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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 44069.5-2025

**Ferrite cores - Guidelines on dimensions and the limits of
surface irregularities - Part 5: EP-cores and associated parts for
use in inductors and transformers**

铁氧体磁心 尺寸和表面缺陷极限导则 第5部分：电感器和变压器用EP型磁心及其
附件

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 5 of GB/T 44069, "Limits and Limits for Dimensions and Surface Defects of Ferrite Cores". GB/T 44069 has been...

The following sections were published.

---Part 4: RM type magnetic core;

---Part 5: EP type magnetic cores and accessories for inductors and transformers;

---Part 13: PQ Type Magnetic Core;

---Part 14: EFD type magnetic core.

This document is equivalent to IEC 63093-5:2018 "Limits and limits for dimensions and surface defects of ferrite cores - Part 5: Inductors and..." Transformer EP type magnetic core and accessories.

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

---Notes have been added to Table 5.

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/TC89).

Introduction

Due to the manufacturing process and the physical characteristics of the product, ferrite cores will exhibit certain physical defects, such as chipping and irregular edges.

Edges, cracks, flash, and sticking. The tolerance for these surface defects depends primarily on the type, location, and size of the defect, as well as the structure of the magnetic core.

GB/T 44069, "Guidelines for Limits of Dimensions and Surface Defects in Ferrite Cores," mainly specifies the core series (e.g., RM type cores, pot-shaped cores, etc.).

The limits of size and surface defects for E-type cores and toroidal cores, etc. GB/T 44069 is proposed to be divided into the following 15 parts.

---Part 1: General Specifications. The purpose is to establish general principles for the dimensional description and surface defect constraints of ferrite cores.

---Part 2: Pot Cores for Communication, Power Supply, and Filtering. The aim is to establish the dimensional and surface defect tolerances for pot cores.

limit.

---Part 3: Ferrite Semi-Canister Cores for Inductive Proximity Switches. The purpose is to determine the dimensions and surface defects of the semi-canister core.

Trapped to the limit.

---Part 4: RM Type Cores. The purpose is to establish the dimensional and surface defect tolerance limits for RM type cores.

---Part 5: EP-type magnetic cores and accessories for inductors and transformers. The purpose is to establish the dimensions and surface defects of EP-type magnetic cores.

Trapped to the limit.

---Part 6: ETD type magnetic cores for power supplies. The purpose is to establish the dimensional and surface defect tolerance limits for ETD type magnetic cores.

---Part 7: EER Type Cores. The purpose is to establish the dimensional and surface defect tolerance limits for EER type cores.

---Part 8: Type E Cores. The purpose is to establish the dimensional and surface defect tolerance limits for Type E cores.

---Part 9: Planar Magnetic Cores. The purpose is to establish the dimensions and permissible limits for surface defects in planar magnetic cores.

---Part 10: PM Type Cores and Accessories. The purpose is to establish the dimensional and surface defect tolerance limits for PM type cores.

---Part 11: EC Type Cores. The purpose is to establish the dimensional and surface defect tolerance limits for EC type cores.

---Part 12: Toroidal Cores. The purpose is to establish the dimensions and surface defect tolerance limits for toroidal cores.

---Part 13: PQ Type Cores. The purpose is to establish the dimensional and surface defect tolerance limits for PQ type cores.

---Part 14: EFD Type Cores. The purpose is to establish the dimensional and surface defect tolerance limits for EFD type cores.

---Part 15: U-shaped cores. The purpose is to establish the dimensional and surface defect tolerance limits for U-shaped cores.

After years of development and improvement, EP-type magnetic cores have optimized structure and dimensions, making them the preferred components for inductors, electronic transformers, and other electronic devices.

However, the varying sizes and specifications of the magnetic cores hinder manufacturing management and optimal design, and surface defects such as cracks, chipping, and porosity occur during production.

Traps can affect the final electromagnetic properties of magnetic devices, thus impacting their final performance. This document can help companies in this field improve their

systems.

Technical specifications improve product quality, standardize production and trading practices, and promote the healthy development of enterprises and the industry.

Limits of Ferrite Core Size and Surface Defects Part 5: EP-type magnetic cores for inductors and transformers and its annexes

1 Scope

This document specifies the important dimensions related to the mechanical interchangeability of the preferred series of EP-type magnetic cores made of ferrite, which, together with the magnetic core, enable...

The basic dimensions of the coil bobbin used and the coil bobbin's relationship to the bottom profile of the magnetic core on a 2.50mm pitch printed circuit board grid.

The terminal pin locations and effective parameter values for calculating this type of core are provided, along with guidelines for the permissible limits of surface defects in EP-type cores.

This document can be used as a sub-guideline in negotiations between core manufacturers and users regarding surface defects.

Appendix A provides general considerations for designing this type of magnetic core.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

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.

parts)

Note: GB/T 20874-2007 Calculation of effective parameters of magnetic parts (IEC 60205:2001, IDT) IEC 60401-1 Soft ferrite cores - Terms and definitions - Part 1: Terms and dimensions for physical defects Note. GB/T 28864.1-2012 Soft Magnetic Ferrite Core Terminology Definitions Part 1: Physical Defect Terminology (IEC 60401-1:2002, IDT) IEC 63093-11 (Limits and Limits for Dimensions and Surface Defects of Ferrite Cores) Part 1: General Specifications Note. GB/T 9634.1-2002 Guidelines for Limits of Surface Defects in Ferrite Cores Part 1: General (IEC 60424-1:1999, IDT)

1) IEC 60424-1 has been superseded by IEC 63093-1, but the contents referenced in this document still apply.