BS EN IEC 62024-1:2018

BSI Standards Publication

High frequency inductive components - Electrical characteristics and measuring methods

Part 1: Nanohenry range chip inductor (IEC 62024-1:2017)

bsi.

National foreword

This British Standard is the UK implementation of EN IEC 62024-1:2018. It is identical to IEC 62024-1:2017. It supersedes BS EN 62024-1:2008, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EPL/51, Transformers, inductors, magnetic components and ferrite materials.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Published by BSI Standards Limited 2018

ISBN 978 0 580 96180 9

ICS 29.100.10

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 March 2018.

Amendments/corrigenda issued since publication

Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62024-1

March 2018

ICS 29.100.10

Supersedes EN 62024-1:2008

English Version

High frequency inductive components - Electrical characteristics and measuring methods - Part 1: Nanohenry range chip inductor (IEC 62024-1:2017)

Composants inductifs à haute fréquence - Caractéristiques électriques et méthodes de mesure - Partie 1: Inductance à puce de l'ordre du nanohenry
(IEC 62024-1:2017)

Induktive Hochfrequenz-Bauelemente - Elektrische Eigenschaften und Messmethoden - Teil 1: Chipinduktivitäten im Nanohenry-Bereich
(IEC 62024-1:2017)

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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 51/1187/CDV, future edition 3 of IEC 62024-1, prepared by IEC/TC 51 "Magnetic components, ferrite and magnetic powder materials" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62024-1:2018.

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)	2018-10-17
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2021-01-17

This document supersedes EN 62024-1:2008.

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 62024-1:2017 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 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.

Publication	Year	Title	EN/HD	Year
IEC 61249-2-7	-	Materials for printed boards and other interconnecting structures -- Part 2-7: Reinforced base materials, clad and unclad - Epoxide woven E-glass laminated sheet of defined flammability (vertical burning test), copper-clad	EN 61249-2-7	-
IEC 62025-1	-	High frequency inductive components - Non-electrical characteristics and measuring methods -- Part 1: Fixed, surface mounted inductor for use in electronic and telecommunication equipment	EN 62025-1	-
ISO 6353-3	-	Reagents for chemical analysis; Part 3 : Specifications; Second series	-	-
ISO 9453	-	Soft solder alloys - Chemical compositions and forms	EN ISO 9453	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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HIGH FREQUENCY INDUCTIVE COMPONENTS – ELECTRICAL CHARACTERISTICS AND MEASURING METHODS –

Part 1: Nanohenry range chip inductor

FOREWORD

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International Standard IEC 62024-1 has been prepared by IEC technical committee 51: Magnetic components, ferrite and magnetic powder materials.

This third edition cancels and replaces the second edition published in 2008. This edition constitutes a technical revision.

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

a) addition of voltage-drop method of DC resistance measuring;
b) unification of technical terms.

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

CDV	Report on voting
51/1187/CDV	51/1202/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 of the IEC 62024 series, published under the general title *High frequency inductive components – Electrical characteristics and measuring methods,* 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 "http://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.

A bilingual version of this publication may be issued at a later date.

HIGH FREQUENCY INDUCTIVE COMPONENTS – ELECTRICAL CHARACTERISTICS AND MEASURING METHODS –

Part 1: Nanohenry range chip inductor

1 Scope

This part of IEC 62024 specifies electrical characteristics and measuring methods for the nanohenry range chip inductor that is normally used in high frequency (over 100 kHz) range.

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 61249-2-7, *Materials for printed boards and other interconnecting structures – Part 2-7: Reinforced base materials clad and unclad – Epoxide woven E-glass laminated sheet of defined flammability (vertical burning test) copper-clad*

IEC 62025-1, *High frequency inductive components – Non-electrical characteristics and measuring methods – Part 1: Fixed, surface mounted inductors for use in electronic and telecommunication equipment*

ISO 6353-3, *Reagents for chemical analysis – Part 3: Specifications – Second series*

ISO 9453, *Soft solder alloys – Chemical compositions and forms*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

4 Inductance, Q-factor and impedance

4.1 Inductance

4.1.1 Measuring method

The inductance of an inductor is measured by the vector voltage/current method.

4.1.2 Measuring circuit

An example of the circuit for the vector voltage/current method is shown in Figure 1.