

Harmonized system of quality assessment for electronic components: Sectional specification: Fixed ceramic capacitors, Type 1

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The Electronic Components Standards Committee, under whose direction this British Standard was prepared, consists of representatives from the following scientific and industrial organizations:

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- Electricity Supply Industry in England and Wales*
- Electronic Components Industry Federation*
- Electronic Engineering Association*
- Institution of Electronic and Radio Engineers
- National Supervising Inspectorate*
- Post Office*
- Society of British Aerospace Companies*
- Telecommunication Engineering and Manufacturing Association (TEMA)

The organizations marked with an asterisk in the above list, together with the following; were directly represented on the committee entrusted with the preparation of this British Standard:

- British Broadcasting Corporation
- Electrical Research Association

This British Standard, having been prepared under the direction of the Electronic Components Standards Committee, was published under the authority of the Executive Board and comes into effect on 31 August 1979

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The following BSI references relate to the work on this standard:
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National foreword

This British Standard has been prepared under the direction of the Electronic Components Standards Committee. It is identical with CENELEC Electronic Components Committee CECC 30600 “*Harmonized system of quality assessment for electronic components: Sectional specification: Fixed ceramic capacitors, Type I*” and Amendment No. 4.

This standard is a harmonized specification within the CECC system.

Terminology and conventions. The text of the CECC specification has been approved as suitable for publication, without deviation, as a British Standard. Some terminology and certain conventions are not identical with those used in British Standards; attention is especially drawn to the following.

The comma has been used throughout as a decimal marker. In British Standards it is current practice to use a full point on the baseline as the decimal marker.

Cross-references. The British Standard harmonized with CECC 00100 is BS E9000 “*General requirements for electronic components of assessed quality harmonized with the CENELEC Electronic Components Committee System*” Part 1 “*Basic rules*”.

The following International Standards are referred to in the text and for each there is a corresponding British Standard; these are as listed below:

International Standard	Corresponding British Standard
CECC 30000:1975	BS E9070:1975 <i>Harmonized system of quality assessment for electronic components: Generic specification for fixed capacitors</i> (Identical)
IEC 63:1963	BS 2488:1966 <i>Schedule of preferred numbers for the resistance of resistors and the capacitance of capacitors for telecommunication equipment</i> (Technically equivalent)
IEC 68	BS 2011 <i>Basic environmental testing procedures</i> (Identical)

At present there is no corresponding British Standard for IEC 108. IEC 108 is referred to in the text for information only.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the CECC title page, pages ii to iv, pages 1 to 20, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

European Committee for Electrotechnical Standardization (CENELEC)
Cenelec Electronic Components Committee

CECC

English version

Harmonized System of Quality Assessment for
Electronic Components

SECTIONAL SPECIFICATION:
**FIXED CERAMIC CAPACITORS,
TYPE 1**

Système Harmonisé d'Assurance de la Qualité
des Composants Electroniques

SPECIFICATION INTERMEDIAIRE:
**CONDENSATEURS
FIXES A DIELECTRIQUE
CERAMIQUE, TYPE 1**

Harmonisiertes Gütebestätigungssystem für
Bauelemente der Elektronik

RAHMENSPEZIFIKATION:
**KERAMISCHE
FESTKONDENSATOREN,
TYP 1**



1 Edition
Issue
Ausgabe

CECC 30600

1978

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Foreword

The CENELEC Electronic Components Committee (CECC) is composed of those member countries of the European Committee for Electrotechnical Standardization (CENELEC) who wish to take part in a harmonized System for electronic components of assessed quality.

The object of the System is to facilitate international trade by the harmonization of the specifications and quality assessment procedures for electronic components, and by the grant of an internationally recognized Mark, or Certificate, of Conformity. The components produced under the System are thereby accepted by all member countries without further testing.

This specification has been formally approved by the CECC, and has been prepared for those countries taking part in the System who wish to issue national harmonized specifications for FIXED CERAMIC CAPACITORS, TYPE 1.

At the date of printing of this specification the member countries of the CECC are Belgium, Denmark, Germany, France, Ireland, Italy, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom, and copies of it can be obtained from the National Committees of the CENELEC in these countries.

Preface

This sectional specification was prepared by CECC Working Group 3: "Capacitors".

It is one of a series of sectional specifications all relating to the generic specifications printed as CECC 30000.

In accordance with the requirements of document CECC 00100, it is based, wherever possible, on the Publications of the International Electrotechnical Commission.

The text of this sectional specification was circulated to the CECC for voting in documents CECC (Secretariat) 438 and 570 in October 1975 and January 1977, and was ratified by the CECC for printing as a CECC Specification.

Section 1. General

1.1 Scope

This document relates to fixed ceramic dielectric capacitors with a defined temperature coefficient (dielectric type 1), intended for use in electronic equipment, including leadless capacitors, but excluding capacitors for an admissible radio-frequency current exceeding 1A or for a reactive power exceeding 200 var, and multilayer ceramic chip capacitors.

1.2 Related documents

The following documents and any other documents to which they may relate are mandatory unless otherwise stated:

CECC 30000	(1975)	Generic Specification: Fixed Capacitors
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For information only:

IEC 108 Third edition (in course of publication)	Ceramic dielectric capacitors Type 1
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1.3 Terminology

See 2.2 of CECC 30000 with the following additional definitions:

1.3.1 Ceramic capacitors, Type 1

A ceramic capacitor of dielectric Type 1 is a capacitor specially designated and suited for resonant circuit application where low losses and high stability of capacitance are essential, or where a precisely defined temperature coefficient is required, e.g. for compensating temperature effects in the circuit.

The ceramic dielectric is defined by its nominal temperature coefficient (α).

1.3.2 Class

For a given nominal temperature coefficient the class is defined by the nominal tolerance of the temperature coefficient (see 2.7 in Table 2).

NOTE The nominal α value and its tolerance refer to the temperature interval of + 20 °C to + 85 °C, but because in practice α curves are not strictly linear, it is necessary to define limiting capacitance deviations $\left(\frac{\Delta C}{C}\right)$ for other temperatures (see 2.7 in Table 2).

1.4 Marking

The following marking information, in the order of importance given below, is required:

- 1) Rated capacitance and tolerance on rated capacitance in uncoded form or in code according to IEC 62
- 2) Rated voltage
- 3) Temperature coefficient, and if practical in the available space, its tolerance in code.
- 4) Manufacturer's name or trade-mark
- 5) Year and month (or week) of manufacture in code form according to IEC 62
- 6) Climatic category
- 7) Manufacturer's type designation
- 8) Reference to the national or CECC number of the detail specification

NOTE When information given by one marking is included in that given by a second marking, the first marking may be omitted (for the marking of the component only).

Coding of temperature coefficient is given in 2.6 of Table 2. For colour codes, a spot, stripe or ring may be used; moreover, for α from $-1\,500$ to $-5\,600 \cdot 10^{-6}/^{\circ}\text{C}$ (inclusive), where two colours are required, the second colour may be provided by the colour of the body or of the typographical marking.

The capacitors shall be marked with rated capacitance and with as many as possible of the remaining items as is considered useful. This is not applicable to unencapsulated capacitors.

The package containing the capacitors shall be clearly marked with all the information above.

Any additional marking shall be applied so that no confusion can arise.