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Elektronikkomponenter – Varistorer –

Del 2: Gruppspecifikation för varistorer för överspänningsskydd

Varistors for use in electronic equipment –

Part 2: Sectional specification for surge suppression varistors

Som svensk standard gäller europastandarden EN IEC 61051-2:2021. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 61051-2:2021.

Nationellt förord

Europastandarden EN IEC 61051-2:2021

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 61051-2, Second edition, 2021 - Varistors for use in electronic equipment - Part 2: Sectional specification for surge suppression varistors**

utarbetad inom International Electrotechnical Commission, IEC.

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English Version

Varistors for use in electronic equipment - Part 2: Sectional
specification for surge suppression varistors
(IEC 61051-2:2021)

Varistances utilisées dans les équipements électroniques -
Partie 2: Spécification intermédiaire pour varistances pour
limitations de surtensions transitoires
(IEC 61051-2:2021)

Varistoren zur Verwendung in Geräten der Elektronik - Teil
2: Rahmenspezifikation für Varistoren für den
Überspannungsschutz
(IEC 61051-2:2021)

This European Standard was approved by CENELEC on 2021-12-13. 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.

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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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 40/2877/FDIS, future edition 2 of IEC 61051-2, prepared by IEC/TC 40 “Capacitors and resistors for electronic equipment” was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61051-2:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2022-09-13 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-12-13 document have to be withdrawn

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.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 61051-2:2021 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 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.

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.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60062	-	Marking codes for resistors and capacitors	EN 60062	-
IEC 60068-1	-	Environmental testing - Part 1: General and guidance	EN 60068-1	-
IEC 60068-2-1	-	Environmental testing - Part 2-1: Tests Test A: Cold	EN 60068-2-1	-
IEC 60068-2-2	-	Environmental testing - Part 2-2: Tests Test B: Dry heat	EN 60068-2-2	-
IEC 60068-2-6	-	Environmental testing - Part 2-6: Tests Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-20	-	Environmental testing - Part 2-20: Tests Test Ta and Tb: Test methods for solderability and resistance to soldering heat of devices with leads	EN IEC 60068-2-20	-
IEC 60068-2-27	-	Environmental testing - Part 2-27: Tests Test Ea and guidance: Shock	EN 60068-2-27	-
IEC 60068-2-30	-	Environmental testing - Part 2-30: Tests Test Db: Damp heat, cyclic (12 h + 12 h cycle)	EN 60068-2-30	-
IEC 60068-2-45	-	Basic environmental testing procedures Part 2-45: Tests - Test XA and guidance: Immersion in cleaning solvents	EN 60068-2-45	-
IEC 60695-11-5	-	Fire hazard testing - Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance	EN 60695-11-5	-
IEC 61051-1	2018	Varistors for use in electronic equipment Part 1: Generic specification	EN IEC 61051-1	2018
IEC 61051-2-2	-	Varistors for use in electronic equipment Part 2: Blank detail specification for zinc oxide surge suppression varistors. Assessment level E		-

EN IEC 61051-2:2021 (E)

IEC 61193-2	2007	Quality assessment systems - Part 2:EN 61193-2 Selection and use of sampling plans for inspection of electronic components and packages	2007
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INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Varistors for use in electronic equipment –
Part 2: Sectional specification for surge suppression varistors**

**Varistances utilisées dans les équipements électroniques –
Partie 2: Spécification intermédiaire pour varistances pour limitations de
surtensions transitoires**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

VARISTORS FOR USE IN ELECTRONIC EQUIPMENT –**Part 2: Sectional specification for surge suppression varistors**

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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IEC 61051-2 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment. It is an International Standard.

This second edition cancels and replaces the first edition published in 1991 and Amendment 1:2009. This edition constitutes a technical revision.

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

- a) revision for the structure in accordance with ISO/IEC Directives, Part 2) to the extent practicable, and for harmonizing with IEC 61051-1:2018;
- b) Annex X has been added for comparison with the previous edition;
- c) two lists of preferred voltage ratings for disk type and SMD type varistors have been added;
- d) permissible numbers of non-conforming items have been set to zero (zero fault) in the test schedule in 8.4.3.

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

Draft	Report on voting
40/2877/FDIS	40/2895/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/standardsdev/publications.

A list of all parts in the IEC 61051 series, published under the general title *Varistors for use in electronic equipment*, 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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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VARISTORS FOR USE IN ELECTRONIC EQUIPMENT –

Part 2: Sectional specification for surge suppression varistors

1 Scope

This part of IEC 61051 is a sectional specification and is applicable to metal oxide varistors with symmetrical voltage-current characteristics for use in electronic equipment connected to any AC or DC supply system.

These varistors are designed to protect electronic and other sensitive equipment from high transient surges. Varistors under the scope of this sectional specification are not intended to give primary protection against lightning surges.

These varistors have metallic connections and are intended to be mounted as through hole component or directly on to printed boards.

The object of this document is to prescribe preferred ratings and characteristics and to select from IEC 61051-1 the appropriate quality assessment procedures, tests and measuring methods, and to give general performance requirements for this type of varistors.

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 60062, *Marking codes for resistors and capacitors*

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

IEC 60068-2-1, *Environmental testing – Part 2-1: Tests – Test A: Cold*

IEC 60068-2-2, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 60068-2-6, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

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

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

IEC 60068-2-30, *Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle)*

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

IEC 60695-11-5, *Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance*

IEC 61051-1:2018, *Varistors for use in electronic equipment – Part 1: Generic specification*

IEC 61051-2-2, *Varistors for use in electronic equipment – Part 2: Blank detail specification for zinc oxide surge suppression varistors. Assessment level E*

IEC 61193-2:2007, *Quality assessment systems – Part 2: Selection and use of sampling plans for inspection of electronic components and packages*