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Classification of metallic magnetic powder cores materials

金属磁粉心材料分类

(English Translation)

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Foreword

This document conforms to GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting is scheduled.

This document adopts IEC 63299:2022 "Classification of metal magnetic powder cores".

The following minimal editorial changes have been made to this document.

--To align with existing standards, the standard name has been changed to "Classification of Metallic Magnetic Powder Core Materials".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This document is under the jurisdiction of the National Technical Committee on Standardization of Magnetic Components and Ferrite Materials (SAC/TC 89).

1 Scope

This document specifies the classification of metal magnetic powder core materials (hereinafter referred to as "magnetic powder core materials") used in inductive components that meet the requirements of the electronics industry.

rule.

This document provides the following guidance for suppliers and users of metal magnetic powder core materials.

--Comparison of magnetic powder core materials from multiple suppliers;

--When comparing multiple suppliers, assist users in understanding the technical data published in each product catalog;

--Guide users to select the most suitable magnetic powder core material for each application;

--To establish a unified benchmark for the performance of new magnetic powder core materials developed by suppliers.

The values given in this document are typical values for the relevant material parameters. Directly converting material technical parameters to core technical parameters is not...

It's always easy; some things are even impossible.

The detailed specifications for each material and core will be agreed upon by the user and the supplier.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are listed below.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

IEC 60050-221 International Electrotechnical Terminology (IEV) Part 221: Magnetic Materials and Components technical vocabulary (IEV)-Part 221: Magnetic materials and components] IEC 60404-1 Magnetic materials - Part 1: Classification Note. GB/T 21219-2023 Classification of Magnetic Materials (IEC 60404-1:2016, MOD) IEC 63300 Test methods for electrical and magnetic properties of magnetic powder cores Netic powder cores

3 Terms and Definitions

The terms and definitions defined in IEC 60050-221, IEC 60404-1 and IEC 63300 apply to this document.

ISO and IEC maintain terminology databases at the following addresses for use in standards.

4.1 General Rules

Magnetic powder core materials consist of basic soft magnetic metal powder, inorganic or organic electrically insulating additives, and binders. According to the composition of the soft magnetic metal powder...

Based on composition and crystal structure, magnetic powder core materials can be divided into several major categories, including iron (Fe), iron-silicon (Fe-Si), iron-silicon-aluminum (Fe-Si-Al), and iron-nickel (Fe-Ni).