Ferrites and accessories

Standards and specifications

Date: October 2022

Standards and specifications

1 IEC standards

Please refer also the latest CO publications (www.iec.ch)

Standard	Title
IEC 63093-2 Ed. 1.0	Ferrite cores - Guidelines on dimensions and the limits of surface irregularities - Part 2: Pot-cores for use in telecommunications, power supply, and filter applications
IEC 60205 Ed. 4.0	Calculation of the effective parameters of magnetic piece parts
IEC 60401-1 Ed. 2.0	Terms and nomenclature for cores made of magnetically soft ferrites - Part 1: Terms used for physical irregularities and reference of dimensions
IEC 60401-3 Ed. 2.0	Terms and nomenclature for cores made of magnetically soft ferrites – Part 3: Guidelines on the format of data appearing in manufacturers catalogues of transformer and inductor cores
IEC 63093-1 Ed. 1.0	Ferrite cores - Guidelines on dimensions and the limits of surface irregularities - Part 1: General specification
IEC 63093-11 Ed. 1.0	Ferrite cores - Guidelines on dimensions and the limits of surface irregularities - Part 11: EC-cores for use in power supply applications
IEC 60732 Ed. 1.0	Measuring methods for cylinder cores, tube cores and screw cores of magnetic oxides
IEC 63093-6 Ed. 1.0	Ferrite cores - Guidelines on dimensions and the limits of surface irregularities - Part 6: ETD-cores for use in power supplies
IEC 63093-8 Ed. 1.0	Ferrite cores - Guidelines on dimensions and the limits of surface irregularities - Part 8: E-cores
IEC 63093-10 Ed. 1.0	Ferrite cores - Guidelines on dimensions and the limits of surface irregularities - Part 10: PM-cores and associated parts
IEC 61332 Ed. 3.0	Soft ferrite material classification
IEC 61333 Ed 2.0	Marking on ferrite core
IEC 63093-13 Ed. 1.0	Ferrite cores - Guidelines on dimensions and the limits of surface irregularities - Part 13: PQ-cores
IEC 63093-5 Ed. 1.0	Ferrite cores - Guidelines on dimensions and the limits of surface irregularities - Part 5: EP-cores and associated parts for use in inductors and transformers
IEC 61631 Ed. 2.0	Test method for the mechanical strength of cores made of magnetic oxides
IEC 62044-1 Ed. 1.0	Cores made of soft magnetic materials – Measuring methods – Part 1: Generic specification
IEC 62044-2 Ed. 1.0	Cores made of soft magnetic materials – Measuring methods – Part 2: Magnetic properties at low excitation level

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Standard	Title
IEC 62044-3 Ed. 1.0	Cores made of soft magnetic materials – Measuring methods – Part 3: Magnetic properties at high excitation level
IEC 63093-4 Ed. 1.0	Ferrite cores - Guidelines on dimensions and the limits of surface irregularities - Part 4: RM-cores
IEC 63093-7 Ed. 1.0	Ferrite cores - Guidelines on dimensions and the limits of surface irregularities - Part 7: EER-cores
IEC 63093-9 Ed. 1.0	Ferrite cores - Guidelines on dimensions and the limits of surface irregularities - Part 9: Planar-cores
IEC 63093-3 Ed. 1.0	Ferrite cores - Guidelines on dimensions and the limits of surface irregularities - Part 3: Half pot-cores made of ferrite for inductive proximity switches
IEC 62358 Ed. 2.0	Ferrite cores – Standard inductance factor for gapped cores and its tolerance
IEC 63093-12 Ed. 1.0	Ferrite cores - Guidelines on dimensions and the limits of surface irregularities - Part 12: Ring-cores

1.1 Quality assessment

The IEC standards mainly specify dimensions, designations and magnetic characteristics, whereas the European system of quality assessment CECC and the harmonized DIN-CECC standards additionally define methods of measurement and quality levels.

Since 1982 the IEC has been establishing the so-called IEC Q-system, which will have worldwide applicability. German DIN IEC standards are being harmonized with this quality system.

CECC and IEC-Q standards have a similar structure: they are subdivided into generic specifications (GS), sectional specifications (SS) and blank detail specifications (BDS). The numbering system of QC is analogous to that of CECC.

The detail specifications of CECC and IEC do not fully correspond to each other.

A quality assessment system of “Capability Approval” for the production of ferrite parts is being established.

Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application.** As a rule, we are either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether a product with the properties described in the product specification is suitable for use in a particular customer application.

2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified.** In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.

3. **The warnings, cautions and product-specific notes must be observed**.

4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous)**. Useful information on this will be found in our Material Data Sheets on the Internet (www.tdk-electronics.tdk.com/material). Should you have any more detailed questions, please contact our sales offices.

5. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order.
   We also **reserve the right to discontinue production and delivery of products**. Consequently, we cannot guarantee that all products named in this publication will always be available. The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.

6. Unless otherwise agreed in individual contracts, **all orders are subject to our General Terms and Conditions of Supply**.

7. **Our manufacturing sites serving the automotive business apply the IATF 16949 standard**. The IATF certifications confirm our compliance with requirements regarding the quality management system in the automotive industry. Referring to customer requirements and customer specific requirements (“CSR”) TDK always has and will continue to have the policy of respecting individual agreements. Even if IATF 16949 may appear to support the acceptance of unilateral requirements, we hereby like to emphasize that **only requirements mutually agreed upon can and will be implemented in our Quality Management System.** For clarification purposes we like to point out that obligations from IATF 16949 shall only become legally binding if individually agreed upon.
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