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

GB/T 44069.13-2025

Replacing GB/T 9634.8-2018

**Ferrite cores - Guidelines on dimensions and the limits of
surface irregularities - Part 13: PQ-cores**

铁氧体磁心 尺寸和表面缺陷极限导则 第13部分：PQ型磁心

(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 13 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 replaces GB/T 9634.8-2018 "Guidelines for Limits of Surface Defects in Ferrite Cores Part 8: PQ Type Cores", and is consistent with...

Compared with GB/T 9634.8-2018, apart from structural adjustments and editorial changes, the main technical changes are as follows.

a) Increased the important dimensions for mechanical interchangeability of PQ-type magnetic cores and low-profile PQI-type magnetic cores made of ferrite, and in the locations of the coil frame terminal pins on the printed circuit board grid with a spacing of 2.54mm, related to the bottom profile of the magnetic core (see...).

Chapter 4);

b) The installation of PQ type magnetic cores has been added (see Chapter 5).

This document is equivalent to IEC 63093-13:2019 "Limits and limits for dimensional and surface defects in ferrite cores - Part 13: PQ type".

core".

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 may exhibit certain physical defects, such as chipping, irregular edges, etc.

Cracks, flash, and sticking. The tolerance for these surface defects is primarily determined by 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 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.

PQ type magnetic cores, as mainstream supporting products for soft magnetic ferrites used in power power supplies, feature low loss, low temperature rise, and good anti-interference performance.

With advantages such as a wide power range, low assembly cost, and ease of meeting safety regulations, the product enjoys high market demand and a wide range of applications. However, due to the magnetic circuit design...

The timing and the significant difference between the magnetic core's geometric cross-sectional area and the theoretical value lead to discrepancies between actual performance (such as power loss) and theoretical values from different suppliers.

The size is relatively large. Therefore, formulating guidelines and standards for the limits of PQ-type magnetic core dimensions and surface defects is crucial to helping companies in this field improve their technical specifications and increase production capacity.

It is of great significance to improve product quality, standardize production and trading practices, and promote the healthy development of enterprises and even the industry.

Limits of Ferrite Core Size and Surface Defects Part 13: PQ Type Magnetic Core

1 Scope

This document specifies the important mechanical interchangeability of PQ-type magnetic cores and low-profile PQI-type magnetic cores made of ferrite in the preferred series.

The dimensions, and the positions of the coil frame terminal pins on the 2.54mm pitch printed circuit board grid related to the bottom profile of the magnetic core, and provide...

Guidelines were issued to specify the permissible limits of surface defects in PQ type magnetic cores in accordance with relevant general specifications.

The selection of core specifications in this document is based on the principle that these specifications are determined according to industry usage, and may be included in national standards.

The standard may also be a specification widely used in the industry.

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.