Fixed electric double-layer capacitors for use in electronic equipment Part 1: Generic specification

Fixed electric double-layer capacitors for use in electronic equipment Part 1: Generic specification

EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 62391-1:2006 sisaldab Euroopa standardi EN 62391-1:2006 ingliskeelset teksti. Käesolev dokument on jõustatud 22.09.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 62391-1:2006 consists of the English text of the European standard EN 62391-1:2006. This document is endorsed on 22.09.2006 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This part of IEC 62391 applies to fixed electric double layer capacitors (hereafter called “capacitor(s)”) mainly used in DC circuits of lectronic equipment. It establishes standard terms, inspection procedures and methods of test for use in sectional and detail specifications of electronic components for quality assessment or any other purpose.	**Scope:** This part of IEC 62391 applies to fixed electric double layer capacitors (hereafter called “capacitor(s)”) mainly used in DC circuits of lectronic equipment. It establishes standard terms, inspection procedures and methods of test for use in sectional and detail specifications of electronic components for quality assessment or any other purpose.

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EUROPEAN STANDARD

NORME EUROPÉENNE

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English version

Fixed electric double-layer capacitors for use in electronic equipment Part 1: Generic specification

(IEC 62391-1:2006)

Condensateurs électriques fixes à double couche utilisés dans les équipements électroniques Partie 1: Spécification générique (CEI 62391-1:2006)

Elektrische Doppelschichtfestkondensatoren zur Verwendung in Geräten der Elektronik Teil 1: Fachgrundnorm (IEC 62391-1:2006)

This European Standard was approved by CENELEC on 2006-05-01. 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.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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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

Ref. No. EN 62391-1:2006 E

Foreword

The text of document 40/1640/FDIS, future edition 1 of IEC 62391-1, 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 62391-1 on 2006-05-01.

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)	2007-02-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2009-05-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 62391-1:2006 was approved by CENELEC as a European Standard without any modification.

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

Publication	Year	Title	EN/HD	Year
IEC 60027	Series	Letter symbols to be used in electrical technology	HD 60027	Series
IEC 60050	Series	International Electrotechnical Vocabulary (IEV)	-	-
IEC 60062 (mod)	-[1)]	Marking codes for resistors and capacitors	EN 60062	2005[2)]
IEC 60063	-[1)]	Preferred number series for resistors and capacitors	-	-
IEC 60068-1 + corr. October + A1	1988 1988 1992	Environmental testing - Part 1: General and guidance	EN 60068-1	1994
IEC 60068-2-1 + A1 + A2	1990 1993 1994	Environmental testing - Part 2: Tests - Tests A: Cold	EN 60068-2-1 + A1 + A2	1993 1993 1994
IEC 60068-2-2 + A1 + A2	1974 1993 1994	Basic environmental testing procedures - Part 2: Tests - Tests B: Dry heat	EN 60068-2-2[3)] + A1 + A2	1993 1993 1994
IEC 60068-2-6 + corr. March	1995 1995	Environmental testing - Part 2: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	1995
IEC 60068-2-14 + A1	1984 1986	Environmental testing - Part 2: Tests - Test N: Change of temperature	EN 60068-2-14	1999
IEC 60068-2-20 + A2	1979 1987	Basic environmental testing procedures - Part 2: Tests - Test T: Soldering	HD 323.2.20 S3	1988
IEC 60068-2-21	1999	Environmental testing - Part 2-21: Tests - Test U: Robustness of terminations and integral mounting devices	EN 60068-2-21	1999
IEC 60068-2-45 + A1	1980 1993	Basic environmental testing procedures - Part 2: Tests - Test Xa and guidance: Immersion in cleaning solvents	EN 60068-2-45 + A1	1992 1993

[1)] Undated reference.

[2)] Valid edition at date of issue.

[3)] EN 60068-2-2 includes supplement A to IEC 60068-2-2.

Publication	Year	Title	EN/HD	Year
IEC 60068-2-47	1999	Environmental testing - Part 2-47: Test methods - Mounting of components, equipment and other articles for vibration, impact and similar dynamic tests	EN 60068-2-47[4] + corr. June	1999 2000
IEC 60068-2-58	2004	Environmental testing - Part 2-58: Tests - Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)	EN 60068-2-58 + corr. December	2004 2004
IEC 60068-2-78	2001	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	2001
IEC 60294	1969	Measurement of the dimensions of a cylindrical component having two axial terminations	-	-
IEC 60617	data-base	Graphical symbols for diagrams -	-	-
IEC 60695-11-5	2004	Fire hazard testing - Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance	EN 60695-11-5	2005
IEC 60717	1981	Method for the determination of the space required by capacitors and resistors with unidirectional terminations	-	-
IEC 61760-1	1998	Surface mounting technology - Part 1: Standard method for the specification of surface mounting components (SMDs)	EN 61760-1	1998
IEC QC 001002-3	-[1]	IEC Quality Assessment System for Electronic Components (IECQ) - Rules of Procedure - Part 3: Approval procedures	-	-
ISO 1000	1992	SI units and recommendations for the use of their multiples and of certain other units	-	-

[4] EN 60068-2-47 is superseded by EN 60068-2-47:2005, which is based on IEC 60068-2-47:2005.

INTERNATIONAL STANDARD

IEC 62391-1

First edition
2006-04

Fixed electric double-layer capacitors for use in electronic equipment –

Part 1: Generic specification

Reference number
IEC 62391-1:2006(E)

Publication numbering

As from 1 January 1997 all IEC publications are issued with a designation in the 60000 series. For example, IEC 34-1 is now referred to as IEC 60034-1.

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INTERNATIONAL STANDARD

IEC 62391-1

First edition
2006-04

Fixed electric double-layer capacitors for use in electronic equipment –

Part 1: Generic specification

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International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIXED ELECTRIC DOUBLE-LAYER CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT

Part 1: Generic specification

FOREWORD

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International Standard IEC 62391-1 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment.

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

FDIS	Report on voting
40/1640/FDIS	40/1712/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 62391 consists of the following parts, under the general title *Fixed electric double layer capacitors for use in electronic equipment*

Part 1: Generic specification

Part 2: Sectional specification – Electric double-layer capacitors for power application

The sectional specification mentioned above does have a blank detail specification being a supplementary document, containing requirements for style, layout and minimum content of detail specifications.

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 standard may be issued at a later date.

FIXED ELECTRIC DOUBLE-LAYER CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT

Part 1: Generic specification

1 General

1.1 Scope

This part of IEC 62391 applies to fixed electric double layer capacitors (hereafter called “capacitor(s)”) mainly used in DC circuits of electronic equipment.

It establishes standard terms, inspection procedures and methods of test for use in sectional and detail specifications of electronic components for quality assessment or any other purpose.

1.2 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 60027 (all parts), *Letter symbols to be used in electrical technology*

IEC 60050 (all parts), *International Electrotechnical Vocabulary (IEV)*

IEC 60062, *Marking codes for resistors and capacitors*

IEC 60063, *Preferred number series for resistors and capacitors*

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*
Amendment 1 (1992)

IEC 60068-2-1:1990, *Environmental testing – Part 2: Tests – Tests A: Cold*
Amendment 1 (1993)
Amendment 2 (1994)

IEC 60068-2-2:1974, *Environmental testing – Part 2: Tests – Tests B: Dry Heat*
Amendment 1 (1993)
Amendment 2 (1994)

IEC 60068-2-6:1995, *Environmental testing – Part 2: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-14:1984, *Environmental testing – Part 2: Tests – Test N: Change of temperature*
Amendment 1 (1986)

IEC 60068-2-20:1979, *Environmental testing – Part 2: Tests – Test T: Soldering*
Amendment 2 (1987)

IEC 60068-2-21:1999, *Environmental testing – Part 2-21: Tests – Test U: Robustness of terminations and integral mounting devices*

IEC 60068-2-45:1980, *Environmental testing – Part 2: Tests – Test XA and guidance: Immersion in cleaning solvents*
Amendment 1 (1993)

IEC 60068-2-47:1999, *Environmental testing – Part 2-47: Test methods – Mounting of components, equipment and other articles for vibration, impact and similar dynamic tests*

IEC 60068-2-58:2004, *Environmental testing – Part 2-58: Tests – Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)*

IEC 60068-2-78:2001, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state.*

IEC 60294:1969, *Measurement of the dimensions of a cylindrical component having two axial terminations*

IEC 60617 (all parts) [DB][1], *Graphical symbols for diagrams*

IEC 60695-11-5: *Fire hazard testing – Part 11-5: Test flames – Needle-flame test method: Apparatus, confirmatory test arrangement and guidance* [2]

IEC 60717:1981, *Method for the determination of the space required by capacitors and resistors with unidirectional terminations*

IEC 61760-1:1998, *Surface mounting technology – Part 1: Standard method for the specification of surface mounting components (SMDs)*

QC001002-3, *Rules of procedure – Part 3: Approval procedures*

ISO 1000:1992, *SI units and recommendations for the use of their multiples and of certain other units*

2 Technical data

2.1 Unit and symbols

Units, graphical symbols, letter symbols and terminology shall, whenever possible, be taken from the following publications:

– IEC 60027
– IEC 60050
– IEC 60617
– ISO 1000

When further items are required they should be derived in accordance with the principles of the publications listed above.

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[1] "DB" refers to the IEC on-line database.

[2] To be published.