ICS 31.190 SLOVENSKÁ TECHNICKÁ NORMA Február 2024

STN

Metódy testovania odolnosti materiálov na pripevnenie matríc
Časť 2: Metóda testovania tepelným cyklom pre materiály aplikované na výkonových elektronických súčiastkách

STN
EN IEC 63215-2

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Endurance test methods for die attach materials - Part 2: Temperature cycling test method for die attach materials applied to discrete type power electronic devices

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. 01/24

Obsahuje: EN IEC 63215-2:2023, IEC 63215-2:2023

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 63215-2

December 2023

ICS 31.190

English Version

Endurance test methods for die attach materials - Part 2: Temperature cycling test method for die attach materials applied to discrete type power electronic devices (IEC 63215-2:2023)

Méthodes d'essai d'endurance pour les matériaux de fixation de puce - Partie 2: Méthode d'essai de cycle thermique pour les matériaux de fixation de puce, appliquée aux dispositifs électroniques de puissance de type discret (IEC 63215-2:2023)

Verfahren für die Haltbarkeitsprüfung von Werkstoffen zum Chip-Bonden - Teil 2: Verfahren für die Temperaturwechselprüfung von Werkstoffen zum Chip-Bonden von leistungseektronischen Bauelementen (IEC 63215-2:2023)

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Europäisches Komitee für Elektrotechnische Normung

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Ref. No. EN IEC 63215-2:2023 E

European foreword

The text of document 91/1895/FDIS, future edition 1 of IEC 63215-2, prepared by IEC/TC 91 "Electronics assembly technology" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63215-2:2023.

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)	2024-08-28
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In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 61190-1-3	NOTE Approved as EN IEC 61190-1-3
IEC 61760-1:2020	NOTE Approved as EN IEC 61760-1:2020 (not modified)

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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NOTE 1 Where 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.cencenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60068-2-14	-	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	EN IEC 60068-2-14	-
IEC 60194-1	-	Printed boards design, manufacture and assembly - Vocabulary - Part 1: Common usage in printed board and electronic assembly technologies	-	-
IEC 60194-2	-	Printed boards design, manufacture and assembly - Vocabulary - Part 2: Common usage in electronic technologies as well as printed board and electronic assembly technologies	-	-
IEC 60747-15	-	Semiconductor devices - Discrete devices - Part 15: Isolated power semiconductor devices	EN 60747-15	-

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Edition 1.0 2023-10

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Méthodes d’essai d’endurance pour les matériaux de fixation de puce – Partie 2: Méthode d’essai de cycle thermique pour les matériaux de fixation de puce, appliquée aux dispositifs électroniques de puissance de type discret

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IEC Secretariat
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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ENDURANCE TEST METHODS FOR DIE ATTACH MATERIALS –

Part 2: Temperature cycling test method for die attach materials applied to discrete type power electronic devices

FOREWORD

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IEC 63215-2 has been prepared by IEC technical committee 91: Electronics assembly technology. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
91/1895/FDIS	91/1912/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 63215 series, published under the general title *Endurance test methods for die attach materials*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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ENDURANCE TEST METHODS FOR DIE ATTACH MATERIALS –

Part 2: Temperature cycling test method for die attach materials applied to discrete type power electronic devices

1 Scope

This part of IEC 63215 applies to the die attach materials and joining system applied to discrete type power electronic devices.

This document specifies the temperature cycling test method which takes into account the actual usage conditions of discrete type power electronic devices to evaluate reliability of the die attach joint materials and joining system, and establishes a classification level for joining reliability (reliability performance index).

The test method specified in this document is not intended to evaluate power semiconductor devices themselves.

The test method specified in this document is not regarded as the one for use to guarantee the reliability of the power semiconductor device packages.

NOTE The test result obtained using this document will not be used as absolute quantitative data, but for intercomparison with the other die attach materials results using the same setup.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC 60068-2-14, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*

IEC 60194-1, *Printed boards design, manufacture and assembly – Vocabulary – Part 1: Common usage in printed board and electronic assembly technologies*

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IEC 60747-15, *Semiconductor devices – Discrete devices – Part 15: Isolated power semiconductor devices*