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High frequency inductive components – Non-electrical characteristics and measuring methods –
Part 2: Test methods for non-electrical characteristics

INTERNATIONAL
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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HIGH FREQUENCY INDUCTIVE COMPONENTS – NON-ELECTRICAL CHARACTERISTICS AND MEASURING METHODS –

Part 2: Test methods for non-electrical characteristics

FOREWORD

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International Standard IEC 62025-2 has been prepared by IEC technical committee 51: Magnetic components, ferrite and magnetic powder materials.

This second edition cancels and replaces the first edition published in 2005. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) revision of Table 5;

b) revision of normative references.

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

CDV	Report on voting
51/1273/CDV	51/1301/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62025 series, published under the general title *High frequency inductive components – Non-electrical characteristics and measuring methods*, can be found on the IEC website.

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HIGH FREQUENCY INDUCTIVE COMPONENTS – NON-ELECTRICAL CHARACTERISTICS AND MEASURING METHODS –

Part 2: Test methods for non-electrical characteristics

1 Scope

This part of IEC 62025 specifies a test method for the non-electrical characteristics of the surface mounted device (SMD) inductors to be used for electronic and telecommunication equipment. The object of this part of this document is to define methods for measuring mechanical performance only. As the reliability performances and specifications relative to non-electrical performances are defined in IEC 62211, detailed measuring methods for mechanical performance of reliability testing are defined in this document.

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 60068-1~~:1988~~, *Environmental testing – Part 1: General and guidance*

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IEC 60068-2-20~~:1979~~, *Environmental testing – Part 2-20: Tests – Test T: ~~Soldering~~ Test methods for solderability and resistance to soldering heat of devices with leads*

IEC 60068-2-21:~~1999~~2006, *Environmental testing – Part 2-21: Tests – Test U: Robustness of terminations and integral mounting devices*

IEC 60068-2-27~~:1987~~, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

IEC 60068-2-45:1980, *Basic environmental testing procedures – Part 2-45: Tests – Test XA and guidance: Immersion in cleaning* solvents
IEC 60068-2-45:1980/AMD1:1993

IEC 60068-2-58:~~2004~~2015, *Environmental testing – Part 2-58: Tests – Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)*
IEC 60068-2-58:2015/AMD1:2017

IEC 60068-2-69, *Environmental testing – Part 2-69: Tests – Test Te/Tc: Solderability testing of electronic components ~~for surface mount technology~~ and printed boards by the wetting balance (force measurement) method*

IEC 60068-2-77~~:1999~~, *Environmental testing – Part 2-77: Tests – Test 77: Body strength and impact shock*

IEC 61188-5-2~~:2003~~, *Printed boards and printed board assemblies – Design and use – Part 5-2: Attachment (land/joint) considerations – Discrete components*

IEC 61190-1-2:~~2002~~2014, *Attachment materials for electronic assembly – Part 1-2: Requirements for soldering pastes for high-quality interconnections in electronics assembly*

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IEC 62211:~~2003~~2017, *Inductive components – Reliability management*

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

High frequency inductive components – Non-electrical characteristics and measuring methods –
Part 2: Test methods for non-electrical characteristics

Composants inductifs à haute fréquence – Caractéristiques non électriques et méthodes de mesure –
Partie 2: Méthodes d'essai pour caractéristiques non électriques

IEC 62025-2:2019-09(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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IEC 62211:2017, *Inductive components – Reliability management*

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COMPOSANTS INDUCTIFS À HAUTE FRÉQUENCE – CARACTÉRISTIQUES NON ÉLECTRIQUES ET MÉTHODES DE MESURE –

Partie 2: Méthodes d'essai pour caractéristiques non électriques

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Cette deuxième édition annule et remplace la première édition parue en 2005. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) révision du Tableau 5;
b) révision des références normatives.

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Une liste de toutes les parties de la série IEC 62025, publiées sous le titre général *Composants inductifs à haute fréquence – Caractéristiques non électriques et méthodes de mesure*, peut être consultée sur le site web de l'IEC.

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COMPOSANTS INDUCTIFS À HAUTE FRÉQUENCE – CARACTÉRISTIQUES NON ÉLECTRIQUES ET MÉTHODES DE MESURE –

Partie 2: Méthodes d'essai pour caractéristiques non électriques

1 Domaine d'application

La présente partie de l'IEC 62025 spécifie une méthode d'essai pour les caractéristiques non électriques pour inductances à montage en surface (CMS) utilisées pour les équipements électroniques et de télécommunications. L'objet du présent document concerne uniquement les méthodes de mesure de la performance mécanique. Comme les performances de fiabilité ainsi que les spécifications relatives aux performances non électriques sont spécifiées dans l'IEC 62211, les méthodes de mesures détaillées pour les performances mécaniques des essais de fiabilité sont définies dans le présent document.

2 Références normatives

Les documents suivants cités dans le texte constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60068-1, *Essais d'environnement – Partie 1: Généralités et lignes directrices*

IEC 60068-2-6:2007, *Essais d'environnement – Partie 2: Essais – Essai Fc: Vibrations (sinusoïdales)*

IEC 60068-2-20, *Essais d'environnement – Partie 2-20: Essais – Essai T: Méthodes d'essai de la brasabilité et de la résistance à la chaleur de brasage des dispositifs à broches*

IEC 60068-2-21:2006, *Essais d'environnement – Partie 2-21: Essais – Essai U: Robustesse des sorties et des dispositifs de montage incorporés*

IEC 60068-2-27, *Essais d'environnement – Partie 2-27: Essais – Essai Ea et guide: Chocs*

IEC 60068-2-45:1980*, Essais fondamentaux climatiques et de robustesse mécanique – Partie 2-45: Essais – Essai XA et guide: Immersion dans les solvants de nettoyage*
IEC 60068-2-45:1980/AMD1:1993

IEC 60068-2-58:2015*, Essais d'environnement – Partie 2-58: Essais – Essai Td: Méthodes d'essai de la soudabilité, résistance de la métallisation à la dissolution et résistance à la chaleur de brasage des composants pour montage en surface (CMS)*
IEC 60068-2-58:2015/AMD1:2017

IEC 60068-2-69*, Essais d'environnement – Partie 2-69: Essais – Essai Te/Tc Essai de brasabilité des composants électroniques et cartes imprimées par la méthode de la balance de mouillage (mesure de la force)*

IEC 60068-2-77, *Essais d'environnement – Partie 2-77: Essais – Essai 77: Résistance du corps et résistance aux chocs par impact*

IEC 61188-5-2, *Cartes imprimées et cartes imprimées équipées – Conception et utilisation – Partie 5-2: Considérations sur les liaisons pistes-soudures – Composants discrets*

IEC 61190-1-2:2014, *Matériaux de fixation pour les assemblages électroniques – Partie 1-2: Exigences relatives aux pâtes à braser pour les interconnexions de haute qualité dans les assemblages de composants électroniques*

IEC 61190-1-3, *Matériaux de fixation pour les assemblages électroniques – Partie 1-3: Exigences relatives aux alliages à braser de catégorie électronique et brasure solide fluxée et non fluxée pour les applications de brasage électronique*

IEC 62211:2017, *Inductive components – Reliability management* (disponible en anglais seulement)