

**Semiconductor devices - Mechanical and climatic
test methods - Part 15: Resistance to soldering
temperature for through-hole mounted devices**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 60749-15:2010 sisaldab Euroopa standardi EN 60749-15:2010 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 31.12.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 10.12.2010.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 60749-15:2010 consists of the English text of the European standard EN 60749-15:2010.

This standard is ratified with the order of Estonian Centre for Standardisation dated 31.12.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 10.12.2010.

The standard is available from Estonian standardisation organisation.

ICS 31.080.01

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

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Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
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English version

**Semiconductor devices -
Mechanical and climatic test methods -
Part 15: Resistance to soldering temperature for through-hole mounted
devices
(IEC 60749-15:2010)**

Dispositifs à semiconducteurs -
Méthodes d'essai mécaniques et
climatiques -
Partie 15: Résistance à la température de
soudage pour dispositifs par trous
traversants
(CEI 60749-15:2010)

Halbleiterbauelemente -
Mechanische und klimatische
Prüfverfahren -
Teil 15: Beständigkeit gegen
Löttemperatur bei Bauelementen zur
Durchsteckmontage
(IEC 60749-15:2010)

This European Standard was approved by CENELEC on 2010-12-10. 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.

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CENELEC

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

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Foreword

The text of document 47/2067/FDIS, future edition 2 of IEC 60749-15, prepared by IEC TC 47, Semiconductor devices, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60749-15 on 2010-12-01.

This European Standard supersedes EN 60749-15:2003.

The significant changes with respect from EN 60749-15:2003 include:

- editorial change in the scope,
- addition of lead free solder chemical composition specification.

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.

Endorsement notice

The text of the International Standard IEC 60749-15:2010 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 60068-2-20 NOTE Harmonized as EN 60068-2-20.

SEMICONDUCTOR DEVICES – MECHANICAL AND CLIMATIC TEST METHODS –

Part 15: Resistance to soldering temperature for through-hole mounted devices

1 Scope

This part of IEC 60749 describes a test used to determine whether encapsulated solid state devices used for through-hole mounting can withstand the effects of the temperature to which they are subjected during soldering of their leads by using wave soldering or a soldering iron.

In order to establish a standard test procedure for the most reproducible methods, the solder dip method is used because of its more controllable conditions. This procedure determines whether devices are capable of withstanding the soldering temperature encountered in printed wiring board assembly operations, without degrading their electrical characteristics or internal connections.

This test is destructive and may be used for qualification, lot acceptance and as a product monitor.

This test is, in general, in conformity with IEC 60068-2-20 but, due to specific requirements of semiconductors, the clauses of this standard apply.

2 General

The heat is conducted through the leads into the device package from solder heat at the reverse side of the board. This procedure does not simulate wave soldering or reflow heat exposure on the same side of the board as the package body.

3 Test apparatus

3.1 Solder pot

A solder pot of sufficient size to contain at least 1 kg of solder shall be used. The solder pot dimensions shall allow full immersion of the leads without touching the bottom. The apparatus shall be capable of maintaining the solder at the temperature specified in Table 1.

3.2 Dipping device

A mechanical dipping device shall be used that is capable of controlling the rates of immersion and emersion of the leads and providing the dwell time as specified in Table 1.

3.3 Heatsinks or shielding

If applicable, heatsinks or shielding shall be attached to the devices prior to the test and shall be as specified in the relevant specification.