEC 60749-5:2017 was approved by CENELEC as a European Standard without any modification.

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60749-4	-	Semiconductor devices - Mechanical and climatic test methods - Part 4: Damp heat, steady state, highly accelerated stress test (HAST)	EN 60749-4	-

CONTENTS

FOREWORD.....	3
1 Scope.....	5
2 Normative references	5
3 Terms and definitions	5
4 General	5
5 Equipment	6
5.1 Equipment summary	6
5.2 Temperature and relative humidity	6
5.3 Devices under stress	6
5.4 Minimizing release of contamination	6
5.5 Ionic contamination	6
5.6 Deionized water	6
6 Test conditions	6
6.1 Test conditions summary	6
6.2 Temperature, relative humidity and duration	6
6.3 Biasing guidelines	7
6.4 Biasing choice and reporting	7
7 Procedures	8
7.1 Mounting	8
7.2 Ramp-up	8
7.3 Ramp-down	8
7.4 Test clock	8
7.5 Bias	8
7.6 Read-out	8
7.7 Handling	9
8 Failure criteria	9
9 Safety	9
10 Summary	9
Table 1 – Temperature, relative humidity and duration	6
Table 2 – Criteria for choosing continuous or cyclical bias	8