
**Nespremenljivi kondenzatorji za uporabo v elektronski opremi – 2. del:
Področna specifikacija: nespremenljivi kondenzatorji z dielektrikom iz
metalizirane polipropilen-tereftalatne folije za enosmerne napetosti (IEC
60384-2:2005)**

Fixed capacitors for use in electronic equipment – Part 2: Sectional specification:
Fixed metallized polyethylene-terephthalate film dielectric d.c. capacitors (IEC
60384-2:2005)

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EUROPEAN STANDARD

EN 60384-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2005

ICS 31.060.30

Supersedes CECC 30 400:1984

English version

Fixed capacitors for use in electronic equipment
Part 2: Sectional specification:
Fixed metallized polyethylene-terephthalate film dielectric d.c. capacitors
(IEC 60384-2:2005)

Condensateurs fixes utilisés
dans les équipements électroniques
Partie 2: Spécification intermédiaire:
Condensateurs fixes pour courant continu
à diélectrique en film de polytéréphtalate
d'éthylène métallisé
(CEI 60384-2:2005)

Festkondensatoren zur Verwendung in
Geräten der Elektronik
Teil 2: Rahmenspezifikation:
Festkondensatoren mit metallisierter
Kunststoffolie aus Polyethylen-
Terephtalat für Gleichspannung
(IEC 60384-2:2005)

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This European Standard was approved by CENELEC on 2005-11-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

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CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 40/1593/FDIS, future edition 3 of IEC 60384-2, prepared by IEC TC 40, Capacitors and resistors for electronic equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60384-2 on 2005-11-01.

This European Standard supersedes CECC 30 400:1994.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2006-08-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2008-11-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60384-2:2005 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60384-14 NOTE Harmonized as EN 60384-14:2005 (not modified).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|----------------------|-----------------|---|-------------------------------|----------------------------|
| IEC 60063 | 1963 | Preferred number series for resistors and capacitors | - | - |
| A1 | 1967 | | - | - |
| A2 | 1977 | | - | - |
| IEC 60068-1 | - ¹⁾ | Environmental testing Part 1: General and guidance | EN 60068-1 | 1994 ²⁾ |
| IEC 60384-1 (mod) | - ¹⁾ | Fixed capacitors for use in electronic equipment Part 1: Generic specification | EN 60384-1 + corr. October | 2001 ²⁾ 2001 |
| IEC 60384-2-1 | - ¹⁾ | Part 2-1: Blank detail specification - Fixed metallized polyethylene-terephthalate film dielectric d.c. capacitors - Assessment levels E and EZ | EN 60384-2-1 | 2005 ²⁾ |
| IEC 60410 | - ¹⁾ | Sampling plans and procedures for inspection by attributes | - | - |
| ISO 3 | - ¹⁾ | Preferred numbers - Series of preferred numbers | - | - |

1) Undated reference.

2) Valid edition at date of issue.

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INTERNATIONAL STANDARD

IEC 60384-2

QC 300400

Third edition
2005-11

Fixed capacitors for use in electronic equipment –

Part 2:

Sectional specification:

Fixed metallized polyethylene-terephthalate film dielectric d.c. capacitors

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International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –**Part 2: Sectional specification: Fixed metallized polyethylene-terephthalate film dielectric d.c. capacitors**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60384-2 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment.

This third edition cancels and replaces the second edition published in 1982, amendment 1 (1987) and amendment 2 (1992) and constitutes minor revisions related to tables, figures and references.

The text of this standard is based on the following documents:

| FDIS | Report on voting |
|--------------|------------------|
| 40/1593/FDIS | 40/1626/RVD |

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

IEC 60384 consists of the following parts, under the (new) general title *Fixed capacitors for use in electronic equipment*:

- Part 1: Generic specification
- Part 2: Sectional specification: Fixed metallized polyethylene-terephthalate film dielectric d.c. capacitors
- Part 3: Sectional specification: Fixed tantalum chip capacitors
- Part 4: Sectional specification: Aluminium electrolytic capacitors with solid and non-solid electrolyte
- Part 5: Sectional specification: Fixed mica dielectric d.c. capacitors with a rated voltage not exceeding 3000 V – Selection of methods of test and general requirements
- Part 6: Sectional specification: Fixed metallized polycarbonate film dielectric d.c. capacitors
- Part 7: Sectional specification: Fixed polystyrene film dielectric metal foil d.c. capacitors
- Part 8: Sectional specification: Fixed capacitors of ceramic dielectric, Class 1
- Part 9: Sectional specification: Fixed capacitors of ceramic dielectric, Class 2
- Part 11: Sectional specification: Fixed polyethylene-terephthalate film dielectric metal foil d.c. capacitors
- Part 12: Sectional specification: Fixed polycarbonate film dielectric metal foil d.c. capacitors
- Part 13: Sectional specification: Fixed polypropylene film dielectric metal foil d.c. capacitors
- Part 14: Sectional specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains
- Part 15: Sectional specification: Fixed tantalum capacitors with non-solid or solid electrolyte
- Part 16: Sectional specification: Fixed metallized polypropylene film dielectric d.c. capacitors
- Part 17: Sectional specification: Fixed metallized polypropylene film dielectric a.c. and pulse capacitors
- Part 18: Sectional specification: Fixed aluminium electrolytic chip capacitors with solid and non-solid electrolyte
- Part 19: Sectional specification: Fixed metallized polyethylene-terephthalate film dielectric chip d.c. capacitors
- Part 20: Sectional specification: Fixed metallized polyphenylene sulfide film dielectric chip d.c. capacitors
- Part 21: Sectional specification: Fixed surface mount multilayer capacitors of ceramic dielectric, Class 1
- Part 22: Sectional specification: Fixed surface mount multilayer capacitors of ceramic dielectric, Class 2
- Part 23: Sectional specification: Fixed surface mount metallized polyethylene naphthalate film dielectric d.c. capacitors
- Part 24: Sectional specification – Surface mount fixed tantalum electrolytic capacitors with conductive polymer solid electrolyte (under consideration)
- Part 25: Sectional specification – Surface mount fixed aluminium electrolytic capacitors with conductive polymer solid electrolyte (under consideration)

All sectional specifications mentioned above do have one or more blank detail specifications being a supplementary document, containing requirements for style, layout and minimum content of detail specifications.

The QC 300400 number that appears on the front cover of this publication is the specification number in the IECQ Quality Assessment System for Electronic Components.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –

Part 2: Sectional specification: Fixed metallized polyethylene-terephthalate film dielectric d.c. capacitors

1 General

1.1 Scope

This part of IEC 60384 applies to fixed capacitors for direct current, with metallized electrodes and polyethylene-terephthalate dielectric for use in electronic equipment.

These capacitors may have "self-healing properties" depending on conditions of use. They are primarily intended for applications where the a.c. component is small with respect to the rated voltage. Two performance grades of capacitors are covered, Grade 1 for long-life application and Grade 2 for general application.

Capacitors for electromagnetic interference suppression and surface mount fixed metallized polyethylene-terephthalate film dielectric d.c. capacitors are not included, but are covered by IEC 60384-14 and IEC 60384-19 respectively.

1.2 Object

The object of this standard is to prescribe preferred ratings and characteristics and to select from IEC 60384-1 (1999) the appropriate quality assessment procedures, tests and measuring methods, and to give general performance requirements for this type of capacitor. Test severities and requirements prescribed in detail specifications referring to this sectional specification shall be of equal or higher performance level, because lower performance levels are not permitted.

1.3 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60063:1963, *Preferred number series for resistors and capacitors*
Amendment 1 (1967)
Amendment 2 (1977)

IEC 60068-1, *Environmental testing – Part 1: General and guidance*

IEC 60384-1, *Fixed capacitors for use in electronic equipment – Part 1: Generic specification*

IEC 60384-2-1, *Fixed capacitors for use in electronic equipment – Part 2: Blank detail specification: Fixed metallized polyethylene-terephthalate film dielectric d.c. capacitors. Assessment level E*

IEC 60410, *Sampling plans and procedures for inspection by attributes*

ISO 3, *Preferred numbers – Series of preferred numbers*